

Report No. 32035-CO

Colombia Country Economic Memorandum The Foundations for Competitiveness

November 8, 2005

Poverty Reduction and Economic Management Sector Unit
Colombia and Mexico Country Department
Latin America and the Caribbean Region



Document of the World Bank

CURRENCY EQUIVALENTS

(Exchange Rate Effective November 8, 2005)

Currency Unit = Peso
US\$1 = 2,277 Pesos
1 peso = US\$ 0.000439125

FISCAL YEAR
January 1 – December 31

Vice President:	Pamela Cox
Country Director:	Isabel Guerrero
Sector Director:	Ernesto May
Sector Manager:	Mauricio Carrizosa
Lead Economist:	David Rosenblatt
Task Managers	David Gould
Co-Task Manager	Keta Ruiz

ABBREVIATIONS AND ACRONYMS

AAA	Analytical and Advisory Activities	<i>Actividades de Análisis y Asesoría</i>
AML	Anti-Money Laundering	<i>Prevención Lavado de Dinero</i>
ANDI	National Association of Industrialists	<i>Asociación Nacional de Industriales</i>
ANIF	National Association of Financial Institutions	<i>Asociación Nacional de Instituciones Financieras</i>
AR	Reemployment Agencies	<i>Agencias de Reinserción</i>
ATPA	Andean Trade Preference Act	<i>Ley de Preferencias Aranceralias Andina</i>
ATPDEA	Andean Trade Promotion and Drug Eradication Act	<i>Ley de Promoción Comercial Andina y de Erradicación De Drogas</i>
CAE	One-Stop Shops	<i>Centro de Atención Empresarial</i>
CCF	Family Subsidies Agency	<i>Cajas de Compensación Familiar</i>
CDT	Institute for Technological Development	<i>Centro de Desarrollo Tecnológico</i>
CEM	Country Economic Memorandum	<i>Memorando Económico del País</i>
CFT	Combating the Financing of Terrorism	<i>Combatiendo el Financiamiento del Terrorismo</i>
CGE	Computable General Equilibrium	<i>Equilibrio General Computable</i>
COLCIENCIAS	Colombian Institute for the Development of Science and Technology	<i>Instituto Colombiano para el Desarrollo de la Ciencia y la Tecnología</i>
CONFIS	Council of Fiscal Policy	<i>Consejo Superior de Política Fiscal</i>
CONPES	National Council of Economic and Social Planning	<i>Consejo Nacional de Política, Económica y Social,</i>
COP	Colombian pesos	<i>Pesos Colombianos</i>
DAFP	Public Administrative Department	<i>Departamento Administrativo de Función Pública</i>
DANE	National Administrative Department of Statistics	<i>Departamento Administrativo Nacional de Estadísticas</i>
DIAN	National Tax and Customs Office	<i>Dirección de Impuestos y Aduanas Nacionales</i>
DNP	Department of National Planning	<i>Departamento Nacional de Planeación</i>
EAM	Survey of Manufacturing Establishments	<i>Encuesta Anual Manufacturera</i>
ECV	Life Quality Survey	<i>Encuesta de Calidad de Vida</i>
FDI	Foreign Direct Investment	<i>Inversiones Extranjeras Directas</i>
FOMIN	Multilateral Investment Fund	<i>Fondo Multilateral de Inversiones</i>
FOMIPYME	Colombian Fund for Modernization and Technological Development of Medium and Small Enterprises	<i>Fondo Colombiano De Modernización y Desarrollo Tecnológico De Las Micro, Pequeñas Y Medianas Empresas</i>
FRL	Fiscal Responsibility Law	<i>Ley de Responsabilidad Fiscal</i>
FTA	Free Trade Agreement	<i>Tratado Libre de Comercio</i>
FTAA	Free Trade Agreement with the Americas	<i>Tratado Libre de Comercio con América</i>
GDP	Gross domestic product	<i>Producto Interno Bruto</i>
GMM	Generalized Methods of Moments	<i>Método General de Momento</i>
IC	Investment Climate	<i>Evaluación del Clima de Inversiones</i>
ICRG	International Country Risk Guide	<i>Guía Internacional de Riesgo País</i>
IDB	Inter-American Development Bank	<i>Banco Inter-Americano de Desarrollo</i>

IDEMA	National Agricultural Marketing Institute	<i>Instituto de Mercadeo Agropecuario</i>
IMF	International Monetary Fund	<i>Fondo Monetario Internacional</i>
ISIC	International Standard Industrial Classification	<i>Clasificación Internacional Estándar Industrial</i>
ISS	Social Security Institute	<i>Instituto de Mercadeo Agropecuario</i>
LAC	Latin America and the Caribbean Region	<i>Región de América Latina y el Caribe</i>
METR	Marginal Effective Tax Rate	<i>Tasa Impositiva Marginal Efectiva</i>
MLD	Mean Logarithmic Deviation	<i>Desviación Logarítmica Menor</i>
MSMEs	Micro, Small and Medium Enterprises	<i>Micro, Mediana y Pequeña Empresa</i>
MTFF	Medium-Term Fiscal Framework	<i>Marco Fiscal a Mediano Plazo</i>
MUISCA	Integral and Integrated Tax Administration System	<i>Modelo Único de Ingresos, Servicio y Control Automatizado</i>
NAFTA	North American Free Trade Agreement	<i>Tratado de Libre Comercio de América del Norte</i>
NFPS	Non-Financial Public Sector	<i>Sector Público No Financiero</i>
NGO	Nongovernmental organization	<i>Organización no gubernamental</i>
OECD	Organization for Economic Co-operation and Development	<i>Organización para la Cooperación Económica y el Desarrollo</i>
OLS	Ordinary Least Squares	<i>Ordinary Least Squares</i>
PRAP	Program for Renovation of the Public Administration	<i>Programa de Renovación de Administración Pública</i>
PROEXPORT	Colombian Export Development Agency	<i>Promotora de Exportaciones</i>
REDI	Recent Economic Developments in Infrastructure	<i>Desarrollos Económicos Recientes en Infraestructura</i>
RTB	Relative Trade Balance	<i>Equilibrio Comercial Relativo</i>
SENA	National Learning Institution	<i>Servicio Nacional de Aprendizaje</i>
SISBEN	Beneficiary Selection System for Social Program	<i>Sistema de Selección de Beneficiarios para Programas Sociales</i>
SME	Small and Medium Enterprises	<i>Empresas Pequeñas y Medianas</i>
SNG	Subnational government	<i>Gobierno Regionales y Locales</i>
SPM	System of Benefits for Social Programs	<i>Sistema de Programas Sociales</i>
TAA	Trade Adjustment Assistance Act	<i>Ley de Asistencia de la Adecuación Comercial</i>
TFP	Total Factor Productivity	<i>Factor Total de Productividad</i>
U.S.	United States	<i>Estados Unidos</i>
UCP	Program Coordinating Unit	<i>Unidad Coordinadora del Programa</i>
UI	Unemployment Insurance	<i>Seguro de Desempleo</i>
UNIDO	United Nations Industrial Development Organization	<i>Organización de Las Naciones Unidas para el desarrollo industrial</i>
USITC	Uniform Standard International Trade Classification	<i>Estándar Clasificación Comercial Internacional</i>
VAT	Value-added tax	<i>Impuesto al Valor Agregado</i>
WB	World Bank	<i>Banco Mundial</i>
WBES	World Business Environment Survey	<i>Encuesta Mundial sobre el Ambiente de los Negocios</i>
WDI	World Development Indicators	<i>Indicadores de Desarrollo Mundial</i>
WEF	World Economic Forum	<i>Foro Económico Mundial</i>

PREFACE

Since Colombia's last Country Economic Memorandum (CEM) (1989) the country has endured several years of slow growth, burgeoning fiscal deficits, and high levels of debt. Colombia now is seeking to join a free trade agreement (FTA) with the United States in the hope of stimulating growth and improving living conditions for the country as a whole. In response to the opportunities and challenges presented by the proposed FTA with the United States, the Colombian government has launched an "internal agenda," an action plan that involves major stakeholders—public sector, private sector, and regional government—aimed at obtaining greater levels of competitiveness. The government has articulated the need for greater understanding of the impact of the proposed FTA, and a strategy for a reform agenda that would enable the country to capture the potential benefits from freer trade and facilitate the transition to greater openness.

In this context, the World Bank and the Government of Colombia agreed in the 2003 Country Assistance Strategy to produce this CEM as an input into Colombia's reform agenda. It will serve as a tool for communicating with the government and larger Colombian society about the expected impact, benefits, and challenges of the proposed FTA with the United States.

The CEM starts with an executive summary and policy report which presents the main findings and key policy recommendations of the three chapters comprising the report. These studies are to a large extent self-contained so that readers that wish to deepen their understanding of the particular topic covered in this report can focus on the relevant chapters. The CEM also draws on key results from other Bank work, particularly the Colombia Recent Developments in Infrastructure (REDI) Report, the Colombia Public Expenditure Review, and the Analysis and Agenda for Labor Reform for Colombia.

Chapter 1 evaluates Colombia's business and growth environment and the likely challenges the manufacturing sector will face in taking advantage of the FTA with the United States. The chapter consists of three sections. Section I uses detailed survey data to identify the top constraints on growth and competitiveness of Colombian firms. Section II analyzes key developments in the manufacturing sector following the trade liberalization of 1990–91 using micro-level data, and highlights areas where reforms are needed. Section III examines the challenges and opportunities faced by small and medium-sized businesses in confronting a more open trading environment.

Chapter 2 builds on the microeconomic issues raised in the first chapter, and follows with an evaluation of macroeconomic and fiscal (tax and expenditure) policies that are important for making the Colombian economy competitive. In this context, the study also evaluates the sustainability and trajectory of public debt. Policy instability—from fiscal crises, questions over debt sustainability, and changes in tax policy to narrow the fiscal gap—has become one of the most important concerns for businesses in Colombia. This study details the changes that have occurred and provides recommendations for creating a more sustainable and efficient macroeconomic environment. The tax system is complex, with an array of exceptions and differential tax rates, and thus policy reforms could reduce distortions to business decisions.

Chapter 3 examines the likely impact of agricultural liberalization on income distribution in the country under the proposed Colombian–U.S. FTA—identifying who are the likely gainers and losers—and assesses its impact on economic growth and poverty in the country. Considering that the income distribution effects from the FTA may be important for some sectors, despite the overall expected positive impact on growth, the chapter also examines policies that can help reduce the transitional costs for individuals in those sectors that are expected to be negatively affected by the changing economic dynamics of the country.

Acknowledgments

This report was prepared by a team led by David M. Gould (LCSPE) and Keta Ruiz (LCC1C), and comprising Leonid Koryukin (LCSFP), Steven Webb (LCSPE), Christian Gonzalez (Consultant, LCSPE), Jozef Draaisma (LCC1C), and Maurizio Bussolo (DECPG). Patricia Chacón Holt (LCSPE) assisted with document processing and Diane Stamm (Consultant, LCSPE) edited the document. The team has benefited enormously from comments provided by both World Bank staff and Colombian Government officials. We would like to especially thank Mauricio Carrizosa for tremendous advice, guidance, and editorial work on the document; our peer reviewers William Cline (Center for Global Development) and David Rosenblatt (DECVP); and the Colombian Senior Advisor to the office of the Executive Directors, Juan Carlos Pinzón.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
POLICY REPORT	5
RESUMEN EJECUTIVO	29
INFORME DE POLITICA.....	33
CHAPTER 1. COLOMBIA’S COMPETITIVENESS: CHALLENGES AND OPPORTUNITIES.....	61
INTRODUCTION.....	61
I. GROWTH, BUSINESS ENVIRONMENT, AND COMPETITIVENESS:.....	62
II. THE COLOMBIAN MANUFACTURING SECTOR:.....	94
III. THE FTA AND SMALL AND MEDIUM ENTERPRISES IN COLOMBIA	105
CHAPTER 2. MACROECONOMIC AND FISCAL POLICY: ESSENTIAL SUPPORTS FOR COMPETITIVENESS	113
I. FISCAL EQUILIBRIUM	114
II. TAX POLICY AND ADMINISTRATION AND COMPETITIVENESS	131
III. FISCAL REFORM AGENDA.....	140
CHAPTER 3. ECONOMIC EFFECTS OF THE PROPOSED COLOMBIA–U.S. FREE TRADE AGREEMENT.....	143
I. THE EFFECTS OF AGRICULTURAL TRADE LIBERALIZATION ON THE DISTRIBUTION OF INCOME IN COLOMBIA.....	144
II. THE IMPACT OF THE U.S.–COLOMBIAN FTA ON ECONOMIC GROWTH AND POVERTY	163
III. TRADE ASSISTANCE POLICIES	177
ANNEX 1: Analysis Of Productivity	189
ANNEX 2: Main Government’s Programs On Competitiveness	201
ANNEX 3: The FTA And Small And Medium Enterprises In Colombia - Policies To Promote SME Productivity And Competitiveness	205
ANNEX 4: Debt Sustainability Analysis	225
ANNEX 5: Profile Of Sectoral Infrastructure Investment: Private And Public	243
ANNEX 6: The Taxation Of Business And Capital Income In Colombia.....	249
ANNEX 7: Methodology For Calculating Household Welfare Changes.....	289
ANNEX 8: More Open Trade: Does It Really Lead To Growth?.....	293
ANNEX 9: Cross-Country Growth Regression Analysis.....	295
BIBLIOGRAPHY	305

Index of Tables

Table 1: Factors for Building Competitiveness in Colombia	28
Table 1.1: Obstacles to Growth and Competitiveness.....	66
Table 1.2: Ranking of Constraints/Obstacles—Comparison of Surveys.....	68
Table 1.3: Number of Administrative Procedures for Businesses, by Category	81
Table 1.4: The High Cost of Social and other Labor-related Obligations in Colombia	89
Table 1.5: The Export and Import Intensities in Manufacturing: Cross-country Evidence	98
Table 1.6: Distribution of Firms According to Sector & Firm Size in Business Registry; 2003	106
Table 1.7: Colombia: Comparative Advantages and Disadvantages.....	109
Table 2.1: Debt Sustainability with Shocks and Policy Adjustment.....	116
Table 2.2: Infrastructure Needs	125
Table 2.3: Local Governments Finances	127
Table 2.4: Domestic Tax Revenue, by Source	132
Table 2.5: Fiscal Reform Agenda—first round fiscal impacts.....	141
Table 3.1: Coefficients of Nominal Protection, 1986–97 (percent)	147
Table 3.2: Colombian Exports and Imports.....	149
Table 3.3: Pre-reform Consumption as a Share of Total Consumption	155
Table 3.4: Pre-reform Income Sources by Income Decile for Rural Households	155
Table 3.5: Proportion of Net Consumer/Producer Households,	157
Table 3.6: Predicted Consumer and Producer Price Responses	158
Table 3.7: Average Welfare Changes with Agricultural Price Changes	159
Table 3.8: Distributional Impact of Trade Reform, Price Change Only	161
Table 3.9: Colombia Average Real Per Capita Growth	174
Table 3.10: Colombia: Estimated Reduction in Poverty	176
Table 3.11: Unemployment Rates by Metropolitan Area.....	182
Table 3.12: Unemployment Rates by Age and Gender	183
Table 3.13: Employment by Sector and Education Level	184

Index of Figures

Figure 1 Real GDP Per Capita Annual Growth.....	5
Figure 2 Percentage of Countries Less Competitive than Colombia, 1995-2005	8
Figure 1.1: Poverty Reduction is Closely Associated with Growth	62
Figure 1.2: GDP Per Capita Annual Growth.....	62
Figure 1.3: Colombia's Competitiveness, 1995-2005	64
Figure 1.4: Most Problematic Factors for Doing Business	65
Figure 1.5: Percentage of Firms Rating Factors as Problematic	65
Figure 1.6: Gains in the Competitiveness Ranking by Tackling the Following Constraints.....	69
Figure 1.7: The Progress with Corruption after the Crisis, ICRG Data	70
Figure 1.8: International Position of Colombia vis-à-vis Corruption.....	70
Figure 1.9: The Increase in Corruption during 2001–03	71
Figure 1.10: Local Authorities as Most Corrupt Ones	71
Figure 1.11: Policy Uncertainty—Colombia Compared to Selected Countries	72
Figure 1.12: Policy Instability	72
Figure 1.13: Domestic Credit to the Private Sector, 2004.....	74
Figure 1.14: Quality of Colombia's Infrastructure	77
Figure 1.15: Inefficient Bureaucracy.....	80
Figure 1.16: Tax Regulations	80
Figure 1.17: Insecurity as a Significant Obstacle: Selected International Comparisons	84
Figure 1.18: The Unstable Security Situation in Colombia.....	84

Figure 1.19: Macroeconomic Instability; Colombia Compared to Selected Countries	85
Figure 1.20: The Uneven Growth in the 1990s	85
Figure 1.21: Dynamics of Major Prices	86
Figure 1.22: Continuous Export Growth	86
Figure 1.23: Informality— Colombia Compared to Selected Countries	88
Figure 1.24: The High Labor Informality.....	89
Figure 1.25: Value-added Tax Productivity	89
Figure 1.26: The Rapid Increase in the Real Minimum Wage	90
Figure 1.27: International Comparisons of the Ratios of Minimum Wage to Average Wage	90
Figure 1.28: Real Output by Small, Medium, and Large Manufacturing Establishments	96
Figure 1.29: Real Output by Small, Medium, and Large Manufacturing Establishments, Average per Establishment.....	96
Figure 1.30: The Effect of the Crisis on Capacity Utilization	96
Figure 1.31: The Increased Demand Instability prior to and during the Crisis*	96
Figure 1.32: The Robust Growth in Labor and Total Factory Productivity	96
Figure 1.33: The Decline in Total Employment in the Manufacturing Sector	96
Figure 1.34: Export Orientation of Manufacturing Establishments	97
Figure 1.35: Import Orientation of Manufacturing Establishment.....	97
Figure 1.36: The Greater Export Orientation of Larger Plants.....	98
Figure 1.37: Export and Import Intensities of Manufacturing Establishments (weighted)	98
Figure 1.38: Export and Import Intensities in Manufacturing (weighted).....	98
Figure 1.39: Productivity Gap between Exporters and Non-exporters Widened	98
Figure 1.40: Obstacles to FTA and FTAA	99
Figure 1.41: TFP Behavior of Entrants into Exporting Compared to other Categories	100
Figure 1.42: Industry-specific TFP Gaps for Plants with High Export Potential	102
Figure 1.43: The Rebound of Investment Activity in 2003.....	102
Figure 1.44: The Nature of Investment Projects.....	102
Figure 1.45: The Greater Investment Intensity in Firms with High Export Potential	103
Figure 2.1: Non-Financial Public Sector Deficit, 1994–2004	114
Figure 2.2: Debt Sustainability even without a Policy Response to Shocks	117
Figure 2.3: Real Effective Exchange Rate, 1980–2004.....	119
Figure 2.4: Composition of Central Government Expenditures	122
Figure 2.5: Total Financing for Infrastructure.....	122
Figure 2.6: Infrastructure Financing, by Source.....	124
Figure 2.7: Concentration Coefficients, 2003	126
Figure 2.8: Subnational Transfers, Actual and Counterfactual	128
Figure 2.9: Social Security Operational Balance.....	130
Figure 3.1: Colombia—Growth of Manufacturing Exports Share of Total Exports	148
Figure 3.2: Colombian Trade with the United States	151
Figure 3.3: Colombian National Domestic Policies Not Very Market Oriented.....	165

List of Boxes

Box 1: The Lessons from NAFTA	6
Box 2: Marginal Effective Tax Rates: Improving Incentives to Invest.....	14
Box 3: Colombia’s Manufacturing Sector: Improving Productivity in Preparation for the FTA	19
Box 1.1: Private Enterprise Development and Support Services in Colombia	111
Box 2.1: Security Improvements in Colombia	113
Box 3.1: Likely Components of a Colombia–U.S. Free Trade Agreement.....	152

Annex Tables

Table A1.1: Regression Results	196
Table A1.2: Correlations between TFP and Selected Variables.....	199
Table A1.3: Effects of the Ownership	199
Table A1.4: Estimation of the Dynamics of the Price–Cost Markup	200
Table A3.1: Colombia’s Classification of Firm Size	208
Table A3.2: Distribution of Firms According to Sector and Firm Size in Business Registry, 2003 ..	209
Table A3.3: The Commerce Sector by Firm Size, 2003	211
Table A3.4: The Service Sector by Firm Size, 2002	212
Table A3.5: Industrial Sector by Firm Size, 2002.....	213
Table A3.6: Gross Production Share by Firm Size and Industry (2001).....	214
Table A3.7: Gross Production Share by Firm Size and Industry (2001).....	214
Table A3.8: Merchandise and Sector Participation in Exports and Imports (2003).....	215
Table A3.9: Gross Production Share by Firm Size and Industry (2001): Colombia: Comparative Advantages and Disadvantages	217
Table A4.1: Composition of Colombia’s Debt.....	232
Table A4.2: Main Macroeconomic Variables Forecast.....	233
Table A4.3: Assumptions in the Different Scenarios	236
Table A4.4: Colombia External Debt Sustainability Framework.....	240
Table A5.1: Colombian Infrastructure Investment by Sector.....	243
Table A6.1: Business Subsector Capital Stock Weights	272
Table A6.2: METRs under Baseline Business Income Tax with All-Equity Financing:	273
Table A6.3: METRs under Business Income Tax With 7% on Interest Withholding.....	276
Table A6.4: METRs under Business Income Tax With 30% Partial Expensing and No Basis Adj.	279
Table A6.5: METRs under Business Income Tax With 30% Partial Expensing and Basis Adj.	280
Table A6.6: METRs under Income and Wealth Taxes	281
Table A6.7: METRs under Income Tax and Credited VAT	282
Table A6.8: METRs under Current Tax.....	284
Table A6.9: METRs under Business Income Tax	285
Table A6.10: METRs under Business Income Tax Reform.....	286
Table A6.11: Tax Reform Measures Since 2002	287
Table A6.12: Non-Reform Tax Measures Since 2002	288
Table A9.1: Fixed Effects Panel Regressions, 1970–2000 (5-year average)*	295
Table A9.2: Fixed Effects Panel Regressions, 1970–2000 (10-year averages)*	296
Table A9.3: Arellano-Bond Dynamic Panel Regressions 2 Step, 1970–2000 (5-year averages)* ..	297
Table A9.4: Treatment Effects Model, 1970–2000 (5- year averages)*	298
Table A9.5a: Summary Statistics (1960–2002)	299
Table A9.5b: Data Sources.....	268
Table A9.6: List of Countries and Number of Regional FTAs	301

Annex Figures

Figure A1.1: Log (capital).....	195
Figure A1.2: Log (employment).....	195
Figure A1.3: Log (labor hours)	195
Figure A1.4: Log (materials).....	195
Figure A1.5: Log (Output)	195
Figure A1.6: Log (Value Added)	195
Figure A1.7: The Relatively Slow TFP Growth Implied by the KLEM Regressions	197
Figure A1.8: The Relatively Fast TFP Growth Implied by the VA-based Regressions	198
Figure A4.1: Composition of Non-Financial Public Sector Debt.....	225
Figure A4.2: Composition of External Public Sector Debt	226
Figure A4.3: World Industrial Production and Merchandise Export Volumes, Annual Percent Rate	234
Figure A4.4: Crude Oil Prices	234
Figure A4.5: Non Financial Public Sector Debt Sustainability Analysis.....	235
Figure A4.6: Real Effective Exchange Rate.....	239
Figure A4.7: EMBI.....	239
Figure A4.8: Inflation.....	240

EXECUTIVE SUMMARY

Colombia has done a great deal to improve its competitiveness since the early 1990s. The country has taken initial steps to increase labor market flexibility, improve the revenue-generating capacity of the Central Government, increase security, and ensure the soundness of the banking system. Still, the reform agenda is not complete and more advances will be needed if the country is to take full advantage of greater market openness that is expected from the proposed free trade agreement (FTA) with the United States and other bilateral or multilateral trade accords. While the overall number of jobs in Colombia will not be determined by the degree of openness of the economy, the types of jobs will. **For Colombia to fully benefit from more open markets and achieve its goals of reducing poverty and increasing wages and the standard of living for its citizens, the country will need to move away from the status quo and make further progress toward macroeconomic stability and a more efficient business environment.**

International experience suggests that freer trade has a positive impact in terms of higher economic growth, technology transfers, and capital inflows. However, these benefits of freer trade derive from a country's ability to shift labor and other resources toward sectors that reflect the country's comparative advantage and out of sectors that have a comparative disadvantage. For this to occur, domestic markets must be agile. The key findings and recommendations of this report in terms of the potential economic impact of the proposed U.S. FTA include:

- ***The short-term impact of agricultural trade liberalization will be to modestly reduce poverty, with only slight distributional effects.*** Welfare gains are positive, but relatively small compared to household income, and decline as income increases. Gains due to market opening vary more widely across households at lower levels of income due to the variety of consumption patterns and economic activities they pursue.
- ***The longer-term impact of the proposed FTA with the United States will be to increase growth and reduce poverty.*** Using parameters obtained from cross-country regressions, the trade agreement is estimated to raise growth by about 0.6 to 0.8 percentage points per year in Colombia and to reduce poverty by 1.7 to 2.3 percent in the first five years after the FTA is in force, and 3.4 to 4.6 percent after 10 years.
- ***Unemployment in Colombia is sensitive to economic shocks because the labor market is highly rigid and labor mobility is low.*** To better address the near-term needs of workers displaced by a trade agreement, Colombia should improve policies to reduce labor rigidity and increase opportunities for education and retraining.

An important lesson of Mexico's experience from joining the North American Free Trade Agreement (NAFTA) is that free trade alone is not a panacea for what ails an economy, nor is it certain to boost growth and improve the standard of living. Freer trade is certainly an important component, but it is not a sufficient condition for growth, development, and poverty reduction.

How much extra growth and poverty reduction Colombia ultimately extracts from freer trade will largely depend on the efficiency and “competitiveness” of the domestic economy—competitiveness being a catchall for many factors including: a stable macroeconomic environment, the educational level and flexibility of the labor force, the ease of transport from ports and on roads, and the efficiency of the legal and judicial system to enforce contracts and facilitate business activity.

The key point is that an FTA provides greater opportunities for international trade and investment, but it does not imply the ability to take advantage of these opportunities. Domestic markets matter too. These are important elements to successful adjustments to more open markets, and depend on the degree of competitiveness, broadly defined, in an economy.

Grasping the Opportunities of Freer Trade

For Colombia to grasp the new opportunities embodied in greater market openness, it will also have to tackle important obstacles. Key challenges for Colombia include areas where regulation needs to be eased to make firms more agile and where the legal rules under which firms operate should be simplified and more clearly defined. Current labor market rules, while originally designed to protect workers, have sometimes reduced employment opportunities rather than increased them. In addition, government red tape is too cumbersome and transparency is too low. In the macroeconomic sphere, the allocation of public spending is far from optimal and the ability of the government to adjust expenditure to meet the changing needs of the country is extremely low. Central Government transfers to the regions and to the pension system are unsustainably high and the size of public debt makes the country more vulnerable to external shocks. All these factors reduce the economic opportunities to be gained from trade and thus restrain growth.

While there is the need for urgent reforms, new policies should be based on a long-term strategy and not temporary stop-gap measures. Due to fiscal pressures in recent years, policy changes have often been driven by the need to “fight fires” rather than by a long-term development strategy. The uncertain policy environment has restrained investment and growth, making the cost of implementing partial or temporary reforms sometimes higher than doing nothing at all. Reforms should be strategic and not just set to meet the pressing needs of the day; but a sense of urgency can also help generate the political will for implementing difficult reforms. Responding to current needs and being strategic are not necessarily mutually exclusive.

A danger is that the country pursues partial reforms that may not have a significant impact on the efficiency and growth of the economy, or worse, lead to a

deterioration in growth potential. In the early 1990s, for example, Colombia's new Constitution and subsequent laws were designed to improve education and the delivery of social services through the devolution of power and fiscal resources to communities through decentralization. While transfers to the subnational governments did increase, the parallel contraction of the Central Government that should have logically accompanied the decentralization of social services never materialized, and contributed to a non-financial public sector (NFPS) deficit that ballooned from 0.2 percent of GDP in 1991 to 6.4 percent of GDP in 1999. The deficit has fallen substantially in recent years, but the cost of this partial reform lingers on today.

Because of Colombia's tight fiscal situation and the need to continue to reduce its public debt, fiscal costs of some reforms must be carefully managed. While a large number of the reforms proposed in this Country Economic Memorandum (CEM) entail little or no fiscal cost, such as changes in regulations, greater transparency, and a more efficient allocation of existing expenditures, other important reforms will have a near-term fiscal impact, such as improvements to infrastructure and some of the changes to the tax system. Colombia will have to carefully manage these reforms so that short-term fiscal costs of these investments and reforms are balanced by the current fiscal envelope and the potential for higher growth and a more efficient economy. All too often, however, the choice has been to meet short-term fiscal gaps by cutting back on long-term investment rather than realigning current expenditures. In the longer run, this may be counterproductive as future fiscal revenues may be much less if the economy and, hence, the tax base is lower.

Substantial reforms are often politically costly in the near term, while the benefits may not be visible for years to come. The political cycle tends to favor quick fixes, which is why an important recommendation contained in this report is to depoliticize the reform process and create a long-term reform agenda with a broad-based consensus among the various segments of society. To a large degree, the recently initiated *Agenda Interna* and the *Vision 2019* programs in Colombia are an excellent beginning in this process. The CEM will hopefully assist in this process by identifying potential areas of reform in the context of a more open economy to help achieve higher growth and reduce poverty. To be sustainable in the long run, however, these suggested reforms will have to be backed by a broad segment of the Colombian society.

Key policy recommendations to help lay the foundations for a more competitive economy include:

- *Create a comprehensive legislative agenda with long-term vision and broad consensus to help reduce uncertainty in economic policy and regulation.*
- *Reduce government debt and create a more sustainable fiscal environment by addressing the fiscal imbalances in the pension system and Central Government transfers to subnational governments.*
- *Create a more efficient and equitable tax system by gradually lowering corporate rates, eliminating some tax exemptions, and widening the tax base.*

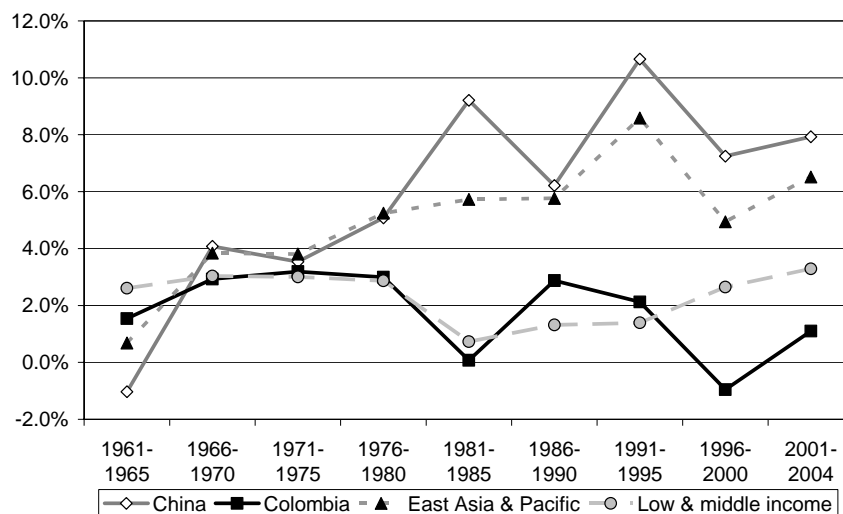
- *Improve labor market flexibility, reduce informality, and provide firms more incentives to hire workers by reducing labor market regulations and mandated wages.*
- *Reduce bureaucracy and red tape, and increase transparency to help build incentives for domestic and foreign investment in businesses and infrastructure.*
- *Improve access to financing for small and medium-size enterprises and deepen capital markets by reducing transactions costs and increasing the transparency and efficiency of regulations and the legal framework for the payments system.*
- *Strengthen transportation and public utility infrastructure and create sustainable financing for public investment by refocusing public investment only on those areas that the private sector cannot finance, and improving the regulatory framework for businesses.*

COLOMBIA COUNTRY ECONOMIC MEMORANDUM

POLICY REPORT

1. To achieve a higher standard of living for its population, and reduce the share of its population in poverty—over 50 percent—Colombia will have to grow faster. The emerging-market countries that have successfully reduced poverty (mainly in East and South Asia) have only done so with high rates of growth. While Colombia’s growth rate—around 3 percent growth per capita—was similar to other developing countries in the 1960s and 1970s, and better than many in the 1980s, especially in Latin America, its relative performance deteriorated since then, showing little per capita growth from 1996 to 2004, while many other low- to medium-income countries, particularly in East Asia and China, have experienced much faster growth (Figure 1).

Figure 1: Real GDP Per Capita Annual Growth



Source: World Bank (WDI/GDF 2005)

2. Colombia’s policymakers are now seeking to join a free trade agreement (FTA) with the United States, which could potentially bring tremendous economic benefits to the country for many years to come. Despite high expectations, the degree to which Colombia benefits from the FTA will depend not only on how much trade barriers fall at home and abroad, but also on the structure and efficiency of domestic markets. While Colombia has undergone important structural reforms over the last decade, there are areas where much more progress could be made. An important lesson of Mexico’s experience from joining the North American Free Trade Agreement (NAFTA) is that free trade alone is not a panacea for what ails an economy, nor is it certain to boost growth and improve the standard of living (See Box 1). Freer trade is certainly an important component, but it is not a sufficient condition for growth, development, and poverty reduction.

Box 1: The Lessons from NAFTA

A recent study "Lessons from NAFTA for Latin America and the Caribbean" by Daniel Lederman, William Maloney, and Luis Servén (World Bank, 2003) highlights the following lessons:

- NAFTA can be credited for boosting Mexico's growth in the post 1994 period. By inducing a reciprocal reduction in trade barriers and locking-in the reforms of recent years, it has yielded a positive impact on trade flows, foreign direct investments, and growth of industrial productivity. It is also responsible for the creation of many new jobs and some reduction in poverty rates of recent years in Mexico.
- Despite the positive growth effect, NAFTA has not sufficed to guarantee income convergence among North American countries. This reflects mainly pending items in Mexico's policy agenda including institutional gaps (i.e., corruption and rule of law), deficiencies in education (both coverage and quality), a passive innovation policy, the lack of critical infrastructure (especially in lagging regions) and some weaknesses in macroeconomic policy. The experience has demonstrated that while positive, an FTA with a developed partner is not sufficient to increase growth on a sustainable basis unless an agenda of complementary reforms is pursued.
- NAFTA benefits have been concentrated in states in the North and Center of Mexico. Southern states have not seen much of an impact, due to key deficiencies in institutions, education and infrastructure.
- Contrary to some predictions, NAFTA has not had a devastating effect on Mexico's agriculture. In fact, both domestic production and agricultural trade rose during the NAFTA years. The negative effects did not materialize because aggregate demand expanded rapidly in both Mexico and the U.S. in the latter half of the 1990s, some segments of Mexican agriculture recorded substantial increases in productivity (esp. irrigated lands), and outdated subsidies were transformed into targeted efficient programs (e.g., Procampo) which delinked transfers to farmers from current and future production levels.
- Mexico's experience also shows that there are some key remaining barriers to trade that have limited the growth potential of certain sectors. In particular, restrictive rules of origin affecting clothing exports to the U.S. market seem to have limited the ability of Mexican exporters to take full advantage of NAFTA preferences. This issue is likely to be a key topic for Colombia.

Source: World Bank (2005c)

3. International experience has shown that the benefits that a country extracts from freer trade largely depend on the efficiency and "competitiveness" of the domestic economy—a variety of factors including: a stable macroeconomic environment, the educational level and flexibility of the labor force, the ease of transport from ports and on roads, the efficiency of the legal and judicial system to enforce contracts and facilitate business activity, the quality and transparency of corporate governance, the stability of political institutions, the efficiency and non-distortionary nature of the tax system, and the efficiency of the regulatory environment to facilitate market competition and manage systemic risks.

4. An FTA provides greater opportunities for international trade and investment, but it does not imply the ability to take advantage of these opportunities. Domestic markets matter too. In order to take advantage of new trading opportunities, resources have to move out of some sectors and into others that reflect a country's comparative advantage. These are key elements to successful adjustments to more open markets, and depend on the degree of competitiveness, broadly defined, in an economy.

5. In this context, this CEM intends to provide practical and useful policy recommendations for Colombia's reform agenda, and to serve as a tool for communicating with the government and larger Colombian society about the expected impact, benefits, and challenges of the proposed FTA with the United States. Informed dialogue on important policy reforms is essential if change is to be successful and sustainable. An important lesson of the 1990s is that policy decisions cannot be made in isolation, but should be chosen based on initial conditions, the external environment, the quality of existing institutions, the history of policies, and political economy factors.

I. COLOMBIA'S COMPETITIVENESS: CHALLENGES AND OPPORTUNITIES

6. Why do some countries grow faster than others and how can Colombia improve its performance? While no magic formula can guarantee faster and sustained economic growth, recent research provides valuable answers on how investment and productivity contribute to growth and how the business environment is key in determining the size of both contributions.¹

7. The broader term competitiveness refers to the overall economic performance of a country, particularly its level of productivity, its ability to export its goods and services, and its ability to provide a good standard of living for its citizens. From the macroeconomic point of view, competitiveness is often linked to trade and the efficient use of resources, economies of scale, product differentiation, and innovation. A higher degree of competitiveness is also based on how well the legal and political institutions (both formal and informal rules of conduct) improve the incentives and the decisions of economic agents. At the level of the firm, the degree of competitiveness usually denotes the firm's ability to secure customers and maintain and expand its market position in national and international markets..

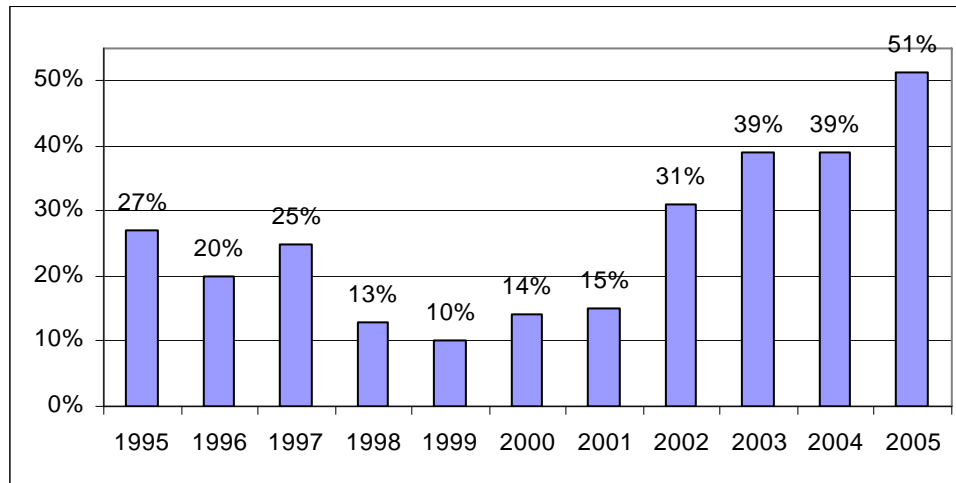
How Colombia Ranks Internationally

8. Colombia's competitiveness and business environment has improved in recent years due to better economic conditions and policy reforms, but it still ranks low in many surveys. From 1999 through 2004, Colombia's competitiveness ranking by the World

¹ To help understand why some countries grow faster than others, growth can be decomposed into the growth of human capital, physical capital, and total factor productivity (TFP), the contribution to output beyond those made by labor and capital. Multi-country analysis results show that TFP explains between 45 and 90 percent of the differences in growth among countries. Although TFP was assumed to encompass technological change, recent research has emphasized that TFP not only encompasses differences in technology, but also the broader environment in which firms operate (for example, property rights, and institutions, among other factors—what is also known as the business environment or investment climate) (World Bank 2005).

Economic Forum (WEF) increased from the bottom 10th percentile to the 40th percentile worldwide. In 2005, Colombia climbed up 7 positions, to rank 57th out of 117 countries (Figure 2). Most notable are the improvements in reduction in corruption, more policy stability, and less crime. In the Latin America and Caribbean (LAC) region, Colombia now ranks fifth, behind Chile, Uruguay, Mexico and El Salvador, among the 21 LAC countries in the report.

Figure .2: Percentage of Countries Less Competitive than Colombia, 1995-2005



Source: WEF (2005).

9. Other surveys tell a similar story of recent improvements, but still there is wide room for improvement. In 2004, the World Bank's "Doing Business" report showed that Colombia experienced some of the largest improvements and was the number two reformer in a sample of 145 countries. This was largely because the government passed a new labor law and implemented corresponding regulatory decrees that removed some of the many labor market inflexibilities. One-stop shops for business registration were established in the six largest cities, which cut the number of procedures and the time to start a business, respectively, from 19 to 14 steps and from 64 to 43 days in the city of Bogotá and according to the "Doing Business" report of 2006, the number of procedures have been reduced further, to 12, although the time to start a business remained at 43 days. Yet, in the Organization for Economic Co-operation and Development (OECD) countries, a business can be opened in less than 19 days—and less than 6 procedures are required. Another recent WB survey asked about a wide array of business concerns and also found continuing problems for Colombia's competitiveness.

Factors Affecting Competitiveness

10. Some factors that affect a country's competitiveness are under the direct control of government authorities (such as tax and regulatory procedures) and others are only subject to indirect control (such as the rate of economic growth and crime). The distinction between these two categories can help identify the key areas for government intervention. Often this distinction is described as the difference between policy and policy outcomes; while both influence a country's competitiveness, the government only has direct control over policies. However, even for policies that are under the direct

control of the government, policymakers must maneuver in the context of competing political interests.

11. Individual firms see constraints on competitiveness from both government policies and economic outcomes that are only partly shaped by policies. Economic outcomes would include such factors as the rate and variability of country economic growth, interest rates, the exchange rate, inflation, crime, the informal economy, corruption (private sector), and smuggling. These factors influence well-known virtuous circles (self-reinforcing trends) in the business environment—confidence, investment, and growth—which the government cannot control directly, but hopes to influence with the micro, macro, and trade policies over which it has more direct control. Factors that have been noted by firms in Colombia as being particularly troublesome impediments on competitiveness include:

- ***Macroeconomic and exchange rate instability.*** A volatile macroeconomic environment deters many potential investors in Colombia. Inflation, interest rates, exchange rates, and the fiscal situation became substantially less certain for Colombians starting a decade ago. In general, macroeconomic stability has improved substantially in recent years, but lingering imbalances remain and require measures discussed in the next section.

Many exporters worry about exchange rate volatility and the potential for overvaluation. The value of the Colombian peso is, for the most part, determined by a floating exchange rate, with only intermittent market intervention by the Central Bank. The peso has appreciated substantially in recent years (some 30 percent over its long-term trend), reflecting the strong demand for Colombian primary exports and the improved investment environment, but concerns over the appreciation and its deleterious effect on some firms have been raised as constraints on competitiveness. Nonetheless, the effects on the economy as a whole may be overstated. While a depreciated peso would make some export firms more competitive, it would also raise the cost of borrowing internationally as well as the cost of imports and intermediate inputs to production for other firms. Maintaining a flexible exchange rate is consistent with the Central Bank's explicit inflation target and likely the best policy for helping the country adjust to unexpected external economic shocks.

- ***Informality.*** Entrepreneurs in the formal sector in Colombia are more concerned about informality than are entrepreneurs in any other country in Latin America. Informality in Colombia is as high as 40 percent for economic activity and around 60 percent in employment. Tax evasion is one of the driving forces behind informality: firms can save some 50 percent in labor costs by not paying social security taxes and other mandatory obligations. Due to evasion, only about 30 percent of value-added tax (VAT) owed in Colombia is actually collected compared to some 70 percent in Chile and Nicaragua. Informality has a significant negative impact on productivity and growth. A key recommendation here is to reduce the incentives to move into the informal sector, which implies increasing labor market flexibility (that is, lowering taxes and the cost of formal

sector employment including minimum wages) and reducing the bureaucratic hurdles to opening a business and enforcing contracts.

- ***Crime, theft, and violence.*** International comparisons indicate that while a number of LAC countries suffer from more insecurity than Colombia, the security situation is still a large concern both domestically and internationally, although it improved in 2003 and 2004.² Bogotá and other major cities have become relatively safe places, but outside the major cities the lack of security is still a problem for business. Crime, insecurity, and theft, especially highway piracy (*pirateria terrestre*), act as an additional tax on business and deter investment.

The average cost of insecurity was estimated in 2002 at around 4 percent of sales, which is substantially higher than in most other developing countries. There is a significant negative correlation between total factor productivity and the losses due to security problems, which indicates that the security situation damages competitiveness. In 2004, of the 321 Colombian firms that responded to the survey question on whether security is a problem, 26 percent indicated that it was, and of this group 53 percent pointed to highway piracy as the main obstacle.

Economic Policies for Improving Competitiveness

12. Perceived constraints on competitiveness also include policy variables that can be more directly controlled by the government, like the stability of laws and regulations, taxes and procedures, corruption (public sector), excess bureaucracy, and the difficulties in starting a firm or exiting the market through bankruptcy. Furthermore, there are some important policies that are not typically identified as problematic by firms, but which nonetheless have important effects on business outcomes—such as the control of public spending and fiscal balances. This section highlights some key constraints on competitiveness that can be more directly controlled by government, and, thus are important areas to consider for reform.

13. Surveys and other information indicate several fronts on which policy reforms are needed: reducing policy variability, improving macroeconomic stability, decreasing distortions in corporate taxation, reducing labor rigidities, improving economic infrastructure, getting rid of counterproductive business regulation, and enforcing laws against corruption. Although these problems are not unknown to policymakers in Colombia, this report attempts to provide a guide for improving competitiveness (directly and indirectly) through the intermediate economic policies described above and identifies priority areas of intervention.

² In 2004 the number of kidnappings diminished by 35 percent, but even after this decline, about 1,400 people per year were being kidnapped. The number of the terrorist attacks went down 41 percent, yet victory can be declared only when such attacks stop completely. President Uribe started negotiations with the paramilitary in July 2003 that have led to the demobilization of more than 4,500 troops from eight units. Further demobilization will depend on the amnesty legislation being debated in Congress.

Economic and Regulatory Policy Uncertainty

14. Policy has changed frequently in recent years, and while reforms have led to improving conditions, frequent changes that only lead to marginal improvements or weaker institutions can deter investment and weaken growth. Colombia should pursue fundamental economic reforms and avoid temporary or marginally beneficial fixes that increase economic and policy uncertainty.

15. To a large degree, the current level of economic and policy uncertainty experienced by businesses reflects the lingering effects of the 1999 crisis and concerns over public debt sustainability, but it also reflects the large number of past and expected future policy changes. In the last three decades, there have been 14 major changes to the tax regime in Colombia. Although most reforms have no doubt helped to raise the ratio of taxes as a share of GDP from 11 percent in 1970 to about 21 percent in 2003, and may have been important for improving fiscal balances, they have not always improved the business environment and may have introduced uncertainty and reduced incentives for investment. Uncertainty over the outcome of reforms, for example, pension and budget reforms, while likely to improve fiscal balances, may also have the effect of delaying business investment plans until it is known if and what type of reforms are implemented.

16. ***A comprehensive legislative agenda with a longer-term vision would help reduce uncertainty in economic policy and regulations.*** A comprehensive approach with wider consultation with major stakeholders, especially the private sector, would help newly introduced legislation and norms to be accepted by society. Initiatives like the *Agenda Interna* are aimed at wide consultations with the private sector and other stakeholders on a variety of issues that have implications for future economic legislation. The government is also working on a Foreign Direct Investment (FDI) strategy, whereby foreign investors enter into binding long-term agreements with the government in exchange for guarantees that tax rates and policies will remain stable. Major regulators, such as the Superintendency of Industry and Commerce, are working with representatives of industry and commerce organizations (milk producers, for example) on developing and signing agreements on the application of the norms and regulations.

17. ***The creation of a longer-term framework is impeded by the political cycles.*** The country's development strategy needs to be de-linked from the political cycle. Every four years a new president is elected, which has tended to generate a large reform agenda that reflects the new administration's priorities during the initial years of the presidency that tapers off as the term ends. Formulating a development strategy in a nonpartisan way with broad input would help to provide a better opportunity for achieving longer-term policy stability.

Fiscal Sustainability

18. Although the government does not directly control macroeconomic stability, its policies have a major influence. The government has taken the necessary first steps for the short term—reducing budget deficits and slowing monetary growth—but there remains a substantial agenda of fiscal reforms to sustain stability. The rapid expansion of

public sector spending throughout the past decade, (from 25 percent of GDP in 1990 to over a third today), combined with growing pension and other liabilities, has led to significant and persistent structural deficits. As public spending surpassed the government's revenue-generating capacity, the increasing fiscal deficit was financed with debt, both domestic and external, which peaked at 54 percent of GDP in 2002.³ Although public sector debt fell to less than 48 percent of GDP in 2004, and further declines are expected in the coming years, this will happen only if the government continues to pursue fiscal reforms to minimize vulnerabilities to changes in market sentiment and external economic shocks.

19. ***Maintaining Debt Sustainability.*** The rapid expansion of public sector spending during 1992–2002, combined with growing pension liabilities and transfers to the subnational governments, led to significant and persistent structural deficits financed by domestic and external debt. The Uribe Administration has made some improvements on the fiscal front, particularly on the revenue side, but has achieved less on the expenditure side of the budget. While the debt sustainability analysis in chapter 2 finds that the government's objective to reduce debt to GDP to less than 39 percent by 2015 is feasible and likely, there are significant vulnerabilities on the horizon. To maintain fiscal sustainability and the investments needed in education, infrastructure, and basic health programs, the government must remain committed to fiscal restraint and implement further reforms to reduce pension liabilities and increase budget flexibility.

20. ***Reducing Subnational Transfers.*** Subnational governments in Colombia—departments, municipalities, and special districts—affect the national fiscal picture through two channels: (a) the transfers that they receive from the national Central Government budget, and (b) their own fiscal balances. Reforms in 2001 have temporarily limited the growth of the transfers from the Central Government, but additional reform is needed (when current caps on growth expire) to reduce fiscal pressure on the Central Government. To preserve this fiscal breathing room for itself, the national government must resist pressure and temptation to expand transfer programs, as happened in the 1990s. This should be easier if the departments and municipalities with major expenditure responsibilities are given more of a tax base of their own, and restraining transfers provide incentives for the local governments to use their tax bases. The policy agenda for the subnational finances should be to preserve the recent progress made in reducing deficits and to increase the spending efficiency and tax effort of subnational governments.

21. ***Making Pensions Sustainable.*** Colombia has a constitutionally mandated pay-as-you-go pension system. Although the system underwent reforms in 1993, it still generated major deficits that needed to be covered through large Central Government transfers. While the reform addressed issues of low contributions and overly generous retirement benefits, it did not take into consideration demographic changes (it calculated an average payout lifetime of 15 years, which has now reached close to 26 years) and did not eliminate a number of very expensive special regimes. In June 2005, Congress passed a constitutional amendment to make the pension system more sustainable, which

³ Net non-financial public sector debt.

is vital in order to close the deficit in the social security operational balance more quickly, and thus to reduce the transfers from the Central Government and enhance fiscal sustainability. This reform is expected to reduce the net present value of pension liabilities some 19 percentage points of GDP (162 percent of GDP to about 143 percent), but further progress on reducing fiscal pressures is needed to help ensure the sustainability of the system.

Tax Policy Inefficiencies

22. To enhance its attractiveness for new investment, especially in the context of greater free trade with the United States, Colombia needs to improve its tax policy, especially relative to competitors. The tax reform in December 2002 reduced some of the inefficiencies and distortions of the Colombian tax system, but it also had several distorting measures that were introduced to meet the short-term revenue targets. The revenue-raising measures with adverse microeconomic effects include the increase in the corporate income surtax, the financial transactions tax, and imposition of a “one-time” wealth tax (subsequently repeated). It also introduced some sector-specific distortions—exemptions such as for hotel services of new and remodeled hotels and seismic services for the hydrocarbon industry. While the follow-up law in 2003 took some steps forward, it also took steps backward. A longer-term strategy for addressing fiscal imbalances would avoid temporary stop-gap measures that distort economic incentives.

23. Total domestic tax collection as a share of GDP in Colombia is around the median of similar middle-income countries—higher than Mexico and Peru, but well below the levels in Brazil and Chile. The main tax affecting competitiveness is the corporate income tax.⁴ The base rate is 35 percent, to which the government added surtaxes of 5 percent and then 10 percent to raise more revenue. Investors facing a 38.5 percent statutory tax (and often effectively more) find Colombia a less-competitive place to invest compared with many places where the statutory rate is less (for example, Argentina’s rate is 35 percent, Bolivia’s is 25 percent, Brazil’s is 25 percent, Chile’s is 16.5 percent, and Mexico’s is 32 percent). Less investment leaves laborers using less capital, and therefore is less efficient and productive. The high corporate rate encourages transfer pricing schemes and other manipulations by multinational firms that reduce Colombian tax revenues. A preferable approach is to expand the corporate income tax base by eliminating more exemptions. To identify the distortions, one can calculate the marginal effective tax rates on various activities, as referred to in Box 2 and explained in chapter 2. From this follow a number of recommendations for reducing distortions.

⁴ As a tax on domestic consumption, the VAT does not affect competitiveness directly, although it collects considerable revenue. Mainly, however, it discourages consumption, including of imports.

Box 2: Marginal Effective Tax Rates: Improving Incentives to Invest

Since a variety of tax measures affect the competitiveness of business in Colombia, the Marginal Effective Tax Rate (METR) method of analysis is used to show the net effect of all components of the tax system on the *level* of the taxation of capital income in various types of assets. By considering a variety of investments that differ in asset composition, method of finance, type of investor, or economic sector, this analysis provides an indicator of the tax differentials that arise across different types of investments—that is, it shows how taxes affect the *composition* of investment. To improve competitiveness, investments should be allocated according to economic rates of return, and the tax system should not distort this information to investors by favoring or penalizing one sector or type of capital over another. Thus, to improve competitiveness, the marginal effective tax rate should be as low as possible (given fiscal needs) and uniform. Several results of the METR analysis stand out for Colombia, including deductions that favor debt financing and exemptions that distort investment decisions.

24. ***Lower the depreciation deductions to reduce tax distortions across assets and business sectors.*** Depreciation deductions under the income tax are relatively generous—they were initially set high to offset the effect of inflation, but not adjusted downward when the tax system was indexed for inflation in 1988. This results in some distortion of the allocation of investment across different types of assets.

25. ***Increase withholding of interest to reduce the existing tax bias favoring debt finance.*** The business income tax system in Colombia, like most corporate income taxes, is biased toward debt finance, although the problem is less critical in Colombia than in many other countries since dividends are not taxed at the individual level. Nevertheless, to the extent interest income is not fully taxed at the individual level, a bias favoring debt finance exists. Also, the modest degree of withholding of tax on interest under current law (7 percent) results in only a limited reduction in the variability of effective tax rates with respect to the debt–capital ratio. For investments by foreigners, withholding on dividends imposed at a 7 percent rate increases the effective tax rate on the equity-financed component of investment.

26. ***Amend the rule for partial expensing so that the purchase price of the asset is deducted only once.*** The granting of immediate partial expensing at a rate of 30 percent for investments in depreciable assets other than structures greatly reduces their METRs, as was intended, to encourage new investment. But under the 2003 law, the tax basis of the asset is not reduced to reflect immediate partial expensing, implying that investors effectively get to deduct 130 percent of the cost of the asset. The effect on METRs is most dramatic if part of the investment is debt financed, with the METR falling to -54.2 percent for investment in machinery, equipment, and furniture with 60 percent debt finance, and to an even larger tax subsidy for investment in computers and vehicles. An alternate remedy, and better in the long term, would be to replace partial expensing with an overall rate reduction. This would reduce incentives for revenue-reducing transfer pricing and other manipulations by foreign multinationals and reduce distortions across assets, business subsectors, and methods of finance.

27. ***The wealth tax distorts investment incentives, but has a relatively small effect.*** Compared to other taxes, the 0.3 percent wealth tax has a relatively small impact on

investment incentives under the Colombian tax system. For example, with partial expensing with basis adjustment and interest withholding at 7 percent, the wealth tax increases METRs by only 2 to 6 percentage points.

28. *Extend and complete the recent reforms for crediting the VAT on investment.*

Until recently, Colombia's VAT did not allow credits for investment goods as an input into production, and thus the VAT acted as a tax on all production, rather than just consumption.⁵ The 2002 reform introduced investment crediting, but the government could not afford to allow full immediate crediting, so they are spread over three years. Also, the measure was added as a temporary fix and will expire in 2007. While the delay in crediting the VAT on purchases of capital equipment is not as optimal as immediate crediting, delayed crediting is better than the prior policy of not crediting. Uncredited VAT results in wide variations in METRs across assets and business sectors, with METRs varying from 29.5 to 50.7 percent with all equity finance, and from 14.8 to 52.7 percent with 60 percent debt finance. Thus, crediting of the VAT (even in delayed form) should not be allowed to expire, and consideration should be given to implementing the standard treatment of full immediate crediting.

29. *Reduce the corporate rate and broaden the tax base.* The negative effects on investment incentives of a high statutory business income tax rate can be theoretically offset with the appropriate tax incentives, such as immediate partial expensing with basis adjustment. However, the use of such incentives, coupled with a statutory corporate tax rate that is relatively high (especially by Latin American standards), suffers from two important problems. First, a high statutory tax rate creates incentives for multinationals to use accounting manipulations, such as transfer-pricing schemes or judicious allocations of loans, to shift revenues away from, and deductions to, the high-rate jurisdiction. Such manipulations can dramatically reduce revenues in countries with relatively high statutory tax rates such as the current rate in Colombia. A second less obvious but critical issue is whether a high statutory rate creates the perception in the international business community of an unfavorable tax regime, even if the effects of the high statutory rate are greatly mitigated with investment incentives. Both of these considerations suggest that a low-rate and broad-based approach to corporate taxation is more desirable than one characterized by a high statutory rate and generous investment incentives. In the short run, however, as scheduled tariff reductions and urgent public investments are expected to increase revenue needs, a transition statutory rate could stay fixed from two to three years, while improving tax neutrality. The key measures to improve neutrality would be to reduce depreciation deductions and partial expensing. In the longer run, one could aim to reduce the statutory business tax rate to 30 percent, coupled with elimination of partial expensing. Such a system would thus result in a fairly low overall tax burden and few distortions across assets or subsectors.

30. *Simplify tax administration procedures for the payers and the government.* The administrative procedures in tax collection are a part of the complex and burdensome

⁵ Most VATs in the world are "destination based" and give a full immediate rebate for investment. This encourages saving and investment and is usually considered an important advantage of the VAT over income taxes. Colombia's VAT was the first in Latin America and one of the first in the world, introduced before the practice was standardized.

system of administrative procedures. Tax-related bottlenecks arise most notably in the areas of foreign trade and social security. Apart from taxes, other administrative procedures, especially those related to foreign trade, are also relatively burdensome. If not for recent government efforts, administrative procedures relevant for businesses, most notably registration and licensing, would have been rated much worse in recent business surveys. The government is making some important reforms in this area. In 2002, the Uribe Administration developed a new strategy for the National Directorate of Taxes and Customs (DIAN), founded on the Integral and Integrated Tax Administration System (MUISCA). As part of this system, the government improved and redesigned a web platform where taxpayers can submit their tax returns and payments. In this process the government simplified the tax returns forms and internal procedures.

Labor Market Inflexibility

31. Labor market inflexibility and the high cost of labor contribute strongly to informality and unemployment. Government policies aimed at reducing informality through labor market reform have been good, but more reforms are needed. In the labor market, Law 789 of 2002 and subsequent regulations introduced flexibility, for example, allowing entrepreneurs to pay a lower than 100 percent markup for weekend work. There appears to have been significant effects on reducing informality and underemployment, especially for the young, and a moderate improvement in employment. A joint government–Congress committee is analyzing the recent developments in the labor market with the idea of drafting additional legislation in the future. Nonetheless, reforms in several areas are still needed:

32. *Set the minimum wages in relation to market realities.* The rapidly climbing minimum wage in Colombia is currently slightly above COP\$400,000 per month, or some US\$180. The forthcoming World Bank Labor Market study for Colombia (2005)⁶ shows that if the minimum wage had been kept constant at 1995 levels, unemployment for men and women would have been 7 and 4 percentage points lower in 2002, respectively, halving its actual level for men. The high minimum wage has its largest negative impact among those groups that supposedly were to be protected: the young and the least skilled. Adding the mandatory obligations results in a minimum unit labor cost of around US\$260 per month. While some may argue that the high minimum wage pushes producers into most productive and cost-efficient businesses, the major impact is labor informality and unemployment. The minimum wage rate is a parameter that should follow the existing demand–supply conditions in the labor market, and should not be a significantly binding constraint that precludes less-productive workers from employment.

33. *Make hiring and firing decisions more flexible.* According to the World Bank’s Doing Business Report 2006, the average cost of firing an employee is equivalent to 44 weeks of salary, and although is down from 49 weeks last year, the cost is well above the 33 weeks in OECD countries; the difficulty of hiring index, which measures the restrictiveness on the use of term contracts, and how close is the mandated minimum

⁶ “Labor Market Adjustment, Reform and Productivity in Colombia: What are the Factors that Matter?” (World Bank 2005).

wage to the value added per worker, is 72 in Colombia, compared to 30 in OECD countries. Making hiring and firing decisions more flexible should lead to higher employment and lower production costs.

Inefficient Bureaucracy, Red Tape, and Corruption

34. Despite the recent improvements in the area of rationalization of administrative procedures, businesses still feel the burden of bureaucratic red tape. Providing a clear and transparent business environment requires administrative procedures, but excessive procedures can impede business decisions and increase costs. Colombia has improved significantly in this area, but excessive bureaucratic red tape is still considered a high burden on doing business in this country and contributes to business informality. Licenses and permits constitute the majority of the administrative procedures, followed by the registration formalities and procedures related to social security. Foreign trade activities include a large number of licenses and permits, and tax procedures related to the VAT can be quite cumbersome. Regulations related to social security include a complicated process of clearance of obligations. The experience of various countries, including Colombia, shows that a simplification of the procedures for opening and registration of businesses results in a very significant increase in the number of enterprises registered in the area where the reform took place (for example, through the introduction of one-stop shops for firm registration).

35. **Combat contraband.** While strengthening the policing mechanisms of the National Administrative Department of Statistics (*Departamento Administrativo Nacional de Estadística*, DIAN) and other responsible agencies might play some role in reducing contraband, it is not a solution to the problem. Contraband is a well-known way to launder money, and is a significant issue in Colombia. It is therefore important to support global anti-money-laundering activities, including those within the Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) regulatory framework. The *Superintendencia Bancaria* recently tightened the rules aimed at combating money laundering. All foreign-exchange intermediaries must now report any transfer, remittance, purchase, or sale of foreign currency in excess of US\$200. Contraband is also the result of the high cost of formality. Reducing the tax burden and decreasing tax exemptions should create a fairer system and make noncompliance less attractive.

36. **Improve transparency to reduce corruption.** The presidential program to fight corruption initiated in 1999 seems to have reaped positive results: the International Country Risk Guide's (ICRG) Corruption index has improved significantly since then. According to a recent study by Transparency International, Colombians top the list of "optimists" who are confident about the good prospects of fighting corruption in their country. Nonetheless, corruption is still seen as a major problem, especially at the local level. More than 60 percent of the respondents to the 2004 Probidad survey by the Confecámaras were of the opinion that during 2001–03 corruption increased. This negative opinion was especially strong in Cartagena, Bucarramanga, and Popayán. Local authorities were viewed as the most corrupt entities. Corruption could be reduced through a comprehensive program to improve education and transparency in business contracting and accounting—especially at the regional and local levels of government.

37. ***Reduce red tape.*** The government has a coherent program for red tape reduction. The program is a part of the Program for Renovation of the Public Administration (PRAP). An Inter-American Development Bank (IDB)-financed program (2000–04) has resulted in an enormous reduction in and of the bureaucratic procedures related to business registration in six major cities, where businesses now can be opened much faster at one of the Business Services Centers (*Centros de Atención Empresarial*, CAEs). The average number of procedures to open a new business in Bogotá fell from 19 in 2003 to 14 in 2004 and to 12 in 2005, with the average number of days spent on these formalities reduced from 60 to 43.

38. A program for reduction of the bureaucratic procedures related to foreign trade, the *Sistema Integral de Información de Comercio Exterior*, is also under way. Under this program, started in June 2005, the number of forms to be filled by an exporter will be reduced from around 35 to 1, the processing time in customs will be reduced from 12 hours to 5 hours, and the average time for export-related bureaucratic procedures will be reduced from some 20 days to 2 days. The “one-stop-shop” for exporters, the *Ventanilla Única*, is technically ready (90 percent) and should have a particularly important positive impact in reducing the exporting costs for small and medium-size firms (see Box 3 on Colombia’s Manufacturing Sector: Improving Productivity in Preparation for the FTA). The initiative is guided by a ministerial decree issued at the end of 2004. Other programs are being initiated by the Ministry of Social Protection.

39. ***Provide adequate financing to reduce red tape.*** While the systems for reducing the administrative procedures in foreign trade and social security are supposed to be fully operational this year, interviews with businesses find doubts that the desired results can be achieved in the near term. The automatic systems are new, fairly complicated, and require specific skills to use them not only on the part of the public servants, but also on the part of the corresponding personnel in the private sector. Hence, adequate training and a public information campaign must be an integral part of the agenda. Provision of additional technical expertise may also be needed in case technical difficulties arise.

40. ***Improve the bankruptcy laws.*** The average time for bankruptcy procedures in Colombia is three years compared to 1.5 years in OECD countries. The *Superintendencia de Sociedades* is working on a project to reform the bankruptcy law that, among other things, will reduce the time required for restructuring and liquidation procedures and improve creditor rights. Congress, however, has yet to pass the law.

Box 3: Colombia's Manufacturing Sector: Improving Productivity in Preparation for the FTA

The manufacturing sector is important for growth and foreign trade diversification. The sector employs a large number of the high-skilled labor, which helps to ensure the country's ability to follow world technological progress and to absorb the knowledge base. Trade liberalization in the early 1990s in Colombia has led to a substantial increase in manufactured exports, and significantly changed its structure toward a greater share of high- and medium-tech products—from some 20 percent during 1991–94 to around 40 percent by 2000. The upcoming FTA with the United States will further increase the manufacturing sector's importance.

While the manufacturing export orientation has increased in Colombia, the number of exporting plants (relative to the total) is still small compared to other countries, especially Mexico and China. Nonetheless, the sector will be important for continued trade diversification. The recent economic recovery has been associated with relatively low job growth due to several factors including: (a) higher capital intensity of firms that survived the crisis, (b) rigidities in the labor market, and (c) the instability of the security situation. Key recommendations for improving manufacturing productivity and outward orientation are based on the detailed evaluation of total factor productivity and an assessment of small and medium-size enterprises.

One area of particular importance for the manufacturing sector is the need for a better understanding of the micro-, small, and medium-size enterprises, including more comprehensive government data collection on firm activities. It is estimated that micro, small, and medium enterprises make up 63 to 73 percent of employment and 37 to 53 percent of value added generated by the private sector in Colombia. Yet, one of the most pressing issues in analyzing the Small and Medium Enterprises (SME) segment of private business in Colombia is the lack of data and the deficiencies in business statistics in line with the official definitions of SMEs. The lack of data not only severely limits the ability to design, formulate, and evaluate public sector support programs and policies oriented to this segment of private business, but also restricts the private sector itself in the design of its business strategies. Improving the collection and integration of business statistics without putting an unnecessary administrative burden on smaller firms would be a large benefit in assessing the needs of this sector and evaluating government SME assistance programs. In addition, broad access to such information in a format that does not breach confidentiality issues should be a priority for public sector action.

Lack of Access to Financing

41. During the first half of the 1990s, the Colombian banking system experienced rapid expansion. Adverse macroeconomic factors and poor credit management, however, exacerbated by weak bank regulation and supervision, brought it to a near crisis in 1998–99. The quality of the loan portfolio significantly deteriorated and the banking system was faced with liquidity problems. This forced a number of economic emergency and support measures from 1999 to 2001 that helped restore the health of the system and provided relief to debtors. These measures were consolidated in the 2002–04 period and helped to ensure the maintenance of a sound banking system and strengthened other financial service industries to allow them to provide alternative channels for the funding of investment.

42. The Colombian financial system is now better provisioned, better capitalized, more profitable, and more liquid than during the crisis of the 1990s. But the recovery has not helped to increase loans to parts of the private sector without access to international banks, nor to develop and deepen capital markets. Between 1998 and 2002, loan portfolios declined in real terms and banks increasingly invested in government securities. Since 2003, lending portfolios have been growing in real terms in all segments except housing finance. Private capital markets have developed somewhat, but continue to be characterized by low liquidity and insufficient depth, while the government debt market has developed substantially. Colombia has one of the longest local currency government bond yield curves in Latin America, second only to Mexico. The government is, by far, the biggest domestic bond issuer, representing about 80 percent of the total volume negotiated in the markets. The domestic credit to the private sector in Colombia, as a percentage of GDP, is at very low levels, only slightly higher than Guatemala but one-third that of Chile and one-seventh that of China. The lack of access to financing, especially longer term, forces domestic firms to obtain financing through the use of supplier credit and short-term financing, which limits their growth and expansion.

43. The government is undertaking a series of measures to strengthen and deepen the banking sector and capital markets so that more financing is available to the private sector. Among these measures are: (a) reducing transaction costs associated with basic financial products, especially for microenterprises; (b) seeking to promote an active microfinance sector in the country; (c) developing capital markets (a new Securities Law was enacted in August of 2005); (d) attracting more issuers into the market; (e) developing an efficient secondary market in government debt; (f) strengthening the local money markets; (g) correcting the weaknesses of the legal framework for the payment system and increasing the efficiency of the payment system; and (h) improving the framework for corporate insolvency to facilitate the restructuring and closure of firms with a new bankruptcy and restructuring law that will comply with international standards. These measures are expected to have a significant impact on improving competitiveness by reducing key constraints to increasing private sector financing.

44. ***Improve financing for micro-, small, and medium-size enterprises.*** Reducing transaction costs associated with basic financial products, especially for small and micro enterprises, including the development of basic savings accounts with low transaction costs, would allow for the expansion of productive activities. Moreover, the National Guarantee Fund (*Fondo Nacional de Garantías*, FNG) could increase information about alternative financing mechanisms and seek to develop an active microfinance sector in the country.

45. ***Deepen capital markets.*** Developing capital markets though more transparent and efficient securities regulations is one of the objectives of the Securities Law that was enacted in August of 2005. Attracting more issuers into the market by reducing some of the costs associated with issuances and developing an efficient secondary market in government debt would reduce the concentration of risk and greatly expand avenues for business financing.

46. ***Improve the payment system legal framework.*** The payment system is relatively inefficient and imposes a significant cost in terms of delays and increasing the risks of conducting financial transactions. Correcting the weaknesses of the legal framework for the payment system and increasing the efficiency of the payment system (through the new Securities Law and efforts by the Central Bank and Banking Superintendency) will help to reduce these transactions costs. Other measures for reform should include strengthening the legal framework for short-term securities-based lending, and improving the framework for corporate insolvency to facilitate the restructuring and closure of firms with a new bankruptcy and restructuring law that complies with international standards.

Inadequate Infrastructure for Business

47. By regional standards, Colombia has relatively high coverage and relatively equitable access across income brackets to basic household services such as water and sanitation, electricity, roads, and teledensity. Some specific areas of business infrastructure have serious deficiencies, however, especially electricity generation capacity and paved roads. To improve Colombia's endowments in some specific areas of business infrastructure where it lags behind its peers and higher growth countries, Colombia needs to make efforts in three broad areas: refocusing public investment, reactivating private finance, and reforming infrastructure sector regulations with direct impact on competitiveness. Specifics on these recommendations are contained in the World Bank's Recent Economic Developments in Infrastructure (REDI) report and the forthcoming Competitiveness and Logistics Analytical and Advisory Activity (AAA).

48. ***Sustainable financing for public sector investment.*** While public investment has been relatively high in Colombia compared to other countries in Latin America, it has declined over the past decade to under half of its former GDP share, crowded out by debt service and the rise of transfers. In an effort to limit the growth of debt, fiscal adjustment has come through revenue increases and cuts in public investment. Although this strategy has reduced deficits in the short term, it will not reduce debt ratios in the long term, but will likely reduce growth by about 1 percentage point per year. A challenge for Colombia is to maintain public investment levels, but also reorient infrastructure investment toward productive sectors (for example, roads and ports), without jeopardizing its strong performance in social infrastructure, such as the provision of safe drinking water.

49. ***Refocus public investment on those areas that the private sector cannot finance.*** This also makes effective use of existing public resources. On one hand, this means reducing the role of the State in the telecommunications and electricity sectors, which have been making excessive fiscal demands, and where there is significant scope for increased private participation. On the other hand, it implies improving the efficiency and efficacy of the existing resource envelope in more traditional public finance areas such as transport and water.

50. ***Reactivate private finance for infrastructure in commercially viable sectors.*** These include areas such as electricity generation, telecommunications, and port facilities. However, in order to revive private capital flows, particular attention will need

to be paid to addressing deficiencies in the sectoral regulatory frameworks. There are three particularly critical areas: first, the need to change the regulatory framework to provide the right incentives for private investment in energy markets, without which private investment—on which the future expansion of thermal generating capacity is premised—is unlikely to be forthcoming; second, the need to address a number of more general deficiencies in the regulatory framework, including strengthening of the relevant agencies, and improving the antitrust framework, clearer boundaries between policy and regulation, and a more effective appeals channel; and third, the need to modernize the legal framework for telecommunications to provide a more level playing field among technologically converging services, such as fixed line, mobile telephony, and Internet.

51. *Transportation bottlenecks could limit the gains from trade agreements.* A comprehensive reform of the trucking industry would help reduce manufacturing costs. The reform should involve a consensus of the major stakeholders (government, transport companies, truckers) and simultaneously eliminate most of the numerous inefficiencies. The upcoming World Bank Competitiveness and Trade Logistics AAA report will shed more light on the issue of the infrastructure for logistics, and the trucking industry in particular.

II. THE IMPACT OF THE PROPOSED COLOMBIA–U.S. FTA

52. The proposed Colombia–U.S. FTA is expected to help improve the competitiveness of the Colombian economy. The United States is already Colombia’s largest trading partner, and absorbs some 40 percent of the country’s exports, which have grown on average over 6 percent annually since 1999, despite a fallback during the U.S. recession in 2001. Nonetheless, under the FTA, the reduction in U.S. trade barriers will likely be modest. Colombia already enjoys substantial preferential tariff treatment under the Andean Trade Promotion and Drug Eradication Act (ATPDEA). The majority of Colombia’s exports currently enter the United States duty free, and in those areas where tariffs are likely to be lowered the most, (for example, in some categories of textiles), Colombia is unlikely to be the lowest-cost producer. In Colombia, tariffs have declined sharply over the last decade as the country unilaterally lowered its trade barriers and joined the World Trade Organization (WTO) in 1994. Colombia’s tariffs are still relatively high for agriculture, however, and this is likely to be an area of significant import growth if barriers fall, especially for cereals, grains, and oil seeds, where the United States has a large comparative advantage. Colombia has a comparative advantage in the sugar industry, but the United States resisted market opening in this sector. While Colombian tariffs may fall the most in agriculture, U.S. goods exports are still likely to remain concentrated in machinery and equipment and chemicals.

53. The largest potential benefit of an FTA would come over the medium to long term, because the accord would make the trading relationship permanent and more reliable. The temporary basis of the previous preferences under the ATPDEA made uncertainty a major part of the calculation for domestic firms considering investments in the export sector. In the same manner, uncertainty about the trading environment probably also restrained foreign direct investment. While important distributional effects will also occur as some sectors gain and others lose, the international experience with

regional free trade agreements, particularly between developed and developing countries, has been positive in terms of reducing poverty, higher economic growth, technology transfers, and capital inflows. The most important gains in other trade liberalization experiences have come from a virtuous cycle whereby technology gains through trade reduce the cost of innovation, which further increases growth and the stock of technology.

- ***The short-term impact of agricultural trade liberalization will be to modestly reduce poverty.*** Although initial welfare gains due to the FTA are estimated to be small relative to household income, they are positive and would be more important on average for lower-income households. Proportional gains also vary more widely across households, especially at lower levels of income, because of the variety of economic activities.
- ***The dynamic impact of the FTA is also to reduce poverty.*** On the basis of new statistical evidence from cross-country experience, the trade agreement is estimated to raise growth by about 0.6 to 0.8 percentage points per year and to reduce poverty in Colombia by 1.7 to 2.3 percent in the first 5 years after the FTA is in force, and 3.4 to 4.6 percent after 10 years.
- ***Unemployment in Colombia is strongly sensitive to economic shocks because the labor market is highly rigid and labor mobility is low.*** To better address the needs of workers displaced by a trade agreement or other shocks, Colombia should strengthen policies to reduce labor rigidity and improve mobility and strengthen its small unemployment insurance program.

54. ***The welfare and distributional impact of agricultural trade liberalization.*** Using the agricultural price changes predicted for the proposed FTA and combining them with a large household survey, one can estimate the distribution of initial welfare changes for different economic sectors and households across the economy. In the near term the welfare and distributional impact of agricultural trade liberalization under the FTA is estimated to be small. In the longer term the relative benefits are likely to be larger as the economy takes advantage of new opportunities. Key findings include:

- ***Relative price changes are likely to vary markedly across sectors in the economy.*** While some sectors, such as dairy products, are predicted to experience only very small changes in their prices, (a 0.2 percent increase for both consumers and producers), other goods—particularly textiles—are predicted to experience much larger price changes (a 4 percent reduction for consumers and a 7 percent reduction for producers).
- ***Whether households in the rural or urban areas will be net gainers or losers from trade liberalization in agricultural goods depends crucially on whether the households are net consumers or net producers of goods whose prices are affected directly or indirectly by the trade reform.*** For instance, in the category of cereal products, 77 percent of consumers in rural areas are net consumers and 3

percent are net producers (while the remainder do not consume or produce cereals, at least in the period of reference of the survey). Consequently, a price increase in cereal products would be expected to decrease welfare.

- ***Across the entire Colombian population, more households will gain from agricultural trade reform (59 percent) than lose (39 percent), but the gain and loss are very small in the short term.*** The median net gain was estimated to be 132 pesos per month, while the median gain among those who benefited was estimated to be over 508 pesos per month, and the median loss among losers was equivalent to almost 435 pesos per month. If the breakdown is done by urban and rural status, there is a greater proportion of gainers in urban areas than in rural areas, and the average net gain is smaller in rural areas.
- ***Poorer households tend to gain more as a share of income.*** As household income increases, the average gains from agricultural trade liberalization fall. This is because the price of agricultural goods will tend to fall, and relative benefits to higher purchasing power in these products is greater for lower-income households than for higher-income households. The pattern tends to hold true for rural and urban households, with the gains falling as income rises. With the exception of the poorest decile group, average gains are higher for rural households.
- ***Although gainers may be concentrated in the lower-income households, the impact on inequality is expected to be very modest.*** The short-term effect of trade liberalization is expected to reduce inequality only very slightly, with the mean logarithmic deviation inequality measure falling from 65.8 percent to 65.7 percent.

55. Despite the potential contributions that an FTA might make to trade and thus to economic growth and poverty reduction, the highest benefits from it will likely accrue only if it is accompanied by broad-based efforts to make the economy more efficient. The ability of a country to take full advantage of international commerce depends heavily on the fundamental efficiency of the economy—such as the legal framework for resolving international disputes, international property rights for attracting foreign investment, and the quality of laws and regulations compared to international standards for an efficient domestic business environment. Moreover, the development of infrastructure, such as roads and ports, not only facilitates the functioning of international markets, but reduces the costs of producing nontradable goods that are often crucial inputs to tradable products. Key findings include:

- ***Colombia has more trade openness (such as levels of tariffs and exchange rate distortions) than most other large Latin American countries.*** Among the seven most populous countries in Latin America—Brazil, Mexico, Colombia, Argentina, Peru, Venezuela, and Chile—only Chile and Mexico rank as more open to trade than Colombia.

- ***Using the measures of domestic market openness, however, Colombia ranks relatively low.*** Measuring domestic policy market orientation by government intervention, government regulation, flexibility of wages and prices, and property rights, Argentina, Brazil, Chile, and Mexico all offer more economic openness than Colombia. By this narrow definition, only Peru and Venezuela offer less domestic market orientation.

Trade Assistance Policies

56. Trade liberalization does not affect all sectors equally. Indeed, in order to gain from freer trade, some sectors must contract and release resources for other sectors that reflect a country's comparative advantage to expand. This entails sectoral job reallocations, which are tantamount to achieving the objectives of trade reform. But these changes often need to be managed with the help of trade assistance policies to minimize the political risk of reversing trade liberalization. Many incomplete implementations or reversals of trade policy reforms in developing countries, especially in Africa, have been due to the inability of domestic governments to deal with the outcry from those in sectors that are contracting, despite the potential benefits for the country as a whole.

57. Given these risks in the implementation and sustainability of trade policy reform, it is important for governments to know the likely distributional effects of the trade reform and devise ways to help ease the transition of workers released from contracting sectors to other sectors such as exports or nontradable goods sectors. Colombia is no different and, as mentioned earlier, there will likely be important distributional effects in some sectors of the economy. Key recommendations and policy options concerning trade assistance policies for Colombia include:

- ***Colombia's labor market is characterized by inflexibility, which suggests that a negative shock to a few sectors might cause large unemployment and income losses in these sectors.*** Although Colombia is one of the few countries that implemented an explicit labor market reform, so that its current labor market legislation is more flexible, especially if compared with the situation during the previous decade, an analysis of recent developments shows that the Colombian labor market is still highly rigid. This implies that a negative shock might cause employment and income losses in contracting sectors. Trade assistance policies should aim to reduce labor market inflexibilities and facilitate transitions to new employment opportunities.
- ***Trade assistance policies should target the most vulnerable.*** Analysis of unemployment allows for the identification of the most vulnerable groups of workers and should help facilitate targeting of compensatory policies. Perhaps not surprisingly, younger workers, although affected by structurally larger levels of unemployment, tend to suffer smaller increases in unemployment due to economic shocks than do older workers. There is little difference between male and female workers, but higher education levels tend to reduce the impact of negative shocks on unemployment. For most sectors, more-skilled workers enjoy larger employment

growth opportunities, confirming that general education helps in preparing a mobile, adaptable labor force.

- ***Unemployment effects would be reduced in less-developed regions of Colombia through more security and investment in transport services and infrastructure.*** Less-developed regions of the country tend to be isolated from one another, connected only by a sparse and unsafe network of roads. Therefore, a primary means to increase the flexibility of the Colombian labor market, and reduce the problems associated with displaced workers, should be an increase in security and investments in transport services and infrastructure.
- ***International experience suggests that the best trade-adjustment policies for Colombia should not be based on sector location, but rather on individual worker needs.*** Sectoral programs are costly and subject to rent-seeking behavior. Programs centered on individuals, such as retraining and job search assistance, are less costly and are better targeted to meet the needs of the most vulnerable. Other options include strengthening the relatively new system of unemployment insurance. This would include modest insurance benefits to those that are not in the formal sector (determined by fiscal resources freed from less beneficial programs), a better use of existing resources with a focus on those most vulnerable to falling into poverty, and implementing a system to register for unemployment benefits and a process to verify that those who are receiving benefits are seeking employment. A good complement for unemployment insurance would be a flexible training program that favors trainees' choice of institutions and programs.

58. As mentioned, international experience has shown that the benefits from freer trade largely depend on the efficiency and “competitiveness” of the domestic economy. An FTA provides greater opportunities for international trade and investment, but it does not imply the ability to take advantage of these opportunities. By undertaking all or part of the reform agenda outlined above, Colombia will be able to better capture all the benefits of the proposed free trade agreement with the United States. In doing so, the country will be able to reach higher levels of growth and achieve necessary reductions in poverty.

III. PRIORITIZATION OF RECOMMENDATIONS

59. **To prioritize among the key recommendations in this report, this section considers the impact as well as the estimated difficulty and the timeframe needed for implementation.** Recommendations are considered to be *higher impact* to the extent that they produce substantial results in increasing competitiveness. Recommendations are considered *more difficult* to implement to the extent that they represent either high fiscal costs, legal difficulties (where new legislation may be required), or political difficulties (if vested interests are seriously affected). More difficult recommendations may require a longer period of time to implement, but this may not always be the case. A difficult recommendation may only require a short time horizon if substantial progress has already been made toward its implementation.

60. **On this basis, it is possible to divide the recommendations into three general groups.** Group I corresponds to high-impact measures that are the greatest priority in the near-term. Group II corresponds to the medium-impact measures with modest difficulty and, hence, are medium-term objectives. Group III corresponds to high impact, high-difficulty measures that will require larger-term implementation, but nonetheless should be initiated in the near-term.

61. Table 1 shows the results of this prioritization exercise. **The bulk of the recommendations fall into Group I and Group III (high-impact near-term and long-term objectives) with fewer falling into Group II (medium-impact medium-term actions).** Group I actions identify some of the “quick wins,” either because the necessary course of action is already well defined, or because they can be implemented on the basis of simple legal instruments, or because the associated financial costs are modest. Most of these actions could be undertaken straightaway.

62. Group III recommendations—high impact longer-term—will also need to be tackled to obtain the full range of competitiveness benefits identified in this report. Some of these actions are cross-cutting issues and require ongoing commitments, such as reducing the level of debt to GDP that will need to be sustained for many years. For those actions identified as politically difficult or costly (such as changes to the minimum wage and investments in infrastructure), the first step would be to create a dialogue within the country to generate a consensus about the costs and benefits of these proposed reforms. Since some of the actions require legal changes, work on drafting the appropriate legal instruments could also be initiated in the short term. Finally, the significant financial costs envisioned for infrastructure and some changes to the tax system, such as investment in roads and lowering the corporate income taxes, will need to await the creation of fiscal space from savings elsewhere in the public budget. However, some immediate measures could be taken to ensure better use of the existing resource envelope.

Table 1: Factors for Building Competitiveness in Colombia

	Fiscal/Macro	Institutional/Micro	Trade/Infrastructure
I. High-impact Short-term Policy Objectives (Objectives that could be achieved within 1 year with little or no immediate fiscal cost. Some political constraints, but has large gains for competitiveness.)	<ul style="list-style-type: none"> • Maintain floating exchange rate and minimize intervention to allow country to adjust to external market conditions and maintain inflation targeting. • Keep primary balance at or above 2.5% of GDP to debt to reduce vulnerabilities. • Additional pension reform to reduce NPV of pension obligations and move toward fiscally sustainable system. • Fix rules for depreciation in corporate income tax and for rebates in VAT, which both correct distortions and raise more income. • Budget reform to reduce earmarking and improve fiscal spending decisions. 	<ul style="list-style-type: none"> • Further reduce bureaucratic red tape on businesses to improve productivity. • Improve the payment system legal framework to increase the efficiency of the payments system. • Improve bankruptcy laws by improving creditor rights and reducing the time for restructuring and liquidation of failed businesses. This would increase business loans and allow for faster reallocation of capital to successful enterprises. • Continue efforts in improving domestic security. 	<ul style="list-style-type: none"> • Reduce tariffs and non-tariff barriers to trade (unilaterally and in the context of regional and multilateral FTAs to reduce costs of imports and improve market access to other countries. • Focus trade adjustment programs on overall assistance for job training, not on specific sectors or industries to reduce costs and capture by special interests.
II. Medium-impact Medium-term Policy Objectives (Objectives that could be achieved after 2 to 3 years with modest fiscal cost and some political constraints, but have long-term competitiveness gains.)	<ul style="list-style-type: none"> • Reduce corporate tax surcharge/eliminate selected investment exemptions and deductions to increase economic activity and improve allocation investment across sectors. • Eliminate financial transactions tax to improve incentives to invest. • Extend and complete reforms for crediting the VAT on investment. • Change transfer formula to Central Government transfers to regions to improve fiscal sustainability. 	<ul style="list-style-type: none"> • Improve financing for micro-, small, and medium-size enterprises by reducing the transactions costs associated with basic financial products. • Deepen capital markets by enacting the new Securities Law to reduce the costs associated with issuances and developing an efficient secondary market for government debt. • Increase transparency and improve fiscal and investment data collection at regional, municipal, and local levels to improve budget allocations and reduce corruption. • Evaluate government support for SMEs. 	<ul style="list-style-type: none"> • Reduce the role of state enterprises in areas where private financing is feasible, such as telecommunications and electricity.
III. High-impact Long-term Policy Objectives (Objectives that could be achieved after 3 to 6 years with fiscal costs and/or more difficult political issues, but have significant long-term competitiveness gains.)	<ul style="list-style-type: none"> • Reduce debt/GDP to less than 35% to reduce vulnerability to changes in market sentiment. • Reduce standard corporate income tax rate below 30%. • Increase revenue-generating capacity of regions and local governments to improve regional/local spending decisions. 	<ul style="list-style-type: none"> • Develop a nonpartisan long-term development strategy to reduce policy uncertainty and continue efforts in developing a broad consensus on reform agenda (Agenda Interna and Vision 2019) • Reduce regulations on the hiring and firing of workers. • Reduce payroll and labor taxes and allow wages to reflect market supply and demand to increase employment. The regulated minimum wage is set relatively high, which pushes labor into unemployment or the informal sector. 	<ul style="list-style-type: none"> • Create sustainable financing for public investment. This entails multiyear investment plans and increasing fiscal space for investment by reducing current expenditure through more efficient allocation of resources. • Refocus investment to improve road and port infrastructure to reduce costs to trade. • Streamline sector regulatory framework to improve environment for attracting private infrastructure investment. • Reduce preferential subsidies to selected groups and improve spending on job displacement assistance programs to facilitate transition to more open markets.

RESUMEN EJECUTIVO

Desde principios de los años noventa, Colombia ha dado grandes pasos para mejorar su competitividad. El país ha tomado medidas iniciales para aumentar la flexibilidad de su mercado laboral, aumentar la capacidad de generación de ingresos del gobierno central al igual que la seguridad, y garantizar la solidez del sistema bancario. Aún así, la agenda de reformas todavía no está concluida y es preciso que haya mas progreso si el país ha de aprovechar plenamente la mayor apertura de los mercados que se espera acompañe al Tratado de Libre Comercio (TLC) con Estados Unidos que viene negociando y a otros futuros acuerdos comerciales bilaterales o multilaterales. Aunque el número general de empleos en Colombia no estará determinado por el grado de apertura de la economía, sí lo será el tipo de empleos con que se cuente. **A fin de que Colombia se beneficie plenamente de la mayor apertura de los mercados y alcance sus metas de reducción de pobreza y aumento de salarios y del nivel de vida de sus ciudadanos, el país deberá salir de la situación actual y avanzar más hacia la estabilidad macroeconómica y un ambiente de negocios más eficiente.**

La experiencia internacional sugiere que el comercio más libre tiene impacto positivo reflejado en mayor crecimiento económico y mayores transferencias de tecnología y flujos de capital. Sin embargo, estos beneficios de una mayor apertura comercial se derivan de la capacidad de un país para mover la mano de obra y otros recursos hacia sectores que reflejen las ventajas comparativas nacionales y alejarlos de los que tengan desventaja comparativa. Para que esto ocurra los mercados internos deben ser ágiles. Entre las conclusiones y recomendaciones clave de este informe en función del impacto económico potencial de la propuesta de TLC con Estados Unidos destacan las siguientes:

- ***El impacto de corto plazo de la apertura comercial agrícola se centrará en una reducción modesta de la pobreza, con sólo ligeros efectos redistributivos.*** Las ganancias en bienestar son positivas, pero relativamente limitadas en comparación con el ingreso familiar, y se reducen conforme aumenta el ingreso. Debido a la variedad de los patrones de consumo y actividades económicas que realizan, las ganancias resultantes de la apertura de los mercados varían más ampliamente entre hogares con niveles de ingreso más bajo.
- ***El impacto de largo plazo del proyecto de TLC con Estados Unidos se centrará en el aumento del crecimiento y la reducción de la pobreza.*** Empleando parámetros obtenidos de análisis econométrico para varios países, se estima que el acuerdo comercial elevaría el crecimiento en Colombia entre 0,6 y 0,8 puntos porcentuales al año y reduciría la pobreza entre 1,7 y 2,3 por ciento durante los primeros cinco años posteriores a la entrada en vigor del TLC y entre 3,4 y 4,6 por ciento luego de diez años.
- ***El desempleo en Colombia es sensible a choques económicos porque el mercado laboral es muy rígido y la movilidad laboral es baja.*** Para atender mejor las

necesidades de corto plazo de los trabajadores desplazados por un tratado comercial, Colombia debería mejorar sus políticas a fin de reducir la rigidez laboral y aumentar las oportunidades educativas y de capacitación.

Una lección importante de la experiencia mexicana al adoptar el Tratado de Libre Comercio de América del Norte (TLCAN), es que el libre comercio por sí mismo no es la panacea para los problemas que aquejan a una economía, como tampoco es garantía de impulsar el crecimiento y mejorar el nivel de vida. La apertura comercial ciertamente es un componente importante, pero no es condición suficiente para el crecimiento, el desarrollo y la reducción de la pobreza.

El nivel de reducción de pobreza que Colombia logre en última instancia a partir de la apertura comercial dependerá en gran medida de la eficiencia y “competitividad” de la economía interna, siendo la competitividad un concepto que contiene, entre otros, los siguientes factores: un entorno macroeconómico estable, el nivel educativo y la flexibilidad de la fuerza de trabajo, la facilidad de transporte desde puertos y en los caminos, y la eficiencia del sistema jurídico y legal para hacer cumplir los contratos y facilitar la actividad empresarial.

El punto clave es que un TLC ofrece mayores oportunidades de comercio e inversión internacionales, pero no implica la capacidad de aprovechar estas oportunidades. Los mercados internos también son importantes. Estos son elementos relevantes para lograr ajustes exitosos hacia mercados más abiertos y dependen del grado de competitividad (en su definición amplia) en una economía.

Aprovechar las oportunidades de la apertura comercial

Para que Colombia aproveche las nuevas oportunidades que presenta una mayor apertura comercial, también tendrá que vencer obstáculos importantes. Entre los retos clave para Colombia destacan renglones en los que debe relajarse la regulación para que las empresas sean más ágiles, así como rubros en los que las reglas de operación de las compañías deben simplificarse y definirse con más claridad. Las reglas actuales en el mercado laboral, aunque diseñadas en un inicio para proteger a los trabajadores, algunas veces han limitado las oportunidades de empleo en lugar de aumentarlas. Además, la burocracia gubernamental es demasiado engorrosa y la transparencia poca. En el ámbito macroeconómico, la asignación de gasto público se encuentra lejos de ser la óptima y la capacidad del gobierno para ajustar el gasto de manera que satisfaga las cambiantes necesidades del país es excesivamente baja. Las transferencias del gobierno central hacia las regiones y al sistema de pensiones son insosteniblemente altas y el tamaño de la deuda pública aumenta la vulnerabilidad del país a choques externos. Todos estos elementos reducen las oportunidades económicas que pueden ganarse por medio del comercio, con lo que se limita el crecimiento.

Aunque las reformas no sean urgentes, las nuevas políticas deberían basarse en una estrategia de largo plazo y no en medidas paliativas temporales. Debido a las presiones fiscales en años recientes, los cambios de política a menudo han sido impulsados por la necesidad de “apagar incendios” más que por una estrategia de

desarrollo a largo plazo. El incierto ambiente de políticas públicas ha restringido la inversión y el crecimiento, haciendo que el costo de poner en marcha reformas parciales o temporales a veces supere el de no tomar medidas. Las reformas deben ser estratégicas y no sólo establecidas para satisfacer las necesidades cotidianas. Sin embargo, la percepción de urgencia también puede contribuir a generar la voluntad política para poner en marcha reformas difíciles. La respuesta a las necesidades del momento y la aplicación de estrategias no son actividades que necesariamente sean excluyentes entre sí.

Un peligro reside en que el país busque llevar a cabo reformas parciales que no tengan un impacto significativo en la eficiencia y el crecimiento de la economía o, peor aún, que lleven al deterioro del potencial de crecimiento. A principios de los años noventa, la nueva Constitución de Colombia y las leyes promulgadas posteriormente fueron diseñadas para mejorar la educación y la prestación de servicios sociales por medio de la delegación de poderes y recursos fiscales a las comunidades mediante la descentralización. Aunque aumentaron las transferencias hacia gobiernos subnacionales, la contracción paralela en el gobierno central que, por lógica, debería haberse dado con la descentralización de los servicios sociales nunca se materializó, contribuyendo a generar un déficit del sector público no financiero (SPNF) que se disparó de 0,2 por ciento del PIB en 1991 a 6,4 por ciento del PIB en 1999. El déficit ha disminuido de forma sustancial durante los últimos años, pero el costo de esta reforma parcial sigue presente en la actualidad.

Debido a la restringida situación fiscal en Colombia y a la necesidad de continuar reduciendo su deuda pública, se deben manejar con prudencia los costos fiscales de algunas reformas. A pesar de que un gran número de las reformas que se proponen en este Memorandum Económico de País (MEP) implican poco o ningún costo fiscal, como lo son los cambios en las regulaciones, la necesidad de mayor transparencia y una asignación más eficiente de los gastos existentes, otras reformas importantes tendrán un impacto fiscal en el corto plazo, como es el caso de las mejoras a la infraestructura y algunos de los cambios en el sistema tributario. Colombia deberá manejar estas reformas con prudencia, de modo que los costos fiscales a corto plazo de estas inversiones y reformas estén equilibrados con la situación fiscal actual y el potencial de registrar un mayor crecimiento y desenvolverse en una economía más eficiente. Sin embargo, con demasiada frecuencia se ha debido optar por cubrir las brechas fiscales de corto plazo mediante recortes a la inversión de largo plazo, en lugar de hacerlo por medio de realineaciones del gasto corriente. En el largo plazo, esta medida puede ser contraproducente, pues los ingresos fiscales futuros podrían ser mucho menores si la economía se reduce y, con ello, la base tributaria.

En el corto plazo, las reformas sustanciales a menudo son costosas en términos políticos, mientras que los beneficios no son evidentes sino hasta varios años después. El ciclo político tiende a favorecer los remedios fáciles, razón por la cual una de las recomendaciones más importantes de este informe reside en despolitizar el proceso de reforma e integrar una agenda de cambios de largo plazo con un consenso amplio de los diferentes segmentos de la sociedad. En gran medida, los programas recientes *Agenda Interna* y *Visión 2019* son un excelente primer paso en este proceso. Se espera que el MEP contribuya a este proceso al identificar áreas potenciales

de reforma en el contexto de una economía más abierta, a fin de lograr un mayor crecimiento y reducir la pobreza. Sin embargo, para ser sostenibles en el largo plazo, las reformas sugeridas tendrán que estar apoyadas por un segmento amplio de la sociedad colombiana.

Las recomendaciones de política más importantes para contribuir a establecer los fundamentos de una economía más competitiva son los siguientes:

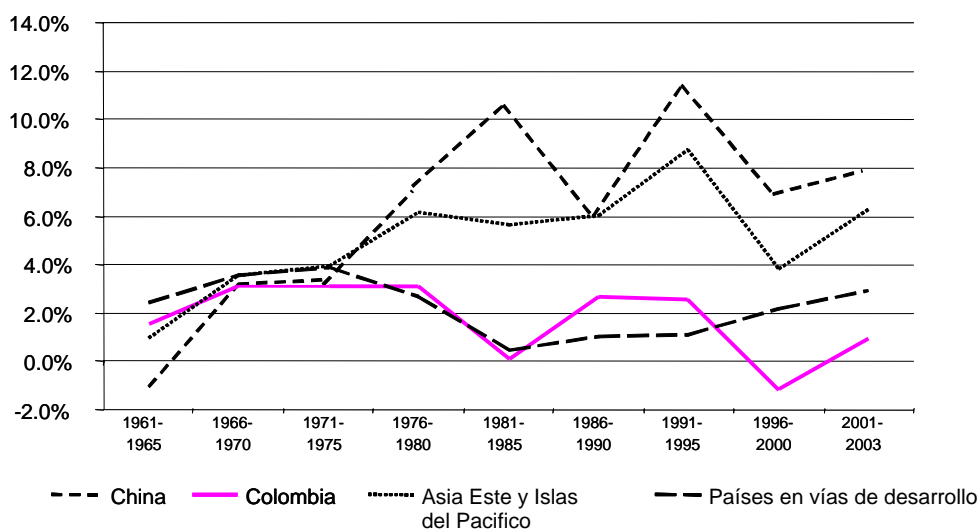
- *Establecer una agenda legislativa integral con visión de largo plazo y consenso amplio para contribuir a reducir la incertidumbre en la política y regulación económicas.*
- *Reducir la deuda del gobierno y crear un ambiente fiscal más sostenible resolviendo los desequilibrios fiscales en el sistema de pensiones y las transferencias del gobierno central hacia los gobiernos subnacionales.*
- *Diseñar un sistema tributario más eficiente y equitativo por medio de la reducción gradual de las tasas corporativas, la eliminación de algunas exenciones de gravámenes y la ampliación de la base tributaria.*
- *Aumentar la flexibilidad del mercado laboral, reducir la informalidad y proporcionar un ambiente favorable a las empresas para que contraten empleados mediante la reducción de las regulaciones en el mercado laboral y de los salarios obligatorios.*
- *Reducir la burocracia y el papeleo y aumentar la transparencia para contribuir a crear un ambiente favorable para la inversión interna y extranjera en negocios e infraestructura.*
- *Mejorar el acceso al financiamiento para las empresas pequeñas y medianas y profundizar los mercados de capitales al reducir los costos de transacción y aumentar la transparencia y eficiencia de la reglamentación y el marco legal para el sistema de pagos.*
- *Fortalecer la infraestructura de transporte y servicios públicos y crear un financiamiento sostenible para la inversión pública mediante su recanalización sólo hacia aquellos renglones que no pueda financiar el sector privado, además de mejorar el marco regulatorio para las empresas de servicios públicos.*

MEMORANDUM ECONOMICO DE PAIS PARA COLOMBIA

INFORME DE POLITICA

1. Colombia tendrá que crecer a un ritmo más acelerado a fin de lograr un mejor nivel de vida para su población y de reducir la proporción de su población que se encuentra en la pobreza (más de 50 por ciento). Los países de mercados emergentes que han reducido con éxito la pobreza (principalmente en el oriente y el sur de Asia) sólo han podido lograrlo con tasas de crecimiento altas. Aunque durante los años sesenta y setenta la tasa de crecimiento de Colombia —de alrededor de 3 por ciento per cápita— resultó similar a la de otros países en desarrollo, en especial de América Latina, y mejor que la de varios más en los años ochenta, su desempeño relativo se deterioró desde entonces, mostrando poco crecimiento per capita entre 1996 y 2003, mientras que en muchos otros países de ingresos medios y bajos, en especial en Asia oriental y China, se han experimentado crecimientos mucho más acelerados (Gráfica 1).

Gráfica 1: Crecimiento Anual del PIB Real Per Cápita



Fuente: Banco Mundial (WDI/GDF 2004)

2. Los hacedores de políticas públicas en Colombia están buscando firmar un tratado de libre comercio (TLC) con Estados Unidos que tiene el potencial de traer consigo enormes beneficios económicos para Colombia a largo plazo. A pesar de las grandes expectativas, el grado de beneficio para Colombia con el TLC dependerá no sólo del número de barreras comerciales que se eliminan interna y externamente, sino también de la estructura y eficiencia de los mercados internos. Aunque Colombia ha experimentado importantes reformas estructurales durante la última década, existen renglones en los que podría avanzarse mucho más. Una lección importante de la experiencia mexicana al adoptar el Tratado de Libre Comercio de América del Norte (TLCAN) es que el libre comercio por sí mismo no es la panacea para los problemas que aquejan a una economía,

como tampoco es garantía de impulsar el crecimiento y mejorar el nivel de vida (véase el Recuadro 1). La apertura comercial ciertamente es un elemento importante, pero no es condición suficiente para el crecimiento, desarrollo y reducción de la pobreza.

Recuadro 1: Las Lecciones del TLCAN

Un estudio reciente, titulado “*Lessons from NAFTA for Latin America and the Caribbean*” realizado por Daniel Lederman, William Maloney y Luis Servén (Banco Mundial, 2003) destaca las siguientes lecciones:

- El impulso al crecimiento en México en el periodo posterior a 1994 se puede atribuir al TLCAN. Al generar una reducción recíproca en las barreras comerciales y fijar las reformas de años recientes, se ha obtenido un impacto positivo en los flujos comerciales, la inversión extranjera directa y el crecimiento de la productividad industrial. También es responsable de la creación de muchos empleos nuevos y cierta reducción en las tasas de pobreza de México durante los últimos años.
- A pesar del impacto positivo en el crecimiento, el TLCAN no ha bastado para garantizar la convergencia del ingreso entre los países de América del Norte. Esto refleja, sobre todo, los temas pendientes en la agenda mexicana de políticas públicas, entre los que destacan puntos como las brechas institucionales (la corrupción y el estado de derecho), las deficiencias en educación (tanto en cobertura como en calidad), la pasividad en las políticas de innovación, la falta de infraestructura clave (en especial en las regiones más atrasadas) y algunas debilidades en la política macroeconómica. La experiencia ha demostrado que, aunque positivo, un TLC con un socio desarrollado no basta para aumentar el crecimiento de manera sostenible, a menos que se busque cumplir con una agenda de reformas complementarias.
- Los beneficios del TLCAN se han concentrado en los estados del norte y el centro de México. En los estados del sur no se ha observado un gran impacto, debido a las deficiencias clave en instituciones, educación e infraestructura.
- En contra de algunas predicciones, el TLCAN no ha tenido un efecto devastador en la agricultura de México. De hecho, tanto la producción interna como el comercio agrícola aumentaron durante los años posteriores a la firma del TLCAN. El impacto negativo no se materializó debido a que la demanda agregada se amplió con rapidez, tanto en México como en Estados Unidos durante la segunda mitad de los años noventa. Así, algunos sectores de la agricultura mexicana registraron aumentos sustanciales de productividad (en especial en las tierras de riego) y los subsidios obsoletos se transformaron en programas eficientes y dirigidos a beneficiarios específicos (como Procampo), desvinculando las transferencias a los campesinos de los niveles de producción actuales o futuros.
- La experiencia de México también muestra que persisten algunas barreras comerciales de importancia fundamental que han limitado el potencial de crecimiento de ciertos sectores. En especial, las restrictivas reglas de origen que afectan la exportación de prendas de vestir al mercado estadounidense parecen haber limitado la capacidad de los exportadores mexicanos para aprovechar plenamente las preferencias que surgen con el TLCAN. Este es un tema que probablemente será central en el caso de Colombia.

Fuente: Banco Mundial (2005c)

3. La experiencia internacional ha mostrado que los beneficios que un país obtiene de la apertura comercial en gran medida dependen de la eficiencia y “competitividad” de la economía interna, deben considerarse, entre otros, los siguientes factores: un entorno macroeconómico estable, el nivel educativo y la flexibilidad de la fuerza de trabajo, la facilidad de transporte desde puertos y en los caminos, la eficiencia del sistema jurídico y legal para hacer cumplir los contratos y facilitar la actividad empresarial, la calidad y transparencia del gobierno corporativo, la estabilidad de las instituciones políticas, la eficiencia y naturaleza no distorsionante del sistema tributario y la eficiencia del ambiente regulatorio para facilitar la competencia de mercado y manejar los riesgos sistémicos.

4. Un TLC ofrece mayores oportunidades de comercio e inversión, a nivel internacional pero no implica la capacidad de aprovechar estas oportunidades. Los mercados internos también son importantes. A fin de aprovechar las nuevas oportunidades comerciales, los recursos deben dejar unos sectores y dedicarse a otros que reflejen las ventajas comparativas de un país. Estos son elementos cruciales para lograr ajustes exitosos hacia mercados más abiertos y dependen del grado de competitividad (en su definición amplia) en una economía.

5. En este contexto, este MEP tiene la intención de ofrecer recomendaciones de medidas de política prácticas y útiles para la agenda de reforma de Colombia, así como de ser una herramienta de comunicación con el gobierno, y la sociedad colombiana en general, acerca del impacto, los beneficios y los retos que se esperan de la propuesta de TLC con Estados Unidos. Para que el cambio sea exitoso y sostenible, es esencial contar con un diálogo informado sobre las reformas de políticas públicas. Una lección importante que se desprende de la década de los noventa es que las decisiones en cuanto a políticas públicas no pueden realizarse de manera aislada, sino que deben elegirse con base en las condiciones iniciales, el ambiente externo, la calidad de las instituciones existentes, el historial de las políticas públicas y los elementos relacionados con la economía política.

I. LA COMPETITIVIDAD EN COLOMBIA: RETOS Y OPORTUNIDADES

6. ¿Por qué algunos países crecen más rápido que otros y cómo puede Colombia mejorar su desempeño? Aunque no existe una fórmula mágica que garantice un crecimiento más acelerado y sostenido, existen investigaciones recientes que proporcionan respuestas valiosas a cómo pueden la inversión y la productividad contribuir al crecimiento y cómo el ambiente de negocios es clave para determinar el tamaño de ambas aportaciones.⁷

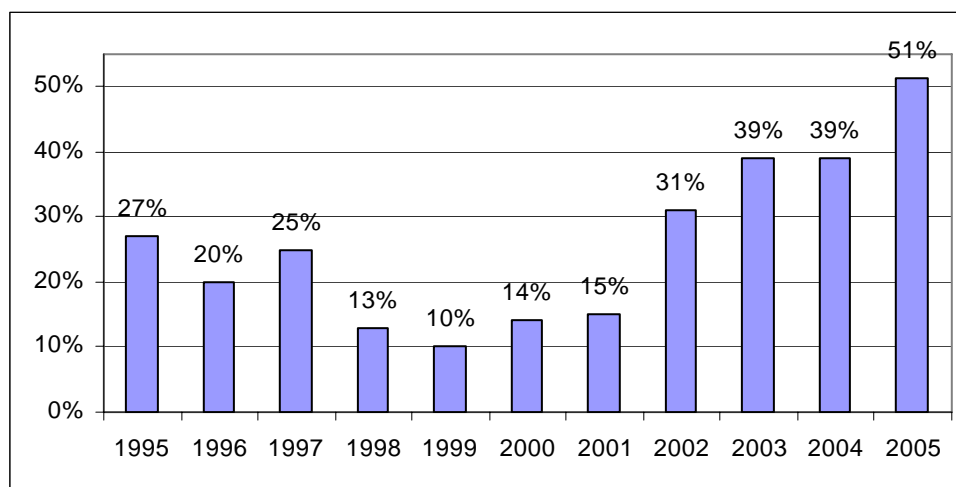
⁷ A fin de comprender por qué algunos países crecen más rápido que otros, el crecimiento puede descomponerse en el incremento del capital humano, el capital físico y la productividad total de los factores (PTF), es decir, la contribución a la producción que no corresponde directamente a insumos de trabajo o capital. Los resultados de análisis en diversos países muestran que la PTF explica entre 45 y 90 por ciento de las diferencias en el crecimiento entre países. Aunque se suponía que la PTF incluye el cambio tecnológico, en investigaciones recientes se ha hecho énfasis que el PTF no sólo contempla diferencias en tecnología, sino también en el ambiente general en el que operan las empresas (por ejemplo, los derechos de propiedad, las instituciones y, entre otras cosas, lo que se conoce como el ambiente de negocios o el clima de inversión) (Banco Mundial, 2005).

7. En su acepción amplia, el término competitividad se refiere al desempeño económico general de un país, en especial en lo relacionado con su nivel de productividad, su capacidad para exportar bienes y servicios y su capacidad para ofrecer a sus ciudadanos un nivel de vida adecuado. Desde una perspectiva macroeconómica, la competitividad se relaciona a menudo con el comercio y el uso eficiente de recursos, las economías de escala, la diferenciación de productos y la innovación. Un mayor grado de competitividad también se basa en la calidad con la que las instituciones políticas y jurídicas (reglas de conducta formales e informales) mejoran los incentivos y las decisiones de los agentes económicos. A nivel de empresa, el grado de competitividad normalmente denota la capacidad de la compañía para retener a sus clientes y mantener y ampliar su posición de mercado en el ámbito nacional e internacional.

Posición de Colombia a nivel internacional

8. La competitividad y el ambiente de negocios en Colombia han mejorado durante los últimos años, debido a la mejora en las condiciones económicas y a las reformas de política, aunque sigue situado a niveles bajos en muchos estudios. Entre 1999 y 2004, la competitividad de Colombia de acuerdo con el Foro Económico Mundial (FEM) aumentó del décimo percentil más bajo al cuadragésimo a nivel mundial. En 2005, Colombia ganó siete posiciones, quedando en la posición número 57 de 117 países (Gráfica 2). Entre los elementos más notables, destacan las mejoras en la reducción de la corrupción, la mayor estabilidad de las políticas y la reducción de la criminalidad. En la región de América Latina y el Caribe (ALC), entre los 21 países de ALC incluidos en el informe, Colombia se ubica en quinta posición, detrás de Chile, Uruguay, México, y El Salvador.

Gráfica 2: Porcentaje de países menos competitivos que Colombia 1995-2005



Fuente: FEM (1996-2005).

9. De igual modo, otros estudios relatan una historia similar de mejoras recientes, aunque aún existe un margen amplio para mejorar. En 2004, el informe “*Doing Business*” del Banco Mundial mostró que Colombia experimentó algunas de las mejoras más notables y resultó el segundo país en términos de reformas de una muestra de 145 naciones. Esto fue en gran parte resultado de que el gobierno aprobara una nueva ley laboral y pusiera en marcha los decretos regulatorios correspondientes para eliminar algunas de las numerosas inflexibilidades en el mercado laboral. En seis de las ciudades más grandes se establecieron ventanillas únicas para el registro de empresas, lo que, en

Bogotá, por ejemplo, redujo el número de procedimientos y el plazo de apertura de un negocio de 19 a 14 pasos y de 62 a 43 días, y de acuerdo al informe “*Doing Business*” del 2006, los pasos se han reducido mas aún, a 12, aunque el número de días se ha mantenido en 43. Aún así, en los países de la OECD, se puede abrir un negocio en 19 días, siendo necesario cumplir con 6 procedimientos. En otro estudio reciente del BM se preguntó acerca de una amplia gama de inquietudes empresariales y se encontró que persisten problemas en lo relacionado con la competitividad colombiana.

Factores que afectan la competitividad

10. Algunos elementos que afectan la competitividad de un país se encuentran bajo el control directo de las autoridades gubernamentales (como los procedimientos tributarios y regulatorios) y algunos otros sólo están sujetos a un control indirecto (como la tasa de crecimiento de la economía y la criminalidad). La distinción entre estas dos categorías puede contribuir a identificar los temas centrales de intervención del gobierno. A menudo, esta distinción se describe como la diferencia entre las políticas públicas y los resultados de las mismas, pues, mientras que ambos influyen sobre la competitividad de un país, el gobierno sólo tiene control directo sobre las primeras. Sin embargo, incluso en el caso de las políticas que se encuentran bajo el control directo del gobierno, los hacedores de las mismas deben maniobrar en el contexto de intereses políticos enfrentados.

11. Las empresas perciben la presencia de restricciones a la competitividad que parten tanto de las políticas del gobierno como de los resultados económicos que sólo son parcialmente consecuencia de las políticas del gobierno. Entre los resultados económicos se podrían incluir factores como la tasa y variación del crecimiento económico, las tasas de interés, el tipo de cambio, la inflación, la criminalidad, la economía informal, la corrupción (sector privado) y el contrabando. Estos factores influyen sobre círculos virtuosos bien conocidos (o tendencias que se refuerzan entre sí) en el ambiente de negocios —como la confianza, la inversión y el crecimiento— que el gobierno no puede controlar de manera directa, pero espera poder influenciar con las políticas micro, macro y de comercio sobre las que tiene un control más directo. Entre los factores que las empresas en Colombia consideran como impedimentos para la competitividad especialmente problemáticos se encuentran los siguientes:

- ***Inestabilidad macroeconómica y de tipo de cambio.*** La volatilidad del ambiente macroeconómico en Colombia tiende a alejar a muchos inversionistas potenciales. Desde hace una década, la inflación, las tasas de interés, los tipos de cambio y la situación fiscal se volvieron mas inciertos para los colombianos. En general, la estabilidad macroeconómica ha mejorado sustancialmente durante los últimos años, pero persisten aún algunos desequilibrios y se requieren medidas como las que se comentan en la siguiente sección.

Muchos exportadores se preocupan por la volatilidad del tipo de cambio y el potencial de sobrevaluación. El valor del peso colombiano se determina mediante un tipo de cambio flotante, con algunas intervenciones intermitentes por parte del banco central. El peso se ha apreciado sustancialmente a lo largo de los últimos años (cerca de 30 por ciento en su tendencia de largo plazo), como reflejo de la sólida demanda por exportaciones primarias colombianas y las mejoras en el

ambiente de inversión. Sin embargo, han surgido inquietudes acerca de sus posibilidades de apreciación, y su nocivo impacto sobre algunas empresas, que se han considerado como restricciones a la competitividad. No obstante, los efectos de esto sobre la economía como un todo podrían estarse exagerando. Aunque un peso depreciado podría hacer más competitivas a algunas empresas, también elevaría el costo de endeudarse en el exterior, al igual que el de las importaciones y bienes intermedios que otras compañías utilizan como insumos para su producción. El mantener un tipo de cambio flexible es congruente con la meta de inflación que ha hecho explícita el banco central y, posiblemente, resulta en la mejor política para ayudar al país a ajustarse a choques económicos externos inesperados.

- **Informalidad.** Los empresarios del sector formal en Colombia están más preocupados por la informalidad que sus iguales en otros países de América Latina. La informalidad en Colombia alcanza hasta 40 por ciento de la actividad económica y cerca de 60 por ciento del empleo. La evasión fiscal es uno de los impulsos detrás de la informalidad: al no pagar cuotas de seguridad social y otras contribuciones obligatorias, las empresas pueden ahorrar cerca de 50 por ciento en costos laborales. Debido a la evasión, sólo cerca de 30 por ciento del impuesto al valor agregado (IVA) que se devenga en Colombia efectivamente se recauda, en comparación con cerca de 70 por ciento en Chile y Nicaragua. La informalidad tiene un impacto negativo de gran importancia sobre la productividad y el crecimiento. En este sentido, una recomendación fundamental sería la de reducir los incentivos a pasar al sector informal, lo que implica aumentar la flexibilidad del mercado laboral (es decir, reducir los impuestos y el costo del empleo en el sector formal, incluyendo los salarios mínimos), disminuir los obstáculos burocráticos a los negocios y garantizar el cumplimiento de los contratos.
- **Crimen, robo y violencia.** Las comparaciones internacionales indican que mientras que un número de países de ALC sufre de más inseguridad que Colombia, la situación en este sentido sigue siendo una gran inquietud interna y externamente, a pesar de haber mejorado entre 2003 y 2004.⁸ Bogotá y otras ciudades importantes se han vuelto lugares relativamente seguros pero, fuera de las grandes ciudades, la falta de seguridad sigue siendo un problema para las empresas. El crimen, la inseguridad y el robo, en especial la piratería terrestre, actúan como impuesto adicional sobre las empresas, desalentando la inversión.

En 2002 se estimó que el costo promedio de la inseguridad ascendía a cerca de 4 por ciento de las ventas, cifra sustancialmente más alta que en la mayoría de los demás países en desarrollo. Existe una correlación negativa considerable entre la productividad total de los factores y las pérdidas debidas a problemas de seguridad, lo que indica que esta situación daña la competitividad. En 2004, de las 321 empresas colombianas que respondieron en una encuesta a la pregunta

⁸ En 2004 el número de secuestros disminuyó en 35 por ciento pero, incluso luego de este decremento, se estaba secuestrando a cerca de 1,400 personas al año. El número de ataques terroristas bajó 41 por ciento, aunque sólo podrá reconocerse la victoria cuando dejen de suceder por completo. En julio de 2003 el presidente Uribe inició negociaciones con los paramilitares que han llevado a la desmovilización de más de 4,500 tropas pertenecientes a ocho unidades. Las desmovilizaciones adicionales dependerán de la legislación de amnistía que se debate en el Congreso.

sobre si la seguridad era un problema, 26 por ciento respondió que lo era y, de este grupo, 53 por ciento apuntó a la piratería terrestre como el principal obstáculo.

Políticas económicas para mejorar la competitividad

12. Entre las restricciones de la competitividad también se perciben variables de política que podrían ser controladas por el gobierno de manera más directa, como la estabilidad de las leyes y las regulaciones, los impuestos y los procedimientos, la corrupción (en el sector público), el exceso de trámites burocráticos y las dificultades para establecer una empresa o salir del mercado por medio de la bancarrota. Asimismo, existen varias políticas importantes que las empresas normalmente no identifican como problemáticas, pero que de cualquier manera tienen un impacto importante sobre los resultados de las empresas, como es el caso del control del gasto público y de los balances fiscales. En esta sección se destacan algunas de las restricciones más importantes para la competitividad que podrían ser controladas por el gobierno de manera más directa y, por ende, resultan temas importantes para una reforma.

13. Encuestas y otras fuentes de información apuntan hacia varios frentes en los que se requieren reformas de política como la disminución de la variabilidad de las políticas, el aumento de la estabilidad macroeconómica, la reducción de las distorsiones en la imposición corporativa, la reducción de las rigideces laborales, el mejoramiento de la infraestructura económica, la eliminación de las regulaciones contraproducentes para los negocios y hacer cumplir las leyes contra la corrupción. Aunque estos problemas no son nuevos para los diseñadores de políticas en Colombia, este informe intenta proporcionar una guía para mejorar la competitividad (directa e indirectamente) por medio de las políticas económicas que se describieron en párrafos anteriores y de la identificación de renglones de intervención prioritaria.

Incertidumbre de las políticas y regulaciones económicas y

14. Durante los últimos años, las políticas han cambiado con frecuencia y, aunque las reformas han mejorado la situación, los cambios frecuentes que sólo llevan a mejoras marginales o a instituciones mas débiles pueden obstaculizar la inversión y restar fuerza al crecimiento. Colombia debería buscar llevar a cabo reformas económicas fundamentales y evitar los arreglos temporales o marginales que aumentan la incertidumbre económica y de políticas.

15. En gran medida, el nivel actual de incertidumbre económica y de políticas que experimentan los negocios refleja los efectos remanentes de la crisis de 1999, al igual que las inquietudes acerca de la sostenibilidad de la deuda pública. Asimismo, es reflejo del gran número de cambios de política pasados y esperados en el futuro. Durante las últimas tres décadas se han llevado a cabo 14 cambios de importancia en el régimen fiscal de Colombia. Aunque la mayor parte de las reformas sin duda ha contribuido a aumentar la recaudación como proporción del PIB (de 11 por ciento en 1970 a cerca de 21 por ciento en 2003) hecho que puede haber sido un elemento importante para mejorar los balances fiscales, estas reformas no siempre han mejorado el ambiente de negocios y pueden haber introducido factores de incertidumbre y reducido los incentivos a la inversión. Aunque las reformas, como las realizadas al sistema de pensiones y al

presupuestario, hayan mejorado los balances fiscales, la incertidumbre sobre su resultado puede también haber tenido impacto al posponer planes de inversión empresarial hasta conocer qué tipo de reformas se realizarían y si se llevaron efectivamente a cabo.

16. ***Establecer una agenda legislativa integral con visión de largo plazo podría contribuir a reducir la incertidumbre en la política y regulación económicas.*** Un enfoque integral sustentado en una consulta extensa con los grupos más afectados, en especial el sector privado, podría contribuir a que la sociedad acepte la nueva legislación y normatividad. Iniciativas como la Agenda Interna tienen el propósito de realizar consultas extensas con el sector privado y otros grupos de interés acerca de una serie de temas que tienen implicaciones para la legislación económica en el futuro. El gobierno también trabaja en el diseño de una estrategia de inversión extranjera directa (IED), mediante la cual los inversionistas extranjeros forman parte de convenios de compromiso de largo plazo con el gobierno a cambio de garantías de estabilidad en las tasas impositivas y las políticas. Reguladores importantes como la Superintendencia de Industria y Comercio trabajan con representantes de las organizaciones industriales y comerciales (como los productores de leche) para desarrollar y firmar acuerdos sobre la aplicación de las normas y regulaciones.

17. ***La creación de un marco de largo plazo se ve obstaculizada por los ciclos políticos.*** La estrategia de desarrollo del país necesita desvincularse del ciclo político. Cada cuatro años se elige un nuevo presidente, lo que ha tendido a generar una extensa agenda de reformas que refleja las prioridades del nuevo gobierno durante los primeros años de la presidencia y que pierde fuerza hacia el final de la gestión. La formulación de una estrategia de desarrollo independiente con participación amplia contribuiría al aumento de las posibilidades para lograr la estabilidad de las políticas a largo plazo.

Sostenibilidad fiscal

18. Aunque el gobierno no controla directamente la estabilidad macroeconómica, sus políticas tienen una influencia crucial. El gobierno ha dado los pasos iniciales necesarios para el corto plazo —reduciendo los déficit presupuestarios y desacelerando el crecimiento monetario— pero persiste aún una agenda considerable de reformas fiscales que mantengan la estabilidad. La acelerada expansión del gasto del sector público a lo largo de la década pasada (de 25 por ciento del PIB en 1990 a más de una tercera parte en la actualidad), en combinación con pasivos crecientes en el renglón de pensiones y otros rubros, ha llevado a déficit estructurales significativos y persistentes. Conforme el gasto público superaba la capacidad de generación de ingresos del gobierno, el creciente déficit fiscal se financió con deuda interna y externa, que alcanzó un nivel máximo en 2002, al llegar a 54 por ciento del PIB.⁹ A pesar de que la deuda del sector público cayó a menos de 48 por ciento del PIB en 2004, las reducciones adicionales que se esperan para los años por venir sólo serán posibles si el gobierno continúa buscando realizar reformas fiscales para minimizar la vulnerabilidad ante cambios en la conducta del mercado y los choques económicos externos.

19. ***Mantener la sostenibilidad de la deuda.*** La acelerada expansión del gasto del sector público entre 1992 y 2002, en combinación con pasivos crecientes en el renglón de

⁹ Deuda neta del sector público no financiero.

pensiones y las transferencias a los gobiernos subnacionales, ha llevado a déficit estructurales significativos y persistentes financiados por endeudamiento interno y externo. El gobierno del presidente Uribe ha llevado a cabo algunas mejoras en el frente fiscal, en especial en lo relacionado con los ingresos, pero el avance ha sido menor por el lado del gasto. A pesar de que el análisis de sostenibilidad de la deuda, que se presenta en el Capítulo 2, concluye que el objetivo del gobierno de reducir la relación entre deuda y PIB a menos de 39 por ciento en 2015 es factible y probable, existen vulnerabilidades muy importantes aún. A fin de mantener la sostenibilidad fiscal y las inversiones necesarias en educación, infraestructura y programas básicos de salud, el gobierno debe continuar comprometido a cumplir con el objetivo de moderación fiscal y poner en marcha reformas para reducir los pasivos por concepto de pensiones y aumentar la flexibilidad presupuestaria.

20. ***Reducción de las transferencias a niveles subnacionales.*** Los gobiernos subnacionales de Colombia —departamentos, municipios y distritos especiales— afectan el panorama fiscal nacional por dos vertientes: (a) las transferencias que reciben del presupuesto del gobierno central; y (b) sus propios balances fiscales. Las reformas de 2001 limitaron temporalmente el crecimiento de las transferencias del gobierno central, pero se requieren reformas adicionales (cuando dejen de estar vigentes los límites actuales sobre el crecimiento de las mismas) para reducir la presión fiscal sobre el gobierno central. Con el objeto de mantener este margen de maniobra fiscal para sí, el gobierno nacional debe resistir la presión y la tentación de ampliar los programas de transferencias, como sucedió en los años noventa. Esta medida será más fácil de cumplir si los departamentos y municipios con mayores responsabilidades de gasto reciben una base fiscal propia. En este sentido, la limitación de transferencias proporciona incentivos para que los gobiernos locales utilicen sus bases tributarias. La agenda de política para las finanzas subnacionales debería centrarse en mantener los avances logrados recientemente en términos de la reducción de déficit y aumentar la eficiencia del gasto y el esfuerzo fiscal de los gobiernos locales.

21. ***Alcanzar un sistema de pensiones sostenible.*** Por mandato constitucional, Colombia cuenta con un sistema de pensiones de reparto. Aunque se realizaron reformas al mismo en 1993, aún genera déficit considerables que deben ser cubiertos mediante cuantiosas transferencias del gobierno central. Aunque la reforma más reciente tocó temas como las bajas contribuciones y las excesivamente generosas prestaciones de retiro, no tomó en consideración los cambios demográficos (el sistema calculaba un plazo promedio de pagos de 15 años, que en la actualidad se acerca a 26) y no eliminó una serie de regímenes especiales muy costosos. En ausencia de reformas adicionales, el valor presente neto de los pasivos por concepto de pensiones es de cerca de 170 por ciento del PIB y se proyecta que el déficit de flujo de caja, de 4.6 por ciento del PIB en 2004, alcanzará un máximo de 5 por ciento del PIB en 2013. Recientemente, el Congreso aprobó una modificación constitucional para que el sistema de pensiones sea más sostenible, lo cual resulta crucial a fin de eliminar el déficit en el balance operacional de la seguridad social y, así, reducir las transferencias del gobierno central y aumentar la sostenibilidad fiscal.

Ineficiencias de la política tributaria

22. Para atraer más inversión nueva, en especial en el contexto de un mayor comercio con Estados Unidos, Colombia necesita mejorar su política tributaria, en especial en lo relacionado con sus competidores. La reforma fiscal de diciembre de 2002 redujo algunas de las ineficiencias y distorsiones del sistema tributario colombiano, pero también introdujo varias medidas distorsionantes para cumplir con las metas de ingresos de corto plazo. Entre las medidas con impacto microeconómico adverso destaca el aumento del impuesto extraordinario sobre el ingreso de las empresas, el impuesto sobre las transacciones financieras y la imposición de un impuesto “de una sola vez” sobre la riqueza que se repitió posteriormente. También se introdujeron algunas distorsiones en sectores específicos, como las exenciones para servicios prestados en hoteles nuevos y remodelados y para los servicios relacionados con los sismos para la industria de hidrocarburos. A pesar de que en la ley subsiguiente (2003) se tomaron algunas medidas para mejorar la situación, también se dieron retrocesos. En este sentido, una estrategia de largo plazo para tratar el problema de los desequilibrios fiscales evitaría la aplicación de remedios temporales que distorsionan los incentivos económicos.

23. En Colombia, la recaudación nacional total como proporción del PIB se ubica alrededor de la mediana para países similares de ingresos medios, es decir, es más alta que en México y Perú, pero muy inferior a los niveles de Brasil y Chile. El principal gravamen que afecta la competitividad es el impuesto al ingreso de las empresas.¹⁰ La tasa base es de 35 por ciento, a lo cual el gobierno sumó impuestos extraordinarios de 5 por ciento y luego de 10 por ciento para aumentar la recaudación. Por su parte, los inversionistas deben pagar un impuesto obligatorio de 38.5 por ciento (cuya tasa efectiva es a menudo mayor) lo que resta competitividad a Colombia en función de lugares dónde invertir ya que existen varios países donde la tasa es menor (como en Argentina, donde es 35 por ciento; Bolivia y Brasil, de 25 por ciento; Chile de 16.5 por ciento; y México de 32 por ciento). Un menor nivel de inversión deja a los trabajadores con menos capital, haciéndolo menos eficiente y productivo. La alta tasa de impuesto para las empresas alienta la aplicación de esquemas de transferencia de precios y otro tipo de manipulaciones que llevan a cabo las empresas multinacionales que reducen los ingresos tributarios en Colombia. Un enfoque preferible consistiría en ampliar la base del impuesto corporativo mediante la eliminación adicional de exenciones. A fin de identificar las distorsiones, se puede calcular la tasa marginal efectiva de impuesto sobre varias actividades, a lo que se hace referencia en el Recuadro 2 y se explica ampliamente en el Capítulo 2. De este cálculo se desprende una serie de recomendaciones para reducir las distorsiones.

¹⁰ En su calidad de impuesto sobre el consumo interno, el IVA no afecta la competitividad de manera directa, aunque recauda ingresos considerables. Sin embargo, desalienta sobre todo el consumo, incluyendo el de las importaciones.

Recuadro 2: Tasas impositivas marginales efectivas: la mejora de los incentivos a la inversión

Debido a que la competitividad de los negocios en Colombia se ve afectada por una serie de medidas tributarias, se utiliza el método que analiza la Tasa Impositiva Marginal Efectiva (TIME) para mostrar el efecto neto de todos los componentes del sistema tributario sobre el *nivel* del gravamen del ingreso de capital en varios tipos de activos. Al considerar una variedad de inversiones que difieren en la composición de los activos, el método de financiamiento, el tipo de inversionista o el sector económico, este análisis proporciona un indicador de los diferenciales impositivos que surgen entre distintos tipos de inversiones, es decir, muestra cómo los impuestos afectan la *composición* de la inversión. Para aumentar la competitividad, las inversiones deben asignarse de acuerdo con las tasas económicas de rendimiento, y el sistema tributario no debería distorsionar esta información que reciben los inversionistas al favorecer o castigar un sector o tipo de capital a cambio de otro. De esta manera, para que la competitividad mejore, la tasa impositiva marginal efectiva debe ser uniforme y tan baja como sea posible (dadas las necesidades fiscales). En el caso de Colombia, destacan varios resultados al realizar el análisis de la TIME, como el hecho de las deducciones que favorecen el financiamiento de los adeudos y las exenciones que distorsionan las decisiones de inversión.

24. ***Reducir las deducciones por depreciación para disminuir las distorsiones impositivas entre activos y sectores empresariales.*** Las deducciones de la depreciación de acuerdo con la normatividad del impuesto al ingreso son generosas. En un principio, se utilizaron para compensar el impacto inflacionario, pero no se ajustaron a la baja cuando el sistema tributario se clasificó por la inflación en 1988. Esto resultó en cierto nivel de distorsión de la asignación de inversiones entre distintos tipos de activos.

25. ***Aumentar la retención de intereses para reducir el sesgo tributario actual que favorece el financiamiento de deuda.*** En Colombia, al igual que en la mayoría de los países, el sistema impositivo sobre el ingreso de las empresas está sesgado hacia el financiamiento de la deuda, aunque el problema es menos grave que en muchos otros lugares, pues los dividendos no están gravados a nivel individual. No obstante, en la medida en que el ingreso por intereses no está gravado por completo a nivel individual, existe un sesgo a favor del financiamiento de la deuda. Asimismo, el bajo nivel de la retención de intereses de acuerdo con la ley vigente (7 por ciento) resulta solamente en una reducción limitada de la variabilidad de las tasas impositivas efectivas con respecto a la razón entre deuda y capital. En el caso de las inversiones realizadas por extranjeros, la tasa de 7 por ciento de retención sobre los dividendos aumenta la tasa efectiva del impuesto en el componente de la inversión financiado con capital.

26. ***Modificar la regla de deducción parcial inmediata, de modo que el precio de compra del activo se deduzca sólo una vez.*** El otorgamiento de la deducción parcial inmediata a razón de 30 por ciento para inversiones en activos depreciables en lugar de estructuras, reduce en gran medida la TIME, como se pretendió para alentar la inversión nueva. Sin embargo, de conformidad con la ley de 2003, la base del impuesto no se reduce para reflejar la deducción parcial inmediata del activo, lo que implica que los inversionistas en efecto logran reducir 130 por ciento del costo del bien. El impacto sobre la TIME es aún más notorio si parte de la inversión está financiada con deuda, caso en el que la TIME cae a -54.2 por ciento para la inversión en maquinaria, equipo y mobiliario con 60 por ciento financiado mediante deuda, y a un subsidio fiscal aún mayor para las inversiones en computadoras y vehículos. Una solución alternativa, y más

positiva en el largo plazo, sería la de sustituir la deducción inmediata parcial con una reducción general en la tasa. Con ello disminuirían los incentivos de las empresas multinacionales a aplicar medidas de precios de transferencia —que reducen el ingreso— mitigando también las distorsiones entre activos, subsectores empresariales y métodos de financiamiento.

27. ***El impuesto a la riqueza distorsiona los incentivos a invertir, pero tiene un impacto relativamente limitado.*** En comparación con otros impuestos del sistema tributario colombiano, el gravamen de 0.3 por ciento a la riqueza tiene un impacto relativamente limitado sobre los incentivos a invertir. Por ejemplo, con la deducción parcial con ajuste de la base y la retención de 7 por ciento, el impuesto sobre la riqueza sólo aumenta las TIME entre 2 y 6 puntos porcentuales.

28. ***Ampliar y concluir las reformas recientes para acreditar el IVA sobre inversiones.*** Hasta hace poco tiempo, el régimen colombiano del IVA no permitía acreditar los bienes de inversión como insumos de la producción, con lo que este impuesto actuaba como gravamen sobre toda la producción, en lugar de ser sólo sobre el consumo.¹¹ La reforma de 2002 introdujo la acreditación en el caso de la inversión, pero el gobierno no se podía permitir la acreditación total, por lo que se distribuyó en un plazo de tres años. Asimismo, la medida se añadió como arreglo temporal y dejará de estar vigente en 2007. Aunque el retraso para acreditar el IVA generado en compras de bienes de capital no es una solución óptima, como sí lo es la acreditación inmediata, es mejor que la política previa de no acreditación. El IVA no acreditado resulta en variaciones amplias de la TIME entre activos y sectores de negocios, con indicadores que fluctúan entre 29.5 y 50.7 con el total del financiamiento de capital y entre 14.8 y 52.7 con 60 por ciento del financiamiento de deuda. Así, no debería de suspenderse la acreditación del IVA (aunque de manera diferida) y debería considerarse la aplicación del tratamiento de acreditación total e inmediata como medida uniforme.

29. ***Reducir la tasa corporativa y ampliar la base gravable.*** Los efectos negativos sobre los incentivos a invertir que trae consigo una tasa impositiva al ingreso de las empresas a niveles altos pueden compensarse, en teoría, con los incentivos fiscales apropiados, tales como la deducción parcial inmediata con ajuste de la base. Sin embargo, el empleo de este tipo de incentivos, de la mano con una tasa de impuesto a las empresas relativamente alta (en especial con respecto a los niveles en América Latina) enfrenta dos problemas importantes. En primer lugar, una tasa corporativa alta crea incentivos para que las multinacionales manipulen su contabilidad, utilizando medidas como los precios de transferencia o asignaciones intencionales de créditos, a fin de alejar los ingresos y aumentar las deducciones en la jurisdicción con la tasa impositiva alta. Este tipo de manejos pueden reducir los ingresos de forma considerable en países con tasas relativamente altas, como es el caso actual en Colombia. Un segundo tema, menos obvio, aunque crucial, es la posibilidad de que una tasa corporativa alta genere la percepción en la comunidad empresarial de que se aplica un régimen fiscal desfavorable, incluso si los efectos de esta tasa se ven mitigados en gran medida por los incentivos a la

¹¹ La mayor parte de las versiones del IVA en el mundo se basan en el “destino” y otorgan una devolución total e inmediata a las inversiones. Con esto se fomenta el ahorro y la inversión, lo que normalmente se considera una ventaja importante del IVA en comparación con los impuestos sobre el ingreso. Colombia fue el primer país de América Latina, y uno de los primeros en el mundo, en introducir el IVA antes de que esto fuera práctica común.

inversión. Ambas consideraciones sugieren que una tasa baja y un enfoque de base amplia con relación a la imposición corporativa es más deseable que uno caracterizado por una tasa alta e incentivos a la inversión generosos. Sin embargo, en el corto plazo, debido a que se espera que las reducciones programadas en las tarifas aumenten las necesidades de ingresos, podría dejarse vigente una tasa transitoria durante dos o tres años, mientras que a la vez aumenta la neutralidad tributaria. Las medidas clave para aumentar la neutralidad consistirían en reducir las deducciones por depreciación y la deducción parcial inmediata. En el largo plazo, se podría tener como objetivo la reducción de la tasa de impuesto al ingreso de las empresas a 30 por ciento, junto con la eliminación de la deducción parcial inmediata. Un sistema tal resultaría en una carga fiscal general suficientemente baja y pocas distorsiones entre activos o subsectores.

30. ***Simplificar los procedimientos de administración tributaria para contribuyentes y gobierno.*** Los procedimientos administrativos en la recaudación tributaria son parte de un sistema complejo y engorroso de procedimientos administrativos. Los cuellos de botella relacionados con los impuestos surgen en su mayor parte en renglones relacionados con el comercio exterior y la seguridad social. Aparte de los impuestos, otros procedimientos administrativos también son relativamente pesados, en especial los relacionados con el comercio exterior. De no ser por los esfuerzos gubernamentales recientes, los procedimientos administrativos relevantes para los negocios, en especial el registro y la obtención de licencias, estarían mucho peor calificados en las encuestas empresariales recientes. El gobierno está realizando reformas importantes en este rubro. En 2002, el gobierno del presidente Uribe desarrolló una nueva estrategia para la Dirección de Impuestos y Aduanas Nacionales (DIAN), basada en el Modelo Único de Ingresos, Servicio y Control Automatizado (MUISCA). Como parte de este sistema, el gobierno mejoró y rediseñó una plataforma en Internet donde los contribuyentes pueden presentar sus declaraciones y realizar sus pagos de impuestos. En este proceso, el gobierno simplificó los formatos de las declaraciones y los procedimientos internos.

Inflexibilidad del mercado laboral

31. La inflexibilidad del mercado laboral y el alto costo de la mano de obra contribuyen en gran medida a la informalidad y el desempleo. Las políticas gubernamentales orientadas a la reducción de la informalidad por medio de reformas al mercado laboral han sido positivas, pero se requieren más cambios. En el mercado laboral, la Ley 789 de 2002 y las disposiciones subsecuentes introdujeron elementos de flexibilidad como, por ejemplo, al permitir a los empresarios pagar un sobresueldo menor a 100 por ciento por el trabajo en fin de semana. Estas medidas parecen haber generado efectos significativos en la reducción de la informalidad y el subempleo, en especial para los jóvenes, y una mejora moderada en el empleo. Un comité conjunto del gobierno y el Congreso está analizando lo sucedido recientemente en el mercado de trabajo, con la idea de redactar legislación adicional en el futuro. No obstante, se requieren reformas en varios rubros:

32. ***Establecer los salarios mínimos en relación con la realidad de los mercados.*** El salario mínimo en Colombia, que ha aumentado de forma acelerada, en la actualidad es ligeramente superior a los \$400.000 pesos colombianos mensuales, o cerca de 180

dólares. El estudio del Banco Mundial acerca del mercado laboral colombiano (2005)¹², que se publicará próximamente, muestra que si el salario mínimo se hubiera mantenido constante a los niveles de 1995, el desempleo masculino y femenino habría sido 7 y 4 puntos porcentuales menor, respectivamente, en 2002, es decir, la mitad del nivel efectivo para los hombres. El alto nivel del salario mínimo refleja su impacto negativo más importante entre aquellos grupos que supuestamente debían protegerse, es decir, los jóvenes y los menos calificados. Al sumar las prestaciones obligatorias se obtiene un costo unitario mínimo de la mano de obra de alrededor de 260 dólares al mes. Aunque se podría argumentar que el alto nivel del salario mínimo impulsa a los productores hacia los negocios más productivos y eficientes en función de costos, el impacto más importante es en términos de la informalidad y el desempleo. El salario mínimo es un parámetro que debería sujetarse a las condiciones existentes de oferta y demanda en el mercado laboral, y no una restricción significativa y vinculante que excluya del empleo a los trabajadores menos productivos.

33. ***Flexibilizar las decisiones de contratación y despido.*** De acuerdo con el informe de 2006 *Doing Business* del Banco Mundial, el costo promedio de despedir un empleado es equivalente a 44 semanas de salario, y aunque se ha reducido de 49 semanas en el año anterior, está muy por encima de las 33 semanas en los países de la Organización para la Cooperación y el Desarrollo Económicos (OCDE); el índice de dificultad de contratación, que mide las restricciones para el uso de contratos con vigencia limitada y la cercanía del salario mínimo obligatorio al valor agregado por trabajador, es de 72 en Colombia contra 30 en los países de la OCDE. La flexibilización de las decisiones de contratación y despido permitirían llevar a mayores niveles de empleo y menores costos de producción.

Burocracia ineficiente, papeleo y corrupción

34. A pesar de las mejoras recientes en el renglón de la racionalización de los procedimientos administrativos, las empresas aún perciben la carga del papeleo burocrático. Un ambiente de negocios claro y transparente requiere de procedimientos administrativos, pero un número excesivo de ellos puede impedir la toma de decisiones empresariales y aumentar los costos. Colombia ha mejorado significativamente en este sentido, pero el papeleo excesivo aún se considera una carga pesada para la realización de negocios en este país, y contribuye a la informalidad comercial. Las licencias y los permisos constituyen la mayor parte de los procedimientos administrativos, seguidos de las formalidades de registro y las relacionadas con la seguridad social. Las actividades de comercio internacional requieren un gran número de licencias y permisos, y los procedimientos relacionados con el IVA pueden ser muy engorrosos. La reglamentación relacionada con la seguridad social incluye un proceso complicado de cumplimiento de obligaciones. La experiencia de varios países, incluyendo Colombia, muestra que la simplificación de los procedimientos para la apertura y registro de negocios resulta en un aumento muy importante en el número de empresas inscritas en la zona donde se llevó a cabo la reforma (por ejemplo, mediante la introducción de ventanillas únicas para el registro de empresas).

¹² “Labor Market Adjustment, Reform and Productivity in Colombia: What are the Factors that Matter?” Banco Mundial (2005).

35. ***Combate del contrabando.*** Aunque el fortalecimiento de los mecanismos de vigilancia del Departamento Administrativo Nacional de Estadística (DIAN) y otros organismos responsables podría tener cierta influencia en la reducción del contrabando, no es una solución al problema. El contrabando es una manera bien conocida de lavar dinero, además de ser un tema de gran importancia en Colombia. Por ello, resulta importante apoyar las actividades globales contra el lavado de dinero, incluyendo las comprendidas en el marco legal e institucional Anti-Lavado de Dinero y la Lucha contra el Financiamiento del Terrorismo (ALD/LFT). Recientemente, la Superintendencia Bancaria reforzó las reglas orientadas a combatir el lavado de dinero. En la actualidad, todos los intermediarios dedicados a las transacciones con divisas deben reportar cualquier transferencia, remesa, compra o venta de moneda extranjera superior a 200 dólares. Por otra parte, el contrabando también es resultado del alto costo de la formalidad. La reducción de la carga fiscal y de las exenciones tributarias debería resultar en un sistema más justo y hacer el incumplimiento menos atractivo.

36. ***Aumentar la transparencia para reducir la corrupción.*** El programa presidencial de lucha contra la corrupción, iniciado en 1999, parece haber generado resultados positivos. En este sentido, el índice de corrupción de la *International Country Risk Guide* (Guía internacional de riesgo-país) ha mejorado notablemente desde entonces. De acuerdo con un estudio reciente de Transparencia Internacional, los colombianos son los primeros en la lista de “optimistas” que confían en las perspectivas favorables de la lucha contra la corrupción en su país. No obstante, la corrupción aún se considera un problema de importancia crucial, en especial a nivel local. Más de 60 por ciento de los participantes en la encuesta “Probidad” de 2004 realizada por Confecámaras, opinaron que la corrupción aumentó entre 2001 y 2003. Esta percepción negativa fue especialmente marcada en Cartagena, Bucaramanga y Popayán. Por otra parte, se percibe a las autoridades locales como las entidades más corruptas. La corrupción debería reducirse por medio de un programa integral para mejorar la educación y la transparencia en la contratación y la contabilidad empresarial, en especial en los niveles locales y regionales de gobierno.

37. ***Reducción del papeleo.*** El gobierno cuenta con un programa coherente para la reducción del papeleo. El esquema es parte del Programa para la Renovación de la Administración Pública (PRAP). Esta iniciativa, financiada por el Banco Interamericano de Desarrollo (BID) entre 2000 y 2004, resultó en una reducción enorme de los procedimientos burocráticos relacionados con el registro de empresas en seis de las principales ciudades, donde en la actualidad se puede establecer un negocio con mucha más rapidez en uno de los Centros de Atención empresarial (CAE). El número promedio de procedimientos para abrir un nuevo negocio en Bogotá pasó de 19 en 2003 a 14 en 2004 y a 12 en 2005, con un promedio de días dedicados a estas formalidades que pasó de 60 a 43.

38. Por su parte, también está en marcha el Sistema Integral de Información de Comercio Exterior, un esquema para reducir los trámites burocráticos relacionados con este ámbito. De conformidad con este esquema que se inició en junio de 2005, el número de formas que deberá llenar un exportador se reducirá de cerca de 35 a una; el tiempo de procesamiento en las aduanas pasará de 12 a 5 horas; y el tiempo promedio para los procedimientos burocráticos relacionados con las exportaciones se reducirá de casi 20 días a sólo dos. La “Ventanilla Única” para los exportadores está prácticamente lista (en

un 90 por ciento) y se espera que tenga un impacto en especial positivo e importante en la reducción de los costos de exportación para las empresas pequeñas y medianas (véase el Recuadro 3 sobre el sector manufacturero de Colombia y el aumento de la productividad ante el TLC). La iniciativa ha seguido los lineamientos de un decreto ministerial emitido a fines de 2004. Asimismo, el Ministerio de Protección Social está iniciando otros programas.

39. ***Proporcionar financiamiento adecuado para reducir el papeleo.*** A pesar de que se supone que los sistemas para reducir los procedimientos administrativos en el comercio exterior y la seguridad social deberán estar operando plenamente este año, en entrevistas con empresas se han ventilado dudas de poder lograr los resultados deseados en el corto plazo. Los sistemas automáticos son nuevos, algo complicados y requieren de aptitudes específicas para utilizarlos, no sólo por parte de los servidores públicos, sino también del personal correspondiente en el sector privado. De aquí que una capacitación adecuada, además de una campaña de información al público deban ser parte integral de la agenda. También es posible que se requiera proporcionar conocimientos técnicos adicionales en caso de que surjan dificultades en este renglón.

40. ***Mejorar las leyes de bancarrota.*** El tiempo promedio que llevan los procedimientos de bancarrota en Colombia es de tres años, contra 1.7 años en los países de la OCDE. La Superintendencia de Sociedades está trabajando en un proyecto para reformar la ley de quiebras que, entre otras cosas, reducirá el tiempo necesario para los procedimientos de reestructuración y liquidación y fortalecerá los derechos de los acreedores. Sin embargo, la ley está pendiente aún de aprobación en el Congreso.

Recuadro 3: El sector manufacturero de Colombia: aumento de la productividad ante el TLC

El sector manufacturero es importante para el crecimiento y la diversificación del comercio exterior. Este sector emplea a un gran número de trabajadores calificados, lo que contribuye a garantizar la capacidad del país para estar al día con el progreso tecnológico global y absorber la base de conocimientos. La apertura comercial de principios de los años noventa en Colombia ha llevado a un aumento sustancial en las exportaciones manufacturadas y ha cambiado de forma importante su estructura hacia una mayor participación de los productos de tecnología media y alta de cerca de 20 por ciento entre 1991 y 1994 a alrededor de 40 por ciento en 2000. El TLC con Estados Unidos aumentará más aún la importancia del sector manufacturero.

A pesar de que la orientación de las manufacturas hacia la exportación ha aumentado en Colombia, el número de plantas exportadoras (con relación al total) sigue siendo bajo comparado con el de otros países, como México y China. No obstante, el sector será importante para la continuación de la diversificación comercial. La reciente recuperación económica se ha asociado con un crecimiento del empleo relativamente bajo, debido a una serie de factores entre los que destacan los siguientes: (a) una mayor intensidad de capital en las empresas que sobrevivieron a la crisis; (b) las rigideces en el mercado laboral; (c) la inestabilidad de la situación de seguridad. Las principales recomendaciones para mejorar la productividad manufacturera y la orientación hacia el exterior se basan en la evaluación detallada de la productividad factorial total y un análisis de la pequeña y mediana empresa.

Un tema de importancia particular para el sector manufacturero es el de la necesidad de comprender mejor la micro, pequeña y mediana empresa, incluyendo una recolección más completa de datos sobre la actividad empresarial por parte del gobierno. Se estima que la micro, pequeña y mediana empresa integra entre 63 y 73 por ciento del empleo y entre 37 y 53 por ciento del valor agregado generado por el sector privado colombiano. Aún así, uno de los temas más apremiantes en el análisis del segmento de la pequeña y mediana empresa (PYME) en Colombia es la falta de información y las deficiencias de las estadísticas empresariales en línea con las definiciones oficiales de las PYME. La falta de datos no sólo limita seriamente la capacidad para diseñar, formular y evaluar programas y políticas de apoyo del sector público que se orientan a este segmento del sector privado, sino también restringe al sector privado mismo en el diseño de sus estrategias comerciales. El fortalecimiento de la recolección e integración de estadísticas empresariales sin imponer una carga administrativa innecesaria a las pequeñas empresas será uno de los mayores beneficios en la evaluación de las necesidades de este sector y de los programas gubernamentales de apoyo a la PYME. Además, el acceso a esta información en un formato que no traspase los límites de la confidencialidad debería formar parte de las prioridades de acción del sector público.

Falta de acceso al financiamiento

41. Durante la primera mitad de los años noventa, el sistema bancario colombiano experimentó una expansión acelerada. Sin embargo, los factores macroeconómicos adversos y el deficiente manejo del crédito, empeorados por la debilidad en la regulación y supervisión de la banca, llevaron al sistema prácticamente a un estado de crisis entre 1998 y 1999. La calidad de la cartera de crédito se deterioró de manera notable y el sistema bancario se enfrentó a problemas de liquidez. Esta situación llevó a la aplicación de una serie de medidas económicas y de apoyo de emergencia entre 1999 y 2001, que contribuyeron a restaurar la salud del sistema y proporcionaron alivio a los deudores. Esta serie de medidas se consolidó entre 2002 y 2004, contribuyendo a garantizar el

sostenimiento de un sistema bancario sólido y fortaleció a otras industrias de servicios bancarios para permitirles ofrecer canales alternativos para el financiamiento de inversiones.

42. En la actualidad, el sistema financiero colombiano está mejor preparado y capitalizado, es más rentable y líquido que durante la crisis de los años noventa. Sin embargo, la recuperación no ha contribuido a aumentar los créditos a segmentos del sector privado sin acceso a bancos internacionales, como tampoco a profundizar y desarrollar los mercados de capitales. Entre 1998 y 2002, las carteras de crédito se redujeron en términos reales y los bancos invirtieron de forma creciente en títulos del gobierno. Desde 2003 las carteras de crédito han aumentado en términos reales en todos sus rubros, excepto el de financiamiento de la vivienda. Los mercados de capital privado han mostrado cierto nivel de desarrollo, pero siguen caracterizándose por una baja liquidez y una profundidad insuficiente, mientras que el mercado de deuda del gobierno se ha desarrollado de manera sustancial. Colombia cuenta con una de las curvas de rendimiento de bonos gubernamentales en moneda local más largas de América Latina, únicamente después de México. El gobierno es, por mucho, el emisor interno de bonos de mayor importancia, representando cerca de 80 por ciento del volumen total negociado en los mercados. Como porcentaje del PIB, el crédito interno al sector privado en Colombia se encuentra a niveles muy bajos, sólo un poco más altos que Guatemala, pero a una tercera parte de Chile y una séptima parte de China. La falta de acceso al financiamiento, en especial el de largo plazo, obliga a las empresas nacionales a obtenerlo por medio del uso del crédito a proveedores y el financiamiento de corto plazo, limitando su crecimiento y expansión.

43. El gobierno está aplicando una serie de medidas para fortalecer y profundizar al sector bancario y los mercados de capitales, de manera que se disponga de más financiamiento para el sector privado. Entre las medidas más destacadas se pueden mencionar las siguientes: (a) reducir los costos de transacción asociados con los productos financieros básicos, en especial para la microempresa; (b) buscar fomentar la presencia de un sector activo de microfinanciamiento en el país; (c) desarrollar mercados de capitales (una nueva Ley de Valores entró en vigor en agosto de 2005); (d) atraer más emisores al mercado; (e) desarrollar un mercado secundario eficiente para la deuda gubernamental; (f) fortalecer los mercados de dinero locales; (g) corregir la debilidad del marco legal del sistema de pagos y aumentar la eficiencia del mismo; y (h) mejorar el marco para las insolvencias corporativas a fin de facilitar la reestructuración y cierre de empresas con una nueva ley de bancarrotas y reestructuras que cumpla con las normas internacionales. Se espera que estas medidas tengan un impacto significativo en mejorar la competitividad, al reducir limitaciones importantes al aumento en el financiamiento al sector privado.

44. ***Mejorar el financiamiento a la micro, pequeña y mediana empresa.*** La reducción de los costos de transacción asociados con productos financieros básicos, en especial para la micro y pequeña empresa, incluyendo el desarrollo de cuentas de ahorros básicas con costos de transacción bajos, permitiría la expansión de actividades productivas. Asimismo, el Fondo Nacional de Garantías (FNG) podría aumentar la información que ofrece acerca de mecanismos alternativos de financiamiento y buscar desarrollar un sector activo de microfinanciamiento en el país.

45. ***Profundizar los mercados de capitales.*** El desarrollo de mercados de capitales mediante reglamentaciones de valores más transparentes y eficientes es uno de los objetivos de la Ley de Valores que entró en vigor en agosto de 2005. Al atraer más emisores al mercado por medio de la reducción de algunos de los costos asociados con las emisiones y desarrollar un mercado secundario eficiente de deuda gubernamental se reduciría la concentración del riesgo y se ampliaría de manera importante el número de opciones para el financiamiento empresarial.

46. ***Mejorar el marco legal del sistema de pagos.*** El sistema de pagos es relativamente ineficiente e impone un costo significativo en términos de retrasos y de aumento de los riesgos de llevar a cabo transacciones financieras. La corrección de las debilidades del marco legal para el sistema de pagos y el aumento de la eficiencia del sistema mismo (mediante la nueva Ley de Valores y los esfuerzos del banco central y la Superintendencia Bancaria) contribuirá a reducir estos costos de transacción. Entre otras medidas de reforma, debería considerarse el fortalecimiento del marco legal para el otorgamiento de créditos avalados con valores a corto plazo y la mejora del marco de insolvencia corporativa para facilitar la reestructuración y cierre de empresas con una nueva ley de bancarrota y reestructuración que cumpla con las normas internacionales.

Infraestructura productiva inadecuada

47. Desde una perspectiva regional, Colombia tiene una cobertura relativamente alta y acceso equitativo entre segmentos de ingreso a los servicios básicos, como agua y drenaje, electricidad, carreteras y teledensidad. No obstante, algunos renglones específicos de la infraestructura productiva muestran deficiencias serias, como la capacidad de generación de electricidad y los caminos pavimentados. Para aumentar la dotación de Colombia en algunos rubros específicos de la infraestructura productiva en los que existen rezagos con respecto a países iguales y de mayor crecimiento, se requiere realizar esfuerzos en tres grandes temas: reenfocar la inversión pública, reactivar las finanzas privadas y reformar las reglamentaciones en el sector de infraestructura que incidan de manera directa sobre la competitividad. Los detalles de estas recomendaciones se encuentran en el informe del Banco Mundial titulado *Recent Economic Developments in Infrastructure* (REDI) y en el *Infraestructura Logística y de Calidad para la Competitividad de Colombia* próximo a publicarse.

48. ***Financiamiento sostenible para las inversiones en el sector público.*** A pesar de que la inversión pública ha sido relativamente alta en Colombia en comparación con otros países de América Latina, ha disminuido durante la década pasada a menos de la mitad de su participación anterior en el PIB, desplazada por el servicio de la deuda y el aumento de las transferencias. En un esfuerzo por limitar el crecimiento de la deuda, el ajuste fiscal se ha dado mediante aumentos en el ingreso y recortes en la inversión pública. A pesar de que esta estrategia ha reducido los déficit en el corto plazo, no disminuirá los ratios de deuda en el largo plazo, sino, más bien, reducirá el crecimiento económico en alrededor de un punto porcentual al año. Un reto para Colombia se centra en mantener los niveles de inversión pública, pero también en reorientar la inversión en infraestructura hacia sectores productivos (por ejemplo, caminos y puertos) sin poner en riesgo su sólido desempeño en cuestiones de infraestructura social, como el suministro de agua potable.

49. ***Reenfocar la inversión pública hacia aquellos renglones que el sector privado no puede financiar.*** Esta posibilidad también utiliza los recursos públicos existentes de manera eficaz. Por una parte, significa reducir el papel del Estado en los sectores de telecomunicaciones y electricidad, que han impuesto demandas fiscales excesivas y donde existe un margen significativo para el aumento de la participación privada. Por otra parte, implica mejorar la eficiencia y eficacia de los recursos existentes en renglones más tradicionales de las finanzas públicas, como la transporte y el suministro de agua.

50. ***Reactivar el financiamiento privado de la infraestructura en sectores rentables comercialmente.*** En este punto se incluyen rubros como la generación de electricidad, las telecomunicaciones y los puertos. Sin embargo, a fin de revivir los flujos de capital privado, se deberá prestar atención especial a las deficiencias en los marcos regulatorios sectoriales. En este sentido, destacan tres puntos en particular: primero, la necesidad de cambiar el marco regulatorio para proporcionar un ambiente favorable para la inversión privada en los mercados de energía, sin el cual, resulta poco probable que se dé la inversión privada (en la cual se basa la expansión futura de la capacidad de generación por vías termales); segundo, la necesidad de tratar una serie de deficiencias más generales en el marco regulatorio, como el fortalecimiento de los organismos relevantes y la mejora del marco antimonopólico, la aclaración de las fronteras entre política y regulación y la existencia de un canal de apelación más eficaz; tercero, y último, la necesidad de modernizar el marco legal de las telecomunicaciones y ofrecer un terreno más equitativo entre los servicios convergentes en términos tecnológicos, como las líneas fijas, la telefonía móvil e Internet.

51. ***Los cuellos de botella en el transporte podrían limitar las ganancias de los acuerdos comerciales.*** Una reforma integral de la industria del transporte en camión contribuiría a reducir los costos de manufactura. La reforma debería involucrar un consenso de los principales grupos de interés (gobierno, empresas de transporte y transportistas) y eliminar al mismo tiempo la mayor parte de las numerosas ineficiencias. El informe del Banco Mundial *Infraestructura Logística y de Calidad para la Competitividad de Colombia* proporciona un análisis y recomendaciones sobre el tema de la infraestructura para la logística y la industria camionera en particular.

II. EL IMPACTO DEL TLC ENTRE COLOMBIA Y ESTADOS UNIDOS

52. Se espera que el proyecto de TLC entre Colombia y Estados Unidos contribuya a mejorar la competitividad de la economía colombiana. Estados Unidos ya es el mayor socio comercial de Colombia, absorbiendo cerca de 40 por ciento de las exportaciones del país que han crecido, en promedio, 6 por ciento al año desde 1999 a pesar de un retroceso durante la recesión de 2001 en Estados Unidos. No obstante, con el TLC, es probable que la reducción de barreras comerciales en Estados Unidos sea modesta. Colombia ya goza de un tratamiento tarifario preferencial en el marco de la Ley de Promoción de Preferencias Arancelarias Andina y Erradicación de Drogas (ATPDEA por sus siglas en inglés). En la actualidad, la mayor parte de las exportaciones colombianas ingresa a Estados Unidos libre de impuestos y, en los rubros en las que es probable que los aranceles se reduzcan más (por ejemplo, en algunas categorías de textiles), Colombia tiene pocas posibilidades de ser el productor de más bajo costo. En Colombia, los aranceles han descendido de manera notable a lo largo de la última década, conforme el país redujo de forma unilateral sus barreras comerciales y se unió a la Organización

Mundial de Comercio (OMC) en 1994. Sin embargo, sus aranceles para bienes agrícolas siguen siendo relativamente altos, y este será un renglón donde es probable que se presente un crecimiento importante de las importaciones con la eliminación de las barreras, en particular en el caso de los cereales, los granos y las oleaginosas, donde Estados Unidos tiene ventaja comparativa. Colombia, por su parte, tiene ventaja comparativa en la industria azucarera, pero Estados Unidos se ha resistido a abrir su mercado en este sector. Aunque los aranceles colombianos tengan su mayor descenso en la agricultura, las exportaciones de bienes estadounidenses probablemente se seguirán concentrando en maquinaria, equipo y químicos.

53. El beneficio potencial más importante de un TLC se presentaría entre el mediano y largo plazos, debido a que el acuerdo haría que la relación comercial fuera permanente y más confiable. Las características temporales de las preferencias bajo el ATPDEA hacían que la incertidumbre figurara significativamente en los cálculos realizados por las empresas nacionales al considerar las inversiones en el sector exportador. De la misma manera, es posible que la incertidumbre acerca del ambiente comercial también haya restringido la inversión extranjera directa. Aunque se presenten importantes efectos distributivos en la medida en la que algunos sectores ganan y otros pierden, la experiencia internacional con los tratados de libre comercio a nivel regional y, en especial, entre países desarrollados y en desarrollo, ha sido positiva en términos de la reducción de la pobreza, el mayor crecimiento económico, las transferencias de tecnología y los flujos de capital. Las ganancias más importantes en otras experiencias de apertura comercial han surgido de círculos virtuosos con base en los cuales las ganancias en tecnología logradas por medio del comercio reducen el costo de la innovación, lo que a su vez incrementa más el crecimiento y el acervo de tecnología.

- ***El impacto de corto plazo de la apertura comercial en la agricultura se reflejará en una modesta reducción de la pobreza.*** Aunque se estima que las ganancias iniciales en bienestar atribuibles al TLC serán limitadas con relación al ingreso de los hogares, serán positivas y más importantes, en promedio, para las familias de bajos ingresos. Debido a la diversidad de actividades económicas, las ganancias proporcionales también varían más ampliamente entre hogares, en especial a niveles de ingreso más bajo.
- ***El impacto dinámico del TLC también incide en la reducción de la pobreza.*** Con base en la nueva evidencia estadística que arroja la experiencia en diversos países, se estima que el acuerdo comercial elevaría el crecimiento en Colombia entre 0,6 y 0,8 puntos porcentuales al año y reduciría la pobreza entre 1,7 y 2,3 por ciento durante los primeros cinco años posteriores a la entrada en vigor del TLC y entre 3,4 y 4,6 por ciento luego de diez años.
- ***El desempleo en Colombia es muy sensible a choques económicos porque el mercado laboral es muy rígido y la movilidad laboral es baja.*** Para atender mejor las necesidades de corto plazo de los trabajadores desplazados por un tratado comercial u otros choques, Colombia debería mejorar sus políticas a fin de reducir la rigidez laboral y mejorar la movilidad y fortalecer su limitado programa de seguro de desempleo.

54. ***El impacto distributivo y sobre el bienestar de la apertura comercial en el sector agrícola.*** Utilizando los cambios en precios agrícolas previstos para la propuesta del TLC y combinándolos con una extensa encuesta entre los hogares, se puede estimar la distribución de los primeros cambios en bienestar para distintos sectores económicos y hogares en la economía. En el corto plazo, se estima que el impacto distributivo y en bienestar de la apertura comercial agrícola con el TLC será limitado. No obstante, en el largo plazo, los beneficios relativos probablemente serán mayores, a medida que la economía aproveche las nuevas oportunidades. Entre las conclusiones más importantes a este respecto destacan las siguientes:

- ***Es probable que los cambios en precios relativos varíen de forma marcada entre los diversos sectores de la economía.*** Aunque en algunos sectores, como el de lácteos, se prevén apenas cambios mínimos en sus precios (un aumento de 0,2 por ciento para consumidores y productores), se espera que otros bienes —como los textiles— experimenten cambios de precios mucho mayores (una reducción de 4 por ciento para consumidores y de 7 por ciento para productores).
- ***La posibilidad de que las familias rurales o urbanas sean ganadoras o perdedoras netas como consecuencia de la apertura comercial en la agricultura depende de forma crucial de si los hogares son consumidores o productores netos de los bienes cuyos precios se ven afectados de forma directa o indirecta por la reforma comercial.*** Por ejemplo, en la categoría de cereales, 77 por ciento de los habitantes en las zonas rurales son consumidores netos y 3 por ciento son productores netos (mientras que el resto ni consume ni produce cereales, por lo menos durante el periodo de referencia de la encuesta). En consecuencia, se esperaría que un aumento en el precio de los cereales redujera el bienestar.
- ***Entre toda la población colombiana, más familias ganarán con la reforma comercial agrícola (59 por ciento) que las que pierdan (39 por ciento) pero tanto ganancias como pérdidas serán muy reducidas en el corto plazo.*** La mediana de la ganancia neta se estimó en \$132 pesos al mes, mientras que la mediana de la ganancia entre quienes se beneficiarían se estimó en más de \$508 pesos al mes. Por su parte, la mediana de la pérdida resultó equivalente a casi \$435 pesos al mes. Si se realiza el desglose en función de la situación urbana y rural, se observa una proporción mayor de ganadores en las zonas urbanas que en las rurales, con una ganancia promedio neta menor en las zonas rurales.
- ***Los hogares más pobres tienden a ganar más como proporción del ingreso.*** Conforme se incrementa el ingreso de una familia, caen las ganancias promedio resultantes de la apertura comercial agrícola. Esto se debe a que el precio de los bienes agrícolas tenderá a caer y, los beneficios relativos de un mayor poder de compra en estos productos son mayores para los hogares de menores ingresos que para los de mayor ingreso. El patrón tiende a cumplirse tanto para los hogares rurales como para los urbanos, con ganancias descendientes conforme aumenta el ingreso. Con la excepción del decil más pobre, las ganancias promedio son mayores para las familias rurales.

- ***Aunque los ganadores se concentran entre las familias de menores ingresos, se espera que el impacto sobre la desigualdad sea muy modesto.*** Se espera que el impacto de corto plazo de la apertura comercial apenas reduzca la desigualdad, con una desviación logarítmica media de la desigualdad que cae de 65,8 por ciento a 65,7 por ciento.

55. A pesar de las contribuciones potenciales que puede ofrecer un TLC al comercio y, por ende, al crecimiento económico y la reducción de la pobreza, los mayores beneficios sólo se generarán si está acompañado de esfuerzos extensos por hacer más eficiente la economía. La capacidad de un país para aprovechar plenamente el comercio internacional depende en gran medida de la eficiencia fundamental de la economía, reflejada en el marco legal para la resolución de disputas internacionales, los derechos internacionales de propiedad para atraer la inversión extranjera y la calidad de las leyes y reglamentos en comparación con las normas internacionales para contar con un ambiente empresarial nacional eficiente. Asimismo, el desarrollo de infraestructura como carreteras y puertos, no sólo facilita el funcionamiento de los mercados internacionales, sino reduce los costos de producción de bienes no comerciables que a menudo son insumos indispensables de productos comerciables. Entre las conclusiones más importantes a este respecto destacan las siguientes:

- ***Colombia tiene una mayor apertura comercial (medida en términos de niveles de aranceles y distorsiones del tipo de cambio) que la mayoría de los demás países de América Latina.*** Entre los siete países más poblados de América Latina —Brasil, México, Colombia, Argentina, Perú, Venezuela y Chile— sólo Chile y México son más abiertos al comercio que Colombia.
- ***Sin embargo, midiendo a partir de la apertura interna, la posición de Colombia es relativamente baja.*** Al medir la orientación de mercado de la política interna en función de la intervención y reglamentación gubernamental, la flexibilidad de los salarios y los precios y los derechos de propiedad, en Argentina, Brasil, Chile y México se ofrece más apertura económica que en Colombia. De acuerdo con esta limitada definición, sólo Perú y Venezuela tienen menos orientación de mercado.

Políticas de apoyo comercial

56. La apertura comercial no afecta del mismo modo a todos los sectores. De hecho, a fin de obtener ganancias de la apertura comercial, algunos sectores deben contraerse y liberar recursos para contribuir a la expansión de otros sectores que reflejan las ventajas comparativas de un país. Esto conlleva reasignaciones laborales entre sectores, que son equivalentes a lograr los objetivos de la reforma comercial. No obstante, a menudo estos cambios deben llevarse a cabo con ayuda de políticas de apoyo comercial, a fin de minimizar el riesgo político de revertir la apertura comercial. Muchas aplicaciones incompletas o reversiones de las reformas a la política comercial en países en desarrollo, en especial en África, se han debido a la incapacidad de los gobiernos para tratar con las protestas de los integrantes de los sectores que se contraen, a pesar de los beneficios potenciales para el país en su conjunto.

57. Dados estos riesgos en la aplicación y sostenibilidad de la reforma comercial, resulta importante para los gobiernos conocer los posibles efectos distributivos de la

reforma y planear de qué manera pueden contribuir a facilitar la transición de los trabajadores que salen de los sectores en contracción hacia otros sectores donde se produzcan bienes de exportación o bienes no comerciables. Colombia no es diferente en este caso y, como se comentó en párrafos anteriores, probablemente se observen importantes efectos distributivos en algunos sectores de la economía. Entre las recomendaciones y opciones de política más importantes en lo relacionado con la asistencia comercial para Colombia destacan las siguientes:

- ***El mercado laboral de Colombia se caracteriza por su inflexibilidad, lo que sugiere que un choque negativo en algunos sectores podría generar un desempleo considerable y pérdidas de ingreso en los mismos.*** Aunque Colombia es uno de los pocos países que ha puesto en marcha una reforma laboral explícita que ha flexibilizado la legislación vigente, en especial si se compara con la situación durante la década pasada, el análisis de los hechos recientes muestra que el mercado laboral colombiano sigue siendo muy rígido. Esto implica que un choque negativo podría causar desempleo y pérdidas de ingreso en los sectores que se contraigan. Las políticas de asistencia comercial deberían orientarse a reducir las inflexibilidades en el mercado laboral y facilitar las transiciones hacia nuevas oportunidades de empleo.
- ***Las políticas de asistencia comercial deberían orientarse hacia los grupos más vulnerables.*** El análisis del desempleo permite identificar los grupos de trabajadores más vulnerables y debería contribuir a facilitar la orientación de las políticas compensatorias. Sin que resulte sorprendente, es probable que, a diferencia de la mano de obra de mayor edad, los trabajadores más jóvenes, aunque afectados estructuralmente por mayores niveles de desempleo, tiendan a enfrentar menores incrementos en éste como consecuencia de choques económicos. Existe poca diferencia entre géneros, pero los mayores niveles educativos tienden a reducir el impacto de los choques negativos sobre el desempleo. Para la mayoría de los sectores, los trabajadores más calificados cuentan con mejores oportunidades de avance laboral, lo que confirma que la educación general contribuye a preparar a una fuerza laboral adaptable y con movilidad.
- ***El impacto del desempleo se reduciría en las zonas menos desarrolladas de Colombia mediante más seguridad e inversión en servicios de transporte e infraestructura.*** Las regiones menos desarrolladas del país tienden a encontrarse aisladas entre sí, comunicadas sólo por una red vial escasa e insegura. Por ello, una primera manera de aumentar la flexibilidad del mercado laboral colombiano y reducir los problemas asociados con los trabajadores desplazados debería consistir en aumentar la seguridad y las inversiones en los servicios y la infraestructura del transporte.
- ***La experiencia internacional sugiere que las mejores políticas de ajuste comercial para Colombia no deberían basarse en la ubicación sectorial, sino en las necesidades individuales de los trabajadores.*** Los programas sectoriales son costosos y están sujetos a conductas buscadoras de rentas (*rent seeking behavior*). Los programas que se centran en el individuo, como los que buscan la capacitación y la ayuda para encontrar empleo, son menos costosos y están mejor orientados a las necesidades de los más vulnerables. Entre otras opciones también podría

mencionarse el sistema, relativamente nuevo, de seguro de desempleo. Este sistema contempla prestaciones modestas para quienes no están en el sector formal (determinadas por los recursos fiscales liberados de programas menos benéficos), un mejor uso de los recursos existentes centrándose en la población más vulnerable a encontrarse en situación de pobreza y poner en marcha un sistema de inscripción para recibir prestaciones de desempleo para verificar que quienes las reciben estén buscando trabajo. Un buen complemento del seguro de desempleo sería un programa de capacitación flexible que favorezca que el sujeto de la capacitación elija instituciones y programas.

58. Como se mencionó anteriormente, la experiencia internacional ha mostrado que los beneficios de la apertura comercial dependen en gran medida de la eficiencia y la “competitividad” de la economía interna. Un TLC ofrece mayores oportunidades de comercio e inversión internacionales, pero no implica la capacidad de aprovechar estas oportunidades. Al cumplir toda o parte de la agenda de reformas descrita arriba, Colombia tendrá la posibilidad de captar mejor todos los beneficios que se desprenden de este proyecto de acuerdo de libre comercio con Estados Unidos. Al hacerlo, el país será capaz de alcanzar mayores niveles de crecimiento y lograr las reducciones necesarias en la pobreza.

III. JERARQUIZACIÓN DE RECOMENDACIONES

59. **A fin de establecer una jerarquía de las principales recomendaciones que se presentan en este informe, en esta sección se considera el impacto y la dificultad estimada y el calendario necesario para su puesta en marcha.** Existen recomendaciones que se consideran de *alto impacto* en la medida en la que generan resultados sustanciales en el aumento de la competitividad. Las recomendaciones consideradas como *más difíciles* de aplicar representan costos fiscales más altos, dificultades legales (pues se requeriría nueva legislación) o complicaciones políticas (si los intereses creados se ven afectados de manera seria). Las recomendaciones más difíciles pueden requerir un mayor tiempo para ponerse en marcha, pero no siempre tiene que ser así. Una recomendación difícil puede requerir únicamente un horizonte temporal corto si se han logrado avances importantes hacia su aplicación.

60. **Sobre esta base, se pueden dividir las recomendaciones en tres grandes grupos.** El Grupo I corresponde a las medidas de alto impacto que son la prioridad principal en el corto plazo. El Grupo II corresponde a las medidas de impacto medio, con dificultad modesta, de ahí que se consideren como objetivos de mediano plazo. El Grupo III corresponde a medidas de alto impacto y dificultad que exigen una puesta en marcha de más largo plazo pero que, no obstante, deberían comenzarse a prever desde el corto plazo.

61. En el Cuadro 1 se muestran los resultados de este ejercicio de jerarquización. **El grueso de las recomendaciones se clasifica en el Grupo I y el Grupo III (alto impacto en el corto plazo y objetivos de largo plazo) y las menos corresponden al Grupo II (medidas de impacto medio y mediano plazo).** Las medidas del Grupo I identifican algunas de las “ganancias fáciles” ya sea porque el curso de acción a seguir está bien definido ya o porque pueden ponerse en marcha sobre la base de instrumentos legales

sencillos, o porque los costos financieros asociados son modestos. La mayor parte de estas medidas podrían llevarse a cabo de inmediato.

62. Las recomendaciones del Grupo III—alto impacto y largo plazo—también deberán aplicarse para obtener toda la gama de beneficios en competitividad que se identifican en este informe. Algunas de estas medidas son temas que deben darse simultáneamente y que requieren de compromisos continuos, como la reducción del nivel de deuda con respecto al PIB que deberá mantenerse durante muchos años. Para identificar estas medidas como costosas o difíciles en términos políticos (como los cambios en el salario mínimo y las inversiones en infraestructura), el primer paso debería consistir en establecer un diálogo en todo el país para generar un consenso acerca de los costos y beneficios de las reformas propuestas. Debido a que algunas de las medidas requieren de cambios legales, también se podría comenzar a trabajar en el corto plazo en el diseño de los instrumentos jurídicos adecuados. Por último, los considerables costos financieros que se prevé en términos de infraestructura y de algunos cambios en el sistema tributario, como las inversiones en caminos y la reducción de la tasa de impuesto al ingreso para las empresas, deberán esperar a que se genere espacio fiscal a partir de ahorros logrados en otros rubros del presupuesto público. Sin embargo, podrían tomarse algunas medidas inmediatas para garantizar un mejor uso de los recursos existentes.

Cuadro 1: Elementos para generar competitividad en Colombia

	Fiscal/Macro	Institucional/Micro	Comercio/Infraestructura
I. Objetivos de política de alto impacto y corto plazo (Objetivos que podrían alcanzarse dentro de un año con poco o ningún costo fiscal inmediato. Algunas restricciones políticas, pero ganancias considerables en competitividad).	<ul style="list-style-type: none"> Mantener el tipo de cambio flotante y minimizar la intervención para permitir que el país se ajuste a las condiciones de los mercados externos y mantener los objetivos de inflación. Mantener el superávit primario a niveles superiores a 2,5% del PIB para que la deuda pública sea menos vulnerable a choques y evitar que se vuelva insostenible. Reformar el sistema de pensiones para reducir el valor presente neto de las obligaciones por este concepto y cambiar hacia un sistema sostenible fiscalmente. Fijar reglas de depreciación en el impuesto al ingreso de las empresas y para devoluciones del IVA que corrijan distorsiones y recauden más ingresos. Realizar reformas presupuestarias para reducir los recursos etiquetados y mejorar las decisiones de gasto fiscal. 	<ul style="list-style-type: none"> Reducir más el papeleo para que las empresas aumenten su productividad. Mejorar el marco legal del sistema de pagos para aumentar su eficiencia. Mejorar las leyes de bancarrota aumentando los derechos de los acreedores y reduciendo el tiempo para la reestructuración y liquidación de empresas quebradas. Esto aumentaría el crédito a las empresas y permitiría una asignación más rápida del capital hacia empresas exitosas. Continuar los esfuerzos por mejorar la seguridad interna. 	<ul style="list-style-type: none"> Reducir las barreras comerciales arancelarias y no arancelarias (de forma unilateral y en el contexto de los TLC regionales y multilaterales) para reducir el costo de las importaciones y mejorar el acceso a los mercados de otros países. Enfocar los programas de ajuste comercial hacia la asistencia general para la capacitación laboral y no en sectores o industrias específicos, a fin de reducir costos y evitar ser capturados por intereses especiales.
II. Objetivos de política de mediano plazo e impacto medio (Objetivos que pueden lograrse luego de dos o tres años con costos fiscales modestos y algunas restricciones políticas, pero que ofrecen ganancias de competitividad en el largo plazo).	<ul style="list-style-type: none"> Reducir la sobretasa al impuesto al ingreso de las empresas y eliminar algunas exenciones y deducciones a la inversión para aumentar la actividad económica y mejorar la asignación de inversiones entre sectores. Eliminar el impuesto sobre las transacciones financieras para aumentar los incentivos a invertir. Ampliar y concluir las reformas recientes para acreditar el IVA sobre inversiones. Cambiar la fórmula de transferencias del gobierno central a las regiones para aumentar la sostenibilidad fiscal. 	<ul style="list-style-type: none"> Mejorar el financiamiento de la micro, pequeña y mediana empresa mediante la reducción de los costos de transacción asociados con los productos financieros básicos. Profundizar los mercados de capitales mediante la nueva Ley de Valores a fin de reducir los costos asociados con las emisiones y desarrollar un mercado secundario eficiente para la deuda del gobierno. Aumentar la transparencia y mejorar la recolección de datos fiscales y de inversión a nivel regional, municipal y local para mejorar las asignaciones presupuestarias y reducir la corrupción. Evaluar el apoyo gubernamental a las PyME. 	<ul style="list-style-type: none"> Reducir el papel de las empresas del Estado en ámbitos en los que sea factible el financiamiento privado, como las telecomunicaciones y la electricidad.
III. Objetivos de política de alto impacto y largo plazo (Objetivos que pueden lograrse luego de tres a seis años con costos	<ul style="list-style-type: none"> Reducir la razón de deuda a PIB a menos de 35% para disminuir la vulnerabilidad a cambios en la percepción del mercado. Reducir la tasa de impuesto al ingreso de las empresas a menos de 30%. Aumentar la capacidad 	<ul style="list-style-type: none"> desarrollar una estrategia de desarrollo a largo plazo independiente que reduzca la incertidumbre de las políticas y continúe los esfuerzos por desarrollar un consenso amplio sobre la agenda de reformas (Agenda Interna y Visión 2019). 	<ul style="list-style-type: none"> Generar financiamiento sostenible para las inversiones públicas. Esto conlleva un plan multianual de inversión y el aumento del margen fiscal para invertir mediante la reducción del gasto corriente por medio de una asignación de recursos más eficiente.

fiscales o más dificultades políticas, pero que ofrecen ganancias significativas de competitividad en el largo plazo).	de generación de ingresos de los gobiernos regionales y locales para mejorar las decisiones de gasto de estas entidades.	<ul style="list-style-type: none"> • Reducir la reglamentación para contratar y despedir trabajadores. • Reducir los impuestos sobre la nómina y el trabajo y permitir que los salarios reflejen la oferta y demanda del mercado, a fin de aumentar el empleo. El salario mínimo obligatorio es relativamente alto, lo que lleva a la fuerza laboral al desempleo o al sector informal. 	<ul style="list-style-type: none"> • Reenfocar la inversión para mejorar la infraestructura de caminos y puertos a fin de reducir el costo del comercio. • Racionalizar el marco regulatorio del sector para mejorar las condiciones de atracción de inversión privada en infraestructura. • Reducir los subsidios preferenciales hacia grupos determinados y aumentar el gasto en programas de ayuda para personas desplazadas del mercado de trabajo a fin de facilitar la transición hacia mercados más abiertos.
--	--	---	---

CHAPTER 1. COLOMBIA'S COMPETITIVENESS: CHALLENGES AND OPPORTUNITIES¹³

INTRODUCTION

1.1 This chapter assesses the factors hindering Colombia's business environment and growth, and the challenges the manufacturing sector will face in order to better enable the country to reap the potential benefits of the expected Free Trade Agreement (FTA) with the United States. The chapter consists of three sections.

1.2 Section I identifies the top constraints on growth and competitiveness of Colombian firms and analyzes them using micro-level data from various sources. While the authorities are taking steps in the right direction on various fronts, Colombia does not fare well in several areas, and is facing important constraints on enhancing efficiency. These constraints include policy uncertainty, macroeconomic instability, informality, corruption, tax rates and regulations, insecurity, theft, and bureaucratic red tape. Although these problems are not unknown to policymakers in Colombia, this section attempts to provide a guide for improving competitiveness and identifies priority areas of intervention.

1.3 Section I also suggests policy options to address the identified constraints on growth and competitiveness. It stresses the importance of the participatory, consultative process that the government should conduct in order for its policies to result in long-term stability. Specific policies to address the constraints are also suggested, such as red tape reduction; continued implementation of the anticorruption program; reduction of labor market rigidities; continuation of the recently initiated program of "transparency pacts" between local authorities, departmental-level authorities, and citizens in order to fight corruption through increased social control and participation; and continued efforts by the authorities to increase security and control money laundering.

1.4 Section II analyzes the developments in the manufacturing sector following the trade liberalization of 1990–91, and assesses the challenges the manufacturing sector will face. This section focuses on the manufacturing sector, but competitiveness in the agriculture sector is important as well, and key areas for reform have been identified and detailed in a separate report entitled, "Colombia Agricultural and Rural Competitiveness."¹⁴ While trade liberalization has been followed by productivity increases, low productivity and competitiveness remains a major problem for many of the firms that would like to benefit from the FTA. The sectors that are facing significant productivity-related challenges are identified. This information might assist in better targeting of government support, and prove valuable to the private sector. In addition, Section II highlights the inefficiencies of the labor market and addresses some of the transportation-related bottlenecks. It is clear that a comprehensive reform of the trucking

¹³ Primary contributors to this chapter include Keta Ruiz (LC1CC), Jozef Draaisma (LC1CC), and Leonid Koryukin (LCSPE).

¹⁴ Report No. 27523-CO, December 2003

industry is a must. The upcoming World Bank competitiveness report on trade logistics will shed more light on this issue.

1.5 Section III provides a brief overview of some of the main characteristics of the Small and Medium Enterprise (SME) sector and SME business development policies and programs currently in place in Colombia, in the context of ongoing negotiations for an FTA between Colombia and the United States, and the possible growth and development impact of such an agreement on SMEs.

I. GROWTH, BUSINESS ENVIRONMENT, AND COMPETITIVENESS: RECENT PROGRESS AND MAJOR CHALLENGES

1.6 If Colombia is to achieve a higher standard of living for its population and reduce the approximately 53 percent of its population living in poverty, it will have to achieve higher levels of growth. If we look at the countries that have achieved the largest reductions in poverty (mainly in East and South Asia), they have been able to do so thanks to high levels of per capita growth, while countries that have had smaller increases in per capita growth (Latin America and the Caribbean [LAC] countries) have not been able to reduce the share of the population living in poverty (Figure 1.1).¹⁵

Figure 1.1: Poverty Reduction is Closely Associated with Growth

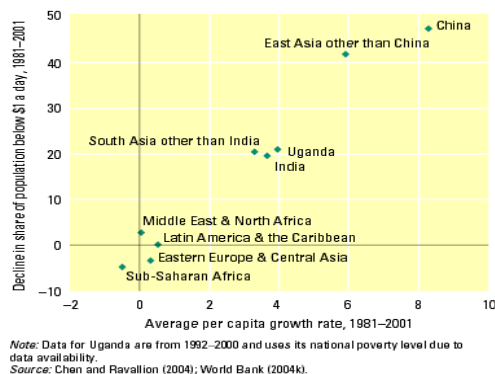
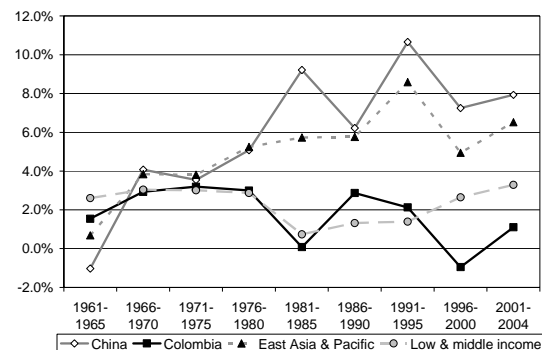


Figure 1.2: GDP Per Capita Annual Growth



1.7 If we compare Colombia's growth performance with that of other countries, we see that although in the early 1960s Colombia performed at a level similar to other developing countries (East Asia and the Pacific, and low- and middle-income countries) and outperformed China, its relative performance stagnated and deteriorated thereafter (Figure 1.2). This difference in performance raises several questions: What has been behind the excellent performance of China and other countries that have had better recent performance than Colombia? Also, while Colombia has been successful in igniting some growth spurts, what could it do to prevent its cyclical declines and, furthermore, to

¹⁵ Equity also matters, however, since the extent of inequity in a society affects how much average growth is shared by poor people. Although growth is usually good for the poor because their income could rise in tandem with average incomes, there is evidence that in a more inequitable society the income of poor people rises by less than one-for-one with average incomes (World Bank 2005).

sustain growth? Although there is no straightforward answer—there is no magic formula that would guarantee faster and sustained economic growth—recent research provides valuable answers on how investment and productivity contribute to growth and how the business environment is key in determining the size of both contributions.¹⁶

1.8 Competitiveness in the broad sense is also used in regard to the overall economic performance of a country, particularly its level of productivity, its ability to export its goods and services, and its ability to provide a good standard of living for its citizens. This term is frequently used in discussions of performance at the level of the firm, a sector, and the overall economy. From the macroeconomic point of view, competitiveness is linked to trade and therefore costs. Efficient use of resources, economies of scale, and product differentiation and innovation are important factors determining competitiveness. From a governance point of view, what matters is how institutions affect economic performance, and competitiveness is viewed based on how the institutions (both formal and informal rules and their enforcement) affect incentives and the decisions economic agents make. At the level of the firm, the term competitiveness is usually used to denote a firm's ability to secure customers and maintain and expand their market position in national and international markets. Viewed from the national perspective, it is viewed as a measure of a country's advantage or disadvantage in selling its products in international markets.

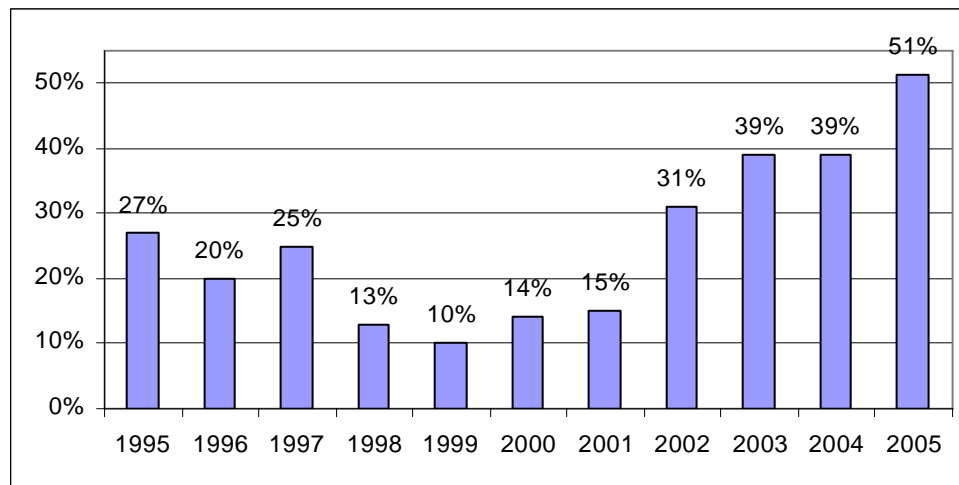
1.9 Competitiveness therefore becomes a catchall for a variety of factors including: a stable macroeconomic environment, the educational level and flexibility of the labor force, the ease of transport from ports and on roads, the efficiency of the legal and judicial system to enforce contracts and facilitate business activity, the quality and transparency of corporate governance, the stability of political institutions, the efficiency and non-distortionary nature of the tax system, and the efficiency of the regulatory environment to facilitate market competition and manage systemic risks.

1.10 Now that Colombia is seeking to join an FTA with the United States in the hopes of stimulating growth and improving the living conditions of its population, it would be useful to have a better understanding of what Colombia could do to improve its competitiveness and business environment to better enable it to reap the potential benefits of an FTA with the United States. Mexico's experience with joining the North American Free Trade Agreement (NAFTA) has shown that free trade alone is not enough to boost growth and improve the standard of living. The benefits that a country extracts from freer trade largely depend on the efficiency and "competitiveness" of the domestic economy. The challenge for policymakers is therefore to design and implement policies that improve Colombia's business environment and competitiveness.

¹⁶ To help understand why some countries perform better than others in terms of growth, we could decompose per capita growth into human capital, physical capital, and total factor productivity (TFP), the contribution to output beyond those made by labor and capital. Multi-country analysis results show that TFP explains between 45 and 90 percent of the differences in growth among countries. Although TFP was assumed to encompass technological change, recent research has emphasized that TFP not only encompasses differences in technology, but also the broader environment in which firms operate (for example, property rights, and institutions, among others—what is also known as the business environment or investment climate) (World Bank 2005).

1.11 Colombia has implemented policies to improve the business environment in recent years that have resulted in increased competitiveness. During 1999–2004, Colombia’s competitiveness ranking by the World Economic Forum (WEF) progressed from the bottom 10th to the 40th percentile worldwide. In 2005, Colombia climbed 7 positions, to ranking 57th out of 117 countries (Figure 1.3). Most notable are the improvements in reduction in corruption, more policy stability and less crime. In the LAC region, Colombia now ranks fifth, behind Chile, Uruguay, Mexico and El Salvador, among the 21 LAC countries in the report.

Figure 1.3: Colombia’s Competitiveness, 1995-2005



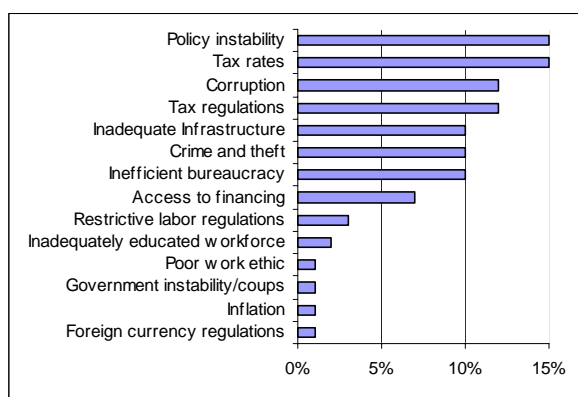
Source: WEF (2005).

1.12 In 2004, the World Bank’s “Doing Business” report ranked Colombia as the number two reformer in a sample of 145 countries. The Report investigates the regulatory constraints on growth using quantitative indicators on business regulations and their enforcement. The inclusion of Colombia among the top reformers, trailing only Slovakia, is based on the fact that during 2002–04 the Colombian government passed a new labor law and implemented corresponding regulatory decrees that removed at least some of the many labor market inflexibilities. Also, one-stop shops for business registration (the so-called *Centros de Atención Empresarial* or *CAEs*) have been established in the six largest cities, which cut the number of procedures and the time to start a business, respectively, from 19 steps to 14 steps, and from 64 days to 42 days in the city of Bogotá. According to the “Doing Business” report of 2006, the number of procedures have been reduced further, to 12, although the time to start a business remained at 43 days. Yet, in the Organization for Economic Co-operation and Development (OECD) countries, a business can be opened in less than 19 days—and less than 6 procedures are required. Contract enforcement has been improved, including the introduction of greater flexibility in debt-restructuring procedures. The time needed to enforce a contract is now estimated to be 363 days, compared to 527 before this reform. Another area of progress has been that of property registration: it takes 23 days to transfer a property title from the seller to the buyer, compared to 76 days on average in Latin America, and 33 days in the OECD countries.

1.13 While the Doing Business report provides very useful information for benchmarking and comparing countries in eight areas that are essential for a sound business environment (starting a business, hiring and firing workers, obtaining business licenses, getting credit, registering property, protecting investors, enforcing contracts, and closing a business), it does not provide a priority list of factors that hinder competitiveness. Doing Business also provides best-practice examples in these eight areas, and very detailed information on the processes related to these areas that could be used to support policy reforms. Other surveys that seek opinions of entrepreneurs could provide additional information to identify priority areas for action.

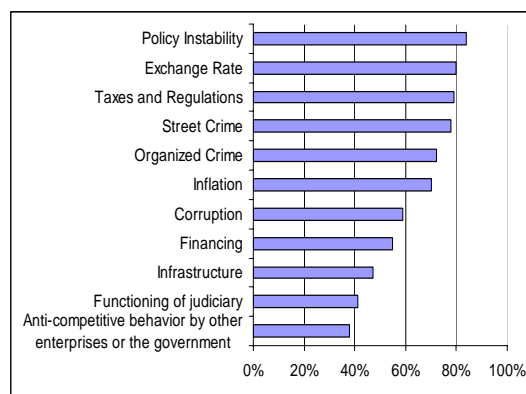
1.14 The WEF (2005) identifies policy instability, tax rates, corruption, tax regulations, inadequate infrastructure, crime and theft, and inefficient bureaucracy as the top seven factors that are the most problematic for doing business in Colombia (Figure 1.4).¹⁷ An earlier assessment, the World Business Environment Survey (WBES) 2000, identified policy instability, the exchange rate, taxes and regulations, street crime, organized crime, inflation, and corruption as the top seven problematic factors (Figure 1.5).¹⁸ The factors identified in both surveys are almost the same, although the order is slightly different. Policy instability tops both lists, while tax rates and regulations occupy the second and fourth places in the WEF 2005 rankings and the third position in the WBES 2000 list. Corruption scores higher on the WEF list (3rd place) than the WBES list (7th place) and crime is slightly more important in the WBES 2000 rankings (4th and 5th place) than in those for the WEF 2005 (6th place). Exchange rates, which occupy the 2nd position of the WBES 2000 list, are not included in the WEF 2005 survey. The difference might be due to improvements or deteriorations in these areas from 2000 to 2005.

Figure 1.4: Most Problematic Factors for Doing Business



Source: WEF (2005).

Figure 1.5: Percentage of Firms Rating Factors as Problematic



Source: WBES (2000).

¹⁷ The WEF ranking comes from the Executive Opinion Survey applied to the 117 surveyed countries. From a list of 14 factors, respondents were asked to select the five most problematic for doing business in their country and to rank them between 1 (most problematic) and 5 (least problematic). The bars in the figure show the responses weighted according to their rankings.

¹⁸ The WBES was administered to enterprises in 80 countries and one territory in 2000.

1.15 A current and more complete ranking of the obstacles to growth and competitiveness by entrepreneurs is found in a recently implemented World Bank–National Association of Industrialists (WB/ANDI) survey.¹⁹ One of the survey questions asks the respondents to rate each of the 24 potential obstacles to growth and competitiveness on a scale of 0 to 4, with 4 being the worst rating (“severe problem”). Table 1.1 shows the results for this question. There is great similarity in the ranking of most problematic factors. At the top in the three surveys, the WEF, WBES, and the WB/ANDI, is policy instability/economic and regulatory policy uncertainty/macroeconomic instability. Likewise, corruption and tax rates/regulations score near the top of all three surveys.

Table 1.1: Obstacles to Growth and Competitiveness

Obstacle	Score	% "major" and "severe"***
Economic and regulatory policy uncertainty	2.73	55.0
macroeconomic instability (inflation, exchange rates, etc.)	2.72	56.4
Informal and anticompetitive practices (piracy, informal sales, contraband...)	2.57	56.1
Tax rates	2.44	48.8
Corruption (in general)	2.26	35.9
Crime and violence (security, robbery...)	2.26	38.5
Tax-related administrative procedures	2.05	22.0
Customs regulations	1.90	15.0
Efficiency of conflict resolution, tribunals	1.88	30.0
Other foreign trade regulations	1.85	20.0
Labor regulations	1.80	17.5
Transportation	1.75	20.0
Availability of information about foreign competitors	1.74	25.6
Operation permits and licenses	1.58	20.0
Costs of financing (e.g., interest rates)	1.54	17.9
Property rights and contract enforcement	1.27	14.6
Labor quality (education, skills)	1.20	15.0
Access to financing (e.g., problems with collateral)	1.20	20.0
Availability of financing (e.g., bank credit)	1.05	12.5
Electricity	1.00	12.5
Telecommunications (e.g., phone)	0.90	10.0
Access to land*	0.89	5.6
Availability of services for quality certification	0.80	5.0
Gas	0.63	7.9
* Securing property rights for land		
** Percentage of respondents who rated the respective obstacle as "major" (3) or "severe" (4) on the scale of 0-4		

Source: World Bank–ANDI survey, 2004–2005.

1.16 Although the enterprise surveys carried out by the WEF denote the views of entrepreneurs about the main constraints they face, rather than an objective measure of the

¹⁹ Unfortunately, the response rate to this quick, e-mail-based survey was very low: only 41 out of more than 600 firms responded, because the survey length discouraged a higher response rate. But despite the small size of this survey, its results are in line with the results of the WEF opinion survey of 2005, and confirm that most of the results of the WBES 2000 survey are still valid. The survey comprised mostly medium and large firms (only one small firm responded). Sectors represented were: about 24 percent from the pharmaceutical sector; 25 percent from the textile and leather sector; about 15 percent from the metal products sector; and the rest from the electrical and electronics, metals, pulp and paper, food and beverages, plastic and rubber, and non-metallic minerals sectors.

impact of these factors on the productivity of the firms or the competitiveness of Colombia, they constitute a useful source of information since entrepreneurs are the decision makers regarding investment and the operations of a firm. Opinion surveys can help policymakers determine which constraints are important for entrepreneurs—is it red tape, corruption, or policy instability? Opinion surveys also add useful information to some variables—corruption, for example—which is difficult to obtain from more objective or quantifiable measures. Kaufmann and others (2005) show that strictly quantifiable data on governance or the investment climate are not enough (for example, *de jure* data of the number of steps required by the regulations to start a business). Data that contain the opinions of the economic agents on the ground, such as firms or users of services, add important value because they include information not only on the formal rules but also on the institutional environment in which these rules are applied and enforced (for example, the influence that corruption has on the rules, especially in developing countries).

1.17 It should be made clear, however, that the opinion surveys provide perceptions of what are the important constraints for businesses, and these may not necessarily coincide with actual performance. Therefore, if we based recommendations for policy reforms solely on perceptions, we would run the risk of making the wrong recommendations based on the wrong diagnosis. To identify the binding constraints to businesses and investment, there is a need to quantify the impact of these constraints. Unfortunately, due to limited available information, it is not possible to quantify the impact of all the variables considered by firms as the major constraints. Consequently, as much as possible, we will complement the qualitative data with quantitative data.

1.18 The WB/ANDI survey is small but is very recent and adds value since it provides a ranking for a rich list of constraints (24), and is especially relevant for medium and large firms. The WEF 2005 is also recent, but with a more limited set of constraints (14). Since the WBS 2000 is somewhat older, we decided to use both the WEF 2005 and the WB/ANDI survey to identify a list of 10 top constraints on competitiveness. We took the 8 top factors from the WEF 2005 and complemented them, given the larger set of variables from the WB/ANDI, with the constraints ranked 2 and 3 from the latter that were not part of the list of the top 8 from WEF (Table 1.2). This resulted in the following 10 most important constraints on competitiveness: corruption, economic and regulatory policy uncertainty/instability, tax rates, access to financing, inadequate infrastructure, inefficient bureaucracy/red tape, tax regulations, crime and theft, macroeconomic instability (inflation, exchange rates), and informality. We will use these top 10 factors to identify priority policy interventions in the following sections. We will also complement the information from the WEF 2004 and WB/ANDI survey with other surveys and analysis.

Table 1.2: Ranking of Constraints/Obstacles—Comparison of Surveys

Constraint/Obstacle	WEF	WB/ANDI
Economic and regulatory policy uncertainty/instability	1	1
Tax rates	2	4
Corruption	3	5
Tax regulations	4	7
Inadequate infrastructure	5	12, 20,21,24
Crime, theft, and violence	6	6
Inefficient bureaucracy/red tape	7	12
Access to financing	8	18
Restrictive labor regulations	9	11
Inadequately educated workforce	10	17
Macroeconomic instability (inflation, exchange rates)	11	2
Informality	-	3
Customs regulations	-	8
Efficiency of conflict resolution tribunals	-	9
Other foreign trade regulations	-	10

Sources: WEF (2005); World Bank–ANDI survey, 2004–2005.

1.19 The next sections analyze in detail the following 10 factors that coincided with the most important constraints on competitiveness in the most recent surveys:

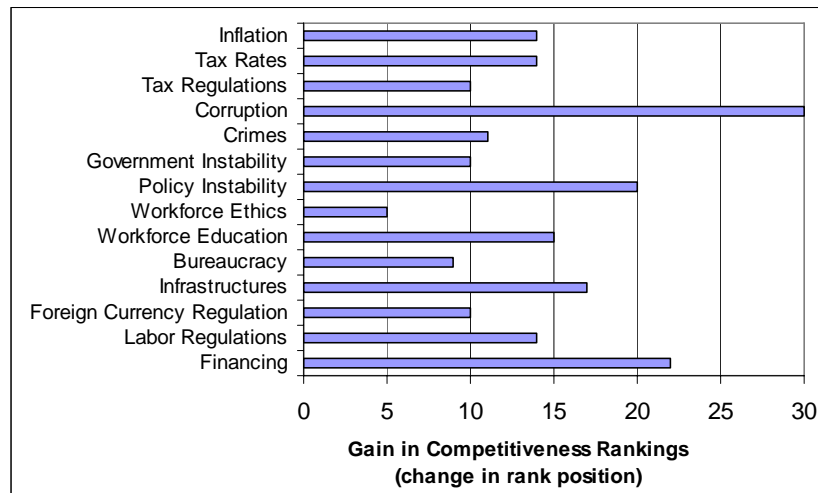
- Economic and regulatory uncertainty/policy instability
- Tax Rates
- Corruption
- Inadequate infrastructure
- Inefficient bureaucracy/red tape
- Access to financing
- Tax regulations
- Crime, theft, and violence
- Macroeconomic instability (inflation, exchange rates)
- Informality.

1.20 Tax rates and tax regulations, despite being on the list of the most problematic constraints to growth and competitiveness, are not included in the discussion in this chapter because tax policies are analyzed in detail in Chapter 2.

1.21 This long list puts policymakers in a difficult situation when trying to identify priorities for reform. Although policymaking is much more an art than a science, (in that there are numerous ways and sequences in which the economic policies may be implemented with no controlled environment to test potential outcomes), economic analysis can guide the process of policymaking to increase the probability of success. One way to do this is to concentrate on the most binding constraints to economic activity. Although what we would like to measure is the impact these constraints have on firms' productivity and investment decisions, and a country's economic growth rate, an alternative is to identify how much these business constraints impact a country's

competitiveness ranking. Kaufmann (2004) has correlated the firm answers to the business constraints questions with the WEF's Growth Competitiveness Index (which rates the relative competitiveness of all the surveyed countries), controlling for other factors. The results in Figure 1.6 show that removing the business constraints due to corruption, policy instability, financing, and infrastructure would have the highest impact in improving a country's growth competitiveness index. For example, a country that reduces its corruption index by one standard deviation can expect on average, to move up about 30 rank positions in its global competitiveness ranking.

Figure 1.6: Gains in the Competitiveness Ranking by Tackling the Following Constraints



Source: WEF 2004.

1.22 While these surveys provide rankings of the constraints from the point of view of individual firms, among the identified constraints there are two kinds of variables. Some factors that affect a country's competitiveness are under the direct control of government authorities (such as tax and regulatory procedures) and others are only subject to indirect control (such as the rate of economic growth and crime). The distinction between these two factors can help identify the key areas for government intervention. Often this distinction is described as the difference between policy and policy outcomes; while both influence a country's competitiveness, the government only has direct control over policies. Even for policies that are under the direct control of the government, policymakers must maneuver in the context of competing political interests.

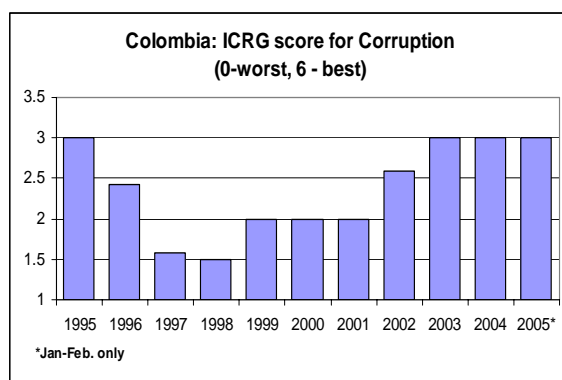
I. 1. Corruption

1.23 Corruption is costly to businesses and reduces their efficiency. The costs are explicit (informal payments) and implicit (harsher red tape, unnecessary "partnerships," and so forth). Corruption, when within the private sector, falls into the first category of variables mentioned above that the government tries to influence with policies over which it has control, but which it cannot control directly but hopes to influence with policies over which it does have control. In this case, strengthening the rule of law

through an efficient and fair judiciary or strengthening civil society participation are examples of indirect policies that could help reduce corruption within the private sector.

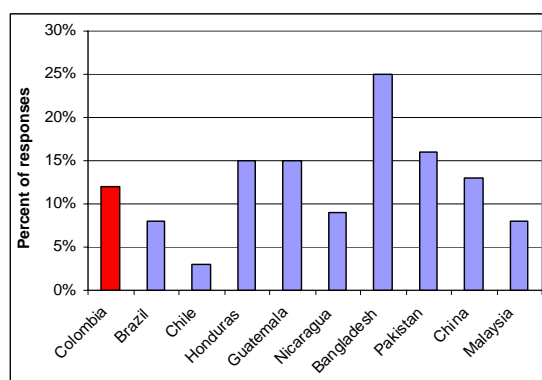
1.24 Corruption, when originated in the public sector, falls into the second category of direct policy variables over which the government has control. A demonstration of that is that the presidential program to fight corruption initiated in 1999 that seems to have brought positive results: the International Country Risk Guide's (ICRG) Corruption Index has improved significantly since then (Figure 1.7); Colombia is currently performing relatively well compared to many countries (Figure 1.8); and according to a recent study by Transparency International, Colombians top the list of “optimists” who are sure about the good prospects of fighting corruption in their country.²⁰ Last, the latest update of aggregate governance indicators, which measures six dimensions of governance, shows that control of corruption in Colombia has improved, from the 38th percentile rank in 2002 to the 52nd percentile rank in 2004 (percentile rank indicates the percentage of countries worldwide that rate below the selected country) (Kaufman and others (2005). These governance indicators are a quite comprehensive set of indicators built on several hundred individual variables that provide robust measures comparable among countries and through time. They also show that Colombia is performing better than the regional average for Latin America (45th percentile rank in 2004), and better than its peers of middle-income countries, which on average ranked in the 39th percentile in 2004.

Figure 1.7: The Progress with Corruption after the Crisis, ICRG Data



Source: ICRG.

Figure 1.8: International Position of Colombia vis-à-vis Corruption



Note: Based on a survey where business executives were allowed to rank corruption as one of the most problematic factors for doing business in their country.

Source: WEF (2005).

1.25 **Yet, opinions differ widely.** More than 60 percent of the respondents to the 2004 Probidad Survey by Confecámaras were of the opinion that during 2001–03 corruption had, in fact, increased. This negative opinion was especially strong in Cartagena, Bucaramanga, and Popayán (Figure 1.9). Local authorities were viewed as most corrupt (Figure 1.10).

²⁰Transparency International Corruption Research (2004). In Colombia more than 60 percent of respondents believe corruption will be further reduced in the next three years.

1.26 A possible explanation for the difference in the assessments is that since the government program to fight corruption has concentrated the public's attention on this phenomenon, a more negative perception about corruption might have arisen—in a sense perceiving it as a greater obstacle. It may also indicate that while overall corruption has declined, corruption at the local level is still perceived as a significant problem.

Figure 1.9: The Increase in Corruption during 2001–03

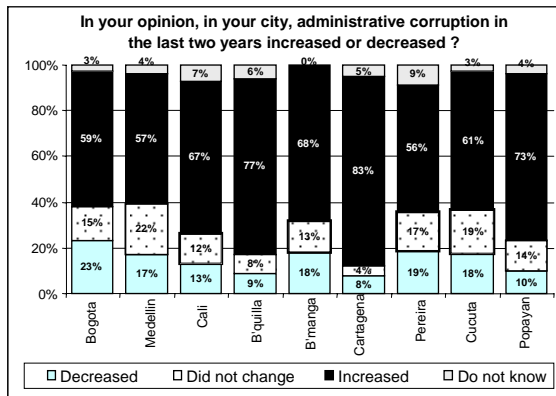
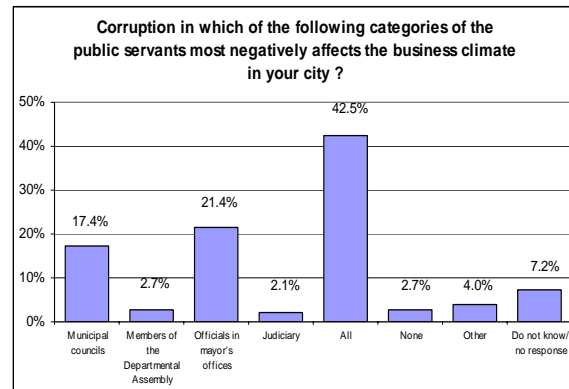


Figure 1.10: Local Authorities as Most Corrupt Ones



Source: Probidad Survey.

1.27 ***The presidential program to fight corruption is moving in the right direction—focusing on the local level.*** The program is currently concentrating on the implementation of the regional program—whereby the government promotes the voluntary signing of the so-called “transparency pacts” at a local level: between local authorities, departmental-level authorities, and citizens (as represented by nongovernmental or other organizations). These pacts allow the public/local communities to be better informed about the government's decisions and actions and to exercise social control. This participatory process is an important part in the process of the further reduction in corruption. Combating corruption is likely to be a major objective in Vision Colombia 2019, which aims to provide a countrywide consensus development strategy, not just a government vision, for future development goals.

1.28 ***Reducing corruption in Colombia would likely increase growth and investment with relatively small fiscal costs.*** Research shows that corruption has a significant negative impact on growth and investment. Mauro (1995) estimated that a relatively corrupt country is likely to achieve aggregate investment levels of almost 5 percent less than a relatively uncorrupt country and to lose about half a percentage point of real GDP growth per year. Mauro also found that corruption is likely to distort public expenditures; for example, corrupt countries appear to spend less on education. Also, a study by Wei (2000) shows that the marginal effect of greater corruption would decrease foreign direct investment by the same amount as that due to raising the corporate tax rate on the foreign corporation by 42 percentage points. Colombia's experience with its

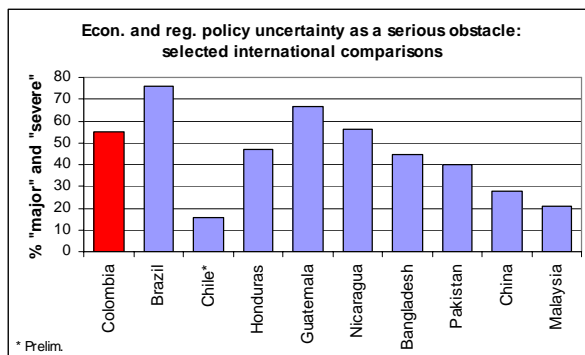
presidential program to fight corruption has shown that corruption can be reduced with relatively small fiscal costs.

I.2. Economic and Regulatory Uncertainty/Policy Instability

1.29 Figure 1.11 provides selected international comparisons for the percentage of respondents who rated Economic and Regulatory Policy Uncertainty in the WB–ANDI survey as either a “severe” or “very severe” obstacle to growth and competitiveness (the two worst out of the possible five choices).²¹ While better than Brazil, Colombia is at the level of the Central American countries, and is far behind Chile and China, two of the fast-growing economies. The WEF 2005 Survey lists a similar variable, “policy instability,” which is tied with tax rates for the most problematic factor for doing business in Colombia. Colombia only fares better than Nicaragua among the selected comparator countries, and although closer to China, it fares far behind Chile (Figure 1.12).

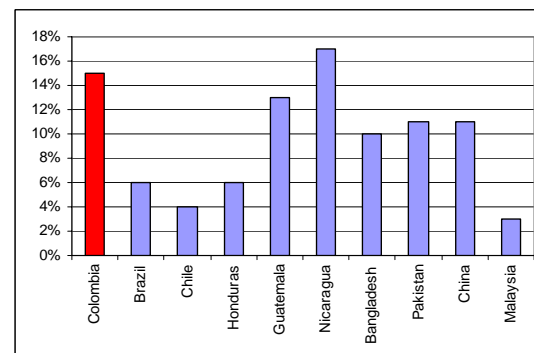
1.30 Economic and regulatory uncertainty/policy instability falls into the second group of variables, mentioned above, over which the government has control. The government’s control might not fall directly over the Executive, however, but rather might be shared with the parliament and the judicial system (especially the constitutional court which rules over some economic matters contained in the constitution).

Figure 1.11: Policy Uncertainty—Colombia Compared to Selected Countries



Source: World Bank–ANDI survey, 2004–2005.

Figure 1.12: Policy Instability



Source: WEF (2005).

1.31 *Frequent changes in the tax regime are a good example of policy uncertainty/instability.* To illustrate the high degree of the regulatory uncertainty/instability, one can look at taxation—also an important obstacle, as Table 1.1 shows. In the last three decades, there have been 14 changes to the tax regime in Colombia (World Bank 2004b). Although most of them have no doubt helped raise the ratio of taxes to gross domestic product (GDP) during this period from 11 percent in 1970 to about 21 percent in 2003, and were required for macroeconomic stabilization, they introduced uncertainty into the operation of firms and reduced their incentives for investment.

²¹ Source of the data for Colombia is the World Bank–ANDI survey (2004–05). The source of the data for the other countries is the World Bank Investment Climate Surveys (2002–2003).

1.32 *Indeed, data from other countries demonstrate that policy uncertainty/instability could have a quite significant impact on investment decisions*, both in physical and human capital. In the case of Peru, firms with high perceptions of uncertainty were found to be less likely to make long-term investments and to train their personnel (World Bank 2004c). Evidence from Peru therefore shows that high uncertainty reduces firms' incentives to make productivity-enhancing investments in physical and human capital, resulting in a negative effect on growth.²²

1.33 *To reduce uncertainty/instability in economic policy and regulations, a comprehensive legislative agenda with a longer-term vision is necessary*—as opposed to one driven by short-term shocks—as seems to have been the case in the past. An integral part of the comprehensive approach is wider consultation with major stakeholders, especially the private sector, and particularly micro-, small, and medium enterprises, which might not have a voice in these matters, despite being major providers of employment. Such a process would ensure that newly introduced legislation and norms are accepted by the society, and will not face significant pressure for change in the near future. A longer-term comprehensive approach to tax reform is one of the most important issues.

1.34 *The government is taking steps in the right direction.* Initiatives like the *Agenda Interna* and *Vision 2019* are aimed at wide consultations with the private sector and other stakeholders on a variety of issues that have implications for future economic legislation. Major regulators, such as the superintendencies, for example, the Superintendency of Industry and Commerce, are working with representative industry and commerce organizations (milk producers, among others) on developing and signing agreements on the application of the norms and regulations.

1.35 *The creation of a longer-term framework is impeded by the political cycles.* In the medium term, much depends on the outcome of the 2006 presidential elections. The Supreme Court is currently considering a Constitutional Amendment that, if approved, will allow President Uribe to run for reelection for a second term. Resolution of who will run in the 2006 elections will reduce political and policy uncertainty in the short-run; however, in the medium to longer run, it would be beneficial to develop a long-run development strategy—with wide participation from various interest groups—to reduce uncertainty and create a more sustainable development agenda, as it is being planned by *Vision 2019*

1.36 *Reducing policy instability in Colombia could potentially increase growth and investment at relatively small fiscal costs.* As mentioned, policy instability can have a

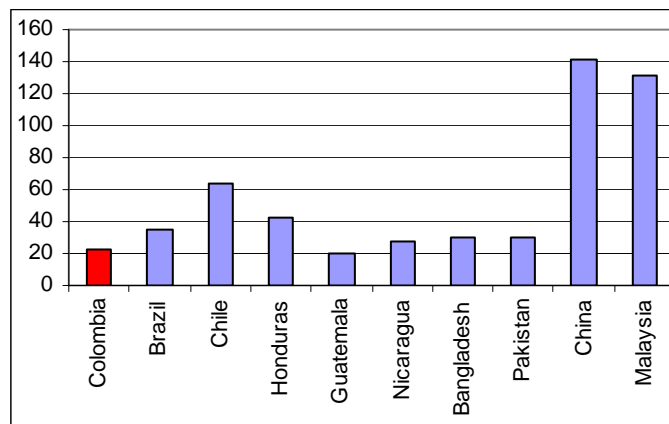
²² When controlling for size, sector, and geographic area, for every point increase in uncertainty (on a five-point scale), enterprises reduce the percentage of their equipment under five years old by about 5.2 percentage points. Since only 32 percent of equipment was under five years old for the average enterprise in Peru, the reduction is equal to 16 percent of investment in new machinery. Likewise, for every point that uncertainty increases on a five-point scale, the average firm reduces external training by 1.35 days per worker per year. While this might not seem very large, it is important to note that most enterprises provide only very modest amounts of external training—firms in the top quarter for external training (75th percentile) provided only 0.45 days of external training per worker.

significant impact on investment decisions. Kaufmann (2004) finds that the gains to increasing competitiveness from reducing policy instability are the third highest among various problem areas (Figure 1.6). Estimates suggest that a country that reduces its policy instability index by one standard deviation can expect on average to move up about 20 rank positions in its global competitiveness standing (among 105 countries). Moreover, there are actually fiscal gains to reducing policy instability (less bureaucratic costs associated with constantly changing policies), and the initiatives like the *Agenda Interna* and Vision 2019 aimed at generating a long-term strategy for development have relatively small fiscal costs.

I. 3. Access to Financing

1.37 Access to financing falls into the category of the first group of variables, mentioned above, which the government tries to achieve, as endogenous outcomes that it cannot control directly but hopes to influence with the policies over which it does have control. The international comparisons in Figure 1.13 show that domestic credit to the private sector in Colombia (as a percentage of GDP) is very low, only slightly higher than Guatemala but nearly one-third that of Chile and one-sixth that of China. The lack of access to financing, especially longer term, forces firms to obtain financing through the use of supplier credit and short-term financing, which limits their growth and expansion.

**Figure 1.13: Domestic Credit to the Private Sector, 2004
(% of GDP)**



Source: World Development Indicators (World Bank 2005).

1.38 ***Colombia's banking sector has recovered from the crisis of 1998–99.*** During the first half of the 1990s, the Colombian banking system experienced rapid expansion. Adverse macroeconomic factors and poor credit management, however, exacerbated by weak bank regulation and supervision, brought it to a near crisis in 1998–99. The quality of the loan portfolio significantly deteriorated and the banking system was faced with liquidity problems. This forced a number of economic emergency and support measures from 1999 to 2001 that helped restore the health of the system and provided relief to debtors. These measures were consolidated during 2002–04 and helped to ensure the maintenance of a sound banking system and strengthened other financial service industries to allow them to provide alternative channels for the funding of investment.

The Colombian financial system is now better provisioned, better capitalized, more profitable, and more liquid than during the crisis.

1.39 *But the recovery has not helped to increase loans to the private sector, nor to develop and deepen capital markets.* Between 1998 and 2002, loan portfolios declined in real terms and banks increasingly invested in government securities. Starting in 2003, lending portfolios have been growing in real terms in all segments except housing finance. Also, private capital markets have developed somewhat, but continue to be characterized by low liquidity and insufficient depth, while the government debt market has developed substantially. Colombia has one of the longest government bond yield curves in Latin America, second only to Chile. The government is, by far, the biggest domestic bond issuer, representing about 80 percent of the total volume negotiated in the markets.

1.40 *Recent and planned measures for financial markets could help in making more credit available to the private sector.* The government is undertaking and planning to undertake a series of measures to strengthen and deepen the banking sector and capital markets so that more financing is available to the private sector. These measures, supported through a proposed World Bank Development Policy Loan, are expected to have a significant impact on increasing financing to the private sector and are aimed at:

- Reducing transaction costs associated with basic financial products, especially for microenterprises (development of basic savings accounts with low transaction costs);
- Seeking to promote an active microfinance sector in the country (through better prudential regulation of the National Guarantee Fund (*Fondo Nacional de Garantías*, FNG));
- Developing capital markets (a new Securities Law was enacted in August 2005);
- Attracting more issuers into the market (by reducing some of the costs associated with issuances);
- Developing an efficient secondary market in government debt (to enable better risk management by private sector bond holders);
- Strengthening the local money markets (in order to develop an efficient yield curve on which to issue private sector issues, and strengthening the legal framework for short-term, securities-based lending);
- Correcting the weaknesses of the legal framework for the payment system and increasing the efficiency of the payment system (through the new Securities Law and efforts by the Central Bank and Banking Superintendency);
- Improving the framework for corporate insolvency to facilitate the restructuring and closure of firms with a new bankruptcy and restructuring law that will comply with international standards.

1.41 *Increasing access to financing in Colombia could potentially increase growth and investment with relatively small fiscal costs.* Numerous studies have shown that increased access to financing and capital market deepening support higher growth. Beck and others (1999), for example, find that banks exert a strong, causal impact on real per

capita GDP and productivity growth. They find that better-functioning banks improve resource allocation and accelerate total factor productivity growth, with positive repercussions for long-term economic growth. Kaufmann (2004) finds that the gain to competitiveness from improving access to financing is the second highest among various potential policy reform areas (Figure 1.6). A country that increases its access financing index by one standard deviation can expect on average to move up about 22 rank positions in its global competitiveness standing. The fiscal costs to improving the functioning of the financial sector are relatively minimal because reforms primarily involve enhancing and streamlining existing laws and regulations.

I. 4. Inadequate Infrastructure²³

1.42 Infrastructure is one of the factors over which the government has more direct control. In the WEF survey, firms ranked the quality of Colombia's infrastructure at 2.9 on a scale of 1 to 7, (1 = poorly developed and inefficient, 7 = among the best in the world), below the average (4.0). Although better than some Central American countries and Bangladesh, it fares significantly worse than Chile and Malaysia (Figure 1.14.).

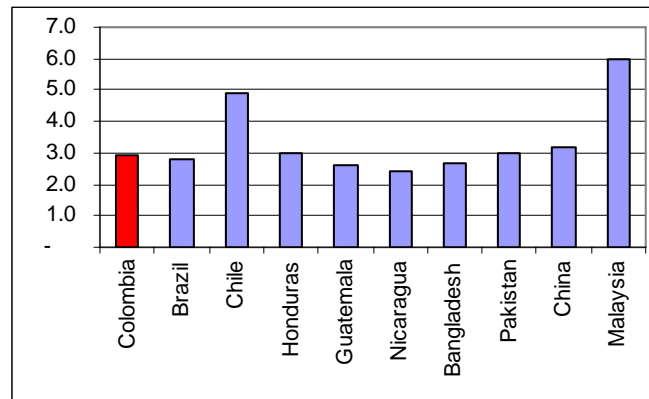
1.43 As stated in the World Bank's REDI report on infrastructure in Colombia, by regional standards, Colombia has relatively high coverage and relatively equitable access across income brackets to basic household services such as water and sanitation, electricity, roads, and teledensity. However, Colombia's endowments in some specific areas of business infrastructure are small compared with its Latin American peers, in particular paved roads, Internet access, and electricity-generation capacity.²⁴ Colombia's endowments of productive infrastructure appear to be relatively small compared with peers in Latin America and East Asia, and relative to what might be expected on the basis of the country's economic, social, and geographic conditions relative to those of its peers.

1.44 Moreover, Colombia's position in relation to its peers regarding productive infrastructure has been deteriorating steadily since the 1960s. The largest shortfalls are in paved roads, Internet access, and electricity-generation capacity. Density of fixed telephone lines is higher than expected, while mobile density, (which was lagging behind the peer group), has been catching up during the last two years. Prices of Colombian infrastructure services are generally competitive, with the exception of long-distance and international telephony. However, performance of telecommunications and electricity distribution utilities lags behind those of regional comparators.

²³ This section summarizes the findings and recommendations on productive infrastructure of the World Bank's REDI report for Colombia.

²⁴ We should note here that comparisons of productive infrastructure are difficult given that they reflect factors that are difficult to control for in a cross-country regression (energy use is strongly driven by the underlying structure of the economy, and paved road density is driven by the internal spatial distribution of economic activity). Therefore, the comparisons here are subject to these important caveats,

Figure 1.14: Quality of Colombia's Infrastructure



Source: WEF (2005).

1.45 To improve its productive infrastructure, Colombia needs to work consistently across three broad areas: the refocusing of public investment; the reactivation of private finance; and the revision of a number of regulatory aspects with direct impact on competitiveness.

1.46 ***Refocus public investment so that it concentrates on those areas that the private sector cannot finance.*** This also makes effective use of existing public resources. On one hand, this means reducing the role of the State in the telecommunications and electricity sectors, which have made been making excessive fiscal demands, and where there is significant scope for increased private participation. On the other hand, it implies improving the efficiency and efficacy of the existing resource envelope in more traditional public finance areas such as transport and water. This could be achieved, for example, by providing more stable financing and agile contractual mechanisms for road maintenance to ensure that the roads agency is able to make use of its full budgetary allowance. Another key issue is to improve the framework of fiscal transfers to subnational governments, to improve accountability for transfers earmarked to the water sector, and to strengthen incentives and obligations to allocate adequate subnational resources to maintenance of secondary and tertiary roads. Finally, a review of the parameters in the national cross-subsidy framework could help reduce the recurring deficit associated with this policy.

1.47 The resources released by improving the efficiency of current resources should be focused on addressing strategic “public goods” infrastructure bottlenecks for the productive sector, and improving road maintenance. Key examples include road and sea access to major ports, development of logistics zones and airport freight facilities, and creation of multimodal facilities to permit integrated use of road, rail, river, and sea transport channels. Such investments need not necessarily be very large, but have important strategic value, and in some cases could potentially be co-financed with the

private sector. Further, additional resources need to be allocated to road maintenance to prevent the accumulation of major future liabilities for rehabilitation.

1.48 ***Reactivate private finance for infrastructure to take on investments in commercially viable sectors that are beyond the scope of the current restricted fiscal envelope.*** These include areas such as electricity generation, telecommunications, and port facilities. However, in order to revive private capital flows, particular attention will need to be paid to addressing deficiencies in the sectoral regulatory frameworks. There are three particularly critical areas: First, the need to improve the regulatory environment for electricity generation, without which private investment—on which the future expansion of thermal generating capacity is premised—is unlikely to be forthcoming; second, the need to address a number of more general deficiencies in the regulatory framework, including strengthening of the relevant agencies, an improved antitrust framework, clearer boundaries between policy and regulation, and a more effective appeals channel; and third, the need to modernize the legal framework for telecommunications to provide a more level playing field among technologically converging services, such as fixed line, mobile telephony, and Internet.

1.49 Any reactivation of private investment needs to pay attention to financing mechanisms. Moreover, given Colombia's loss of investment grade, some carefully designed limited credit enhancements may also be needed to attract international investors. These should not repeat the major contingent liabilities incurred in first-generation public-private partnerships, but should rather focus on isolating and attenuating key dimensions of risk. In addition, Colombia's burgeoning pension fund deposits provide an unprecedented opportunity to harness long-term domestic savings to finance infrastructure projects. However, doing so will require significant modifications to the regulatory framework for pensions, and suitable structuring of infrastructure investment opportunities to provide the necessary low-risk ratings required by these types of investors.

1.50 ***Address a number of specific regulatory issues that have a direct impact on the competitiveness of the infrastructure sectors.*** Most salient among these is the development of a policy to modernize the trucking industry that carries 80 percent of Colombia's internal freight, and presents significant problems in terms of the efficiency and quality of services provided. However, there are also important considerations relating to the regulatory framework for self-generation by large consumers that currently limit the scope for taking full advantage of co-generation possibilities.

- ***Improve targeting of the extensive policies to promote affordability of public services.*** Although Colombia has a relatively strong performance on infrastructure social policy, its policies to promote affordability of public services are found to be very poorly targeted with respect to low-income households. Thus, as much as 60 percent of utility cross-subsidies and 80 percent of urban transport subsidies are being captured by upper-income groups. This imposes a higher cost to business that is not helping improve equity. In the case of utility cross-subsidies, targeting improvement is not straightforward, and is likely to require a major review of the stratification system. In the case of urban public

transport subsidies, a significant rethink will be needed to identify better ways of channeling these resources toward lower-income households.

- ***Improve rural electrification and roads.*** Although financing of social programs is generally good, two areas of vulnerability are identified. The first is the volume of financing for rural electrification, which appears to be small relative to the size of the unserved population. Simulations suggest that historic rates of expansion of rural electricity are not high enough to meet universal access objectives within a reasonable time frame. The second is the issue of rural roads, where substantial progress has been made under the “Roads for Peace” initiative that is now drawing to a close, and there is need to find ways of sustaining maintenance efforts in the future. Both actions should be based not only on equity considerations but also on economic justification since they could help increase the productivity and competitiveness of agricultural activities.

1.51 ***Addressing the constraints of inadequate infrastructure in Colombia could increase growth and investment, with some fiscal costs.*** Kaufmann (2004) finds that, gains to competitiveness from providing adequate infrastructure are quite high (Figure 1.6) and that a country that increases investment by one standard deviation above its current ranking can expect, on average, to increase its ranking about 17 rank positions in its global competitiveness standing (among 105 countries). Regarding costs of addressing the constraints of inadequate infrastructure in Colombia, while the short-term costs are nontrivial, the longer-term benefits in terms of higher growth and fiscal revenue are very important. The 2004 Colombia REDI report finds that:

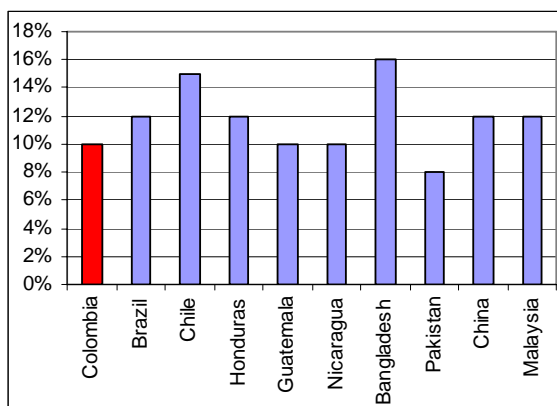
- The majority of the recommended increases in investment are fiscally neutral, given that they focus on changes in the legal, regulatory, and policymaking framework. These recommendations include: reducing regulatory risk for private participation in infrastructure, reforming the regulatory framework of pension funds, and developing a more rational regulatory framework for the trucking industry.
- Reforms that would have a positive fiscal impact include: greater private sector participation in the electricity and telecommunications sectors to help avoid the historical bailout costs of these sectors, and moving some of the substantial investment programs outside of the public sector accounts, which would generate an estimated savings of several hundred million U.S. dollars per year.
- Those reforms with an expected short-term fiscal cost include: increasing financing of the roads sector toward the level needed to ensure sustainable maintenance of the road network. This would cost an estimated US\$500 million per year in additional fiscal resources in the near term. Nevertheless, effective expenditures on the national road network could potentially be increased by US\$250 million per year simply by improving the ability of the road agency to execute its allocated expenditures within the annual budget cycle. Part of this increase could also come from reallocations of existing subnational resources toward road maintenance within the current budgetary envelope, either through creating requirements or incentives for subnational governments to allocate more of their resources to road maintenance.

- Due to the difficulty of liberating resources for infrastructure from elsewhere in the public budget, measures that free up fiscal resources need to take preference over measures that require additional fiscal resources. That is to say that increasing private participation in telecommunications and electricity can effectively be seen as the way to finance better maintenance of the road network.
- Finally, many of the measures described above could potentially leverage substantial volumes of private finance. This is particularly true of the proposed improvements in the regulatory framework, all of which would help to restore the confidence of private investors. In addition, the proposed reforms to the regulatory framework for pension funds could tap a major new source of local private finance for infrastructure. To the extent that these measures could help restore the flow of over US\$2,000 million per year of private finance for infrastructure experienced during the second half of the 1990s, they carry a major upside potential.

I. 5. Inefficient Bureaucracy/Red Tape and Tax Regulations

1.52 Despite recent improvements in the area of rationalization of administrative procedures, businesses still feel the burden of red tape. Recent reforms account for the fact that Colombia's bureaucracy is considered relatively efficient compared to several countries (Figure 1.15). However, tax regulations are considered to be more problematic in Colombia than in all of the comparator countries except Brazil (Figure 1.16). There is substantial scope for improvement and, as this section describes, important efforts are being undertaken to further reduce bureaucracy/red-tape and tax regulations.

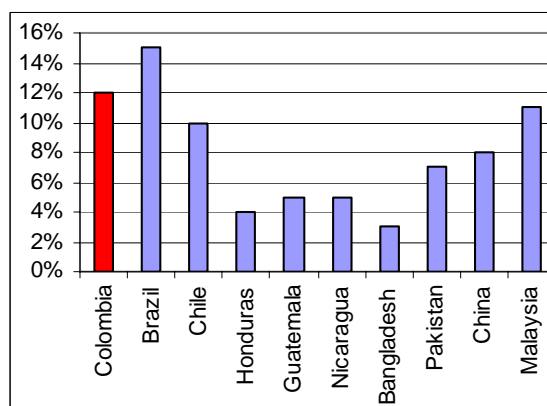
Figure 1.15: Inefficient Bureaucracy



Note: Results are based on the number of executives surveyed that considered inefficient bureaucracy to be one of the most problematic factors for doing business in their country.

Source: WEF (2005).

Figure 1.16: Tax Regulations



Note: Results are based on the number of executives surveyed that considered tax regulations to be one of the most problematic factors for doing business in their country.

Source: WEF (2005).

1.53 ***The administrative procedures in tax collection are a part of the complex and burdensome system of overall government procedures.*** Tax-related bottlenecks arise most notably in the areas of foreign trade and social security. Apart from taxes, other administrative procedures, especially those related to foreign trade, are also relatively

burdensome (Table 1.1), with the survey score for customs as high as 1.90 and the score for other procedures related to foreign trade of 1.85. If not for recent government efforts, other administrative procedures relevant for businesses, most notably registration and licensing, would have been rated much worse in the survey. Addressed in this section are not only the tax-related bottlenecks, but business-related administrative procedures in general.

1.54 *Excessive bureaucracy is one of the factors behind the informality.* For example, the experience of various countries, including Colombia, shows that just a simplification of the procedures for opening and registration of businesses results in a very significant increase in the number of enterprises registered after reforms take place (for example, through the introduction of one-stop shops for firm registration in Colombia).

1.55 *Licenses and permits constitute the majority of administrative procedures, followed by registration formalities and procedures related to social security* (Table 1.3). Foreign trade activities require a large number of licenses and permits. Tax procedures related to foreign trade include the clearance of VAT,²⁵ which so far has been a messy process. Formalities related to social security include a cumbersome process of administering the collection and payment of social security obligations.

Table 1.3: Number of Administrative Procedures for Businesses, by Category

	Mixed	Only Business	Relative Frequencies in Business (%)	Relative Frequency of Total Procedures (%)
Administrative Procedure for Businesses	464	594	100.00	22.20
Customs, taxes, and exemptions	30	15	2.53	0.56
Banking, credit, and promotion	41	36	6.00	1.35
Public procurement	9	16	2.69	0.60
Justice and security	11	2	0.34	0.07
Operation, licenses, and permits	188	164	27.61	6.13
Complaints and suggestions	31	1	0.17	0.04
Registration and new businesses	59	119	20.03	4.45
Social security	27	71	11.95	2.65
Public services	29	4	0.67	0.15
Oversight and control	39	67	11.28	2.50
Other		99	16.67	3.70
Total of Businesses Procedures	1,058			

1.56 *The government has a coherent program for red tape reduction.* It is a part of the Program for Renovation of the Public Administration (PRAP, *reformas transversales*). *Comisión Nacional de Política, Económica y Social* (National

²⁵ VAT clearance is a standard procedure whereby VAT paid for imported inputs used to produce something that is later exported is reimbursed once the product is exported.

Commission for Economic and Social Policy, CONPES) resolution 3292 of 2004 clarified the institutional framework and the strategy for the rationalization of administrative procedures.²⁶ Specifically, CONPES 3292 put more emphasis on the coordinating role of the *Departamento Administrativo de la Función Pública* (DAFP) and stressed the importance of inter-institutional coordination (World Bank 2004a).

1.57 *Red tape reduction reforms started with improvements in the area of enterprise opening and registration.* The Inter-American Development Bank (IDB)-financed *Fondo Multilateral de Inversiones* (Multilateral Investment Fund, FOMIN) program (2000–04) has resulted in an enormous reduction in and of the bureaucratic procedures related to business registration in six major cities, where businesses now can be opened much faster at one of the *Centros de Atención Empresarial* (CAEs). The average number of procedures to open a new business in Bogotá fell from 19 in 2003 to 14 in 2004 and to 12 in 2005, with the average number of days spent on these formalities reduced from 60 to 43 (World Bank 2005d).

1.58 Currently, this experience is being replicated in 45 other locations by the Confecámaras within a three-year program. The objective is not only to simplify the opening of a business, but also to rationalize other bureaucratic procedures (for example, inspections) and to make the closing of a firm an easier and faster process. The currently available financing (a Dutch grant), however, covers only 15 cities. It is important that the authorities ensure that adequate financing is provided.

1.59 *A program to reduce bureaucratic procedures related to foreign trade, the Sistema Integral de Información de Comercio Exterior, is under way.*²⁷ Under this program, started in June 2005 the number of forms to be filled out by an exporter will be reduced from around 35 to 1, the processing time in customs will be reduced from 12 hours to 5 hours, and the average time for export-related bureaucratic procedures will be reduced from some 20 days to 2 days. The one-stop shop for exporters, the *Ventanilla Única*, is technically ready (90 percent). The initiative is guided by a ministerial decree issued at the end of 2004.

1.60 *Substantial efforts are also being undertaken to streamline bureaucratic procedures in the Ministry of Social protection,* which is preparing to launch an integrated system in 2005. The system will use the so-called *formulario único* that is currently being designed and that will allow significant rationalization and acceleration of administrative procedures in the Ministry. This initiative is also based on a ministerial decree issued at the end of 2004.

²⁶ Other relevant documents include COPNPES 3072 of 2000, la Directiva Presidencial 02 of 2000, and CONPES 3248 of 2003.

²⁷ This program originates from efforts within the *Red Colombia Compite*, one of the government's programs under the Policy for Competitiveness and Productivity that aims at improving the business climate and productivity through cross-regional and cross-sectoral dialogues and sponsorship of the development of producer chains.

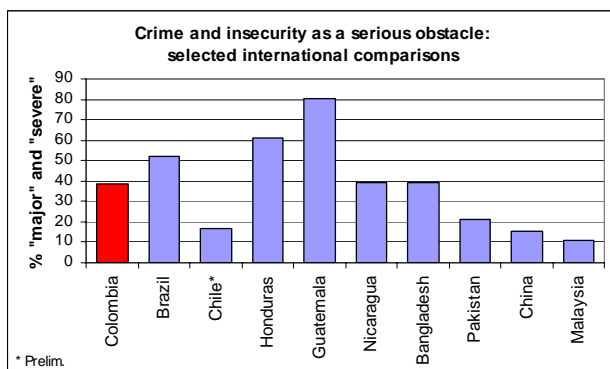
1.61 *Efforts are also being made in the area of enterprise restructuring and liquidation*, which have been quite lengthy. The average time for bankruptcy procedures in Colombia is three years compared to 1.5 years in OECD countries (World Bank 2004a). The *Superintendencia de Sociedades* is working on a draft of the *Ley de Insolvencia* that, among other things, will reduce the time required for restructuring and liquidation procedures. Due to the recent extension of Law 550, which covers bankruptcy processes, consideration of the legislation in the Congress is likely to be delayed.

1.62 Reducing red-tape and bureaucracy and improving efficiency of tax collection in Colombia could increase growth and investment and reduce informality at relatively small fiscal costs. Although the gains in competitiveness from reducing bureaucracy are smaller than the ones from other factors (Figure 1.6), Kaufman (2004) estimates that a country that reduces its bureaucracy index by one standard deviation can expect on average, to move up about 8 rank positions in its global competitiveness standing (among 105). Regarding costs of reducing bureaucracy, these are minimal since they mostly imply simplifying laws, regulations, and administrative procedures. Although the costs are small, in the near future, it is important to ensure that the program has adequate financing and the important tasks are completed in a timely fashion. For example, the systems for reducing administrative procedures in foreign trade and social security are supposed to be fully operational this year. Our interviews reveal that there are doubts in the private sector that the desired results can be achieved so fast: the automatic systems are new, fairly complicated, and require certain skills not only on the part of public servants, but also on the part of the corresponding personnel in the private sector. Hence, adequate training and a public information campaign must be an integral part of the agenda. Provision of additional technical expertise may also be needed in case technical difficulties arise.

I. 6. Crime, Theft, and Violence

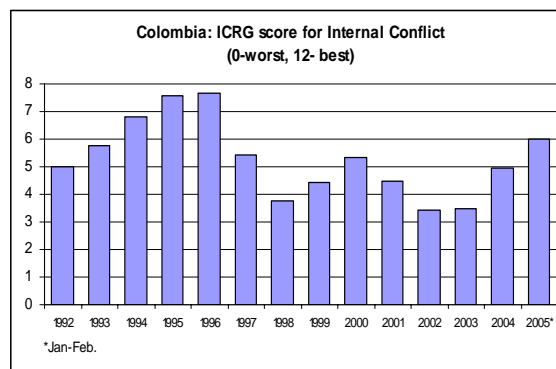
1.63 Crime, theft, and violence is one of those areas where the government has only indirect policy measures to influence outcomes. Crime and theft are mostly associated with the violence that has prevailed in Colombia in recent decades. International comparisons indicate that while a number of LAC countries suffer from insecurity even stronger than in Colombia, the security situation in such countries as Chile and China is substantially better (Figure 1.17). The situation has dramatically improved in 2004 and 2005 in Colombia (Figure 1.18), and Bogotá and major cities have become sufficiently safe places.

**Figure 1.17: Insecurity as a Significant Obstacle:
Selected International Comparisons**



Source: World Bank–ANDI survey, 2004–2005.

**Figure 1.18: The Unstable Security Situation in
Colombia**



Source: ICRG.

1.64 *Insecurity and theft, especially highway piracy, is a binding constraint on productivity.* According to the ANDI Survey of Industrial Opinion, the average cost of insecurity was estimated in 2002 at around 4 percent of sales, which is substantially higher than in most other developing countries. As shown in Annex 1, there is a significant negative correlation between total factor productivity (TFP) and losses due to security problems, which indicates that the security situation is a binding constraint on competitiveness. In 2004, of the 321 Colombian firms that responded to the survey question of whether security is a problem, 26 percent indicated that it is, of which 53 percent pointed to highway theft (*pirateria terrestre*) as the main obstacle.

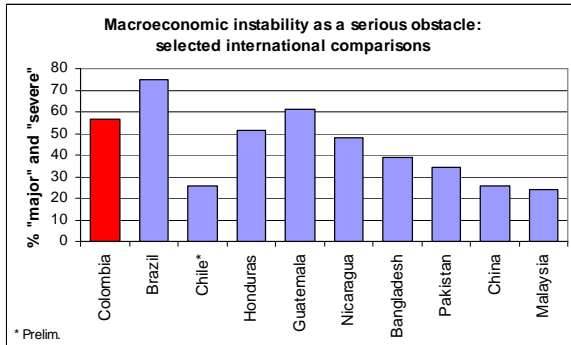
1.65 *While progress in improving the security situation has been substantial, much remains to be done.* President Uribe has demonstrated a strong commitment to and effectiveness in increasing security. In 2004 the number of kidnappings diminished by 35 percent—which still means that about 1,400 people a year were being kidnapped. The number of terrorist attacks went down 41 percent—yet victory can be declared only when such attacks stop completely. President Uribe started negotiations with the paramilitary in July 2003 that led to the demobilization of more than 4,500 troops from eight units. But further demobilization will depend on the amnesty legislation currently being debated in Congress.

1.66 Further reducing crime, theft, and violence in Colombia could increase growth and investment faster. The costs associated are significant but worthwhile. As mentioned, above, the costs associated with these constraints are significant, although the gains in competitiveness from reducing crime are smaller than the ones from other factors (Figure 1.6). Kaufmann (2004) estimates that a country that reduces its crime index by one standard deviation can expect, on average, to move up about 11 rank positions in its global competitiveness standing. Regarding costs of reducing crime, theft, and violence, these may be substantial but are outweighed by their social benefits and in terms of economic activity and productivity.

I. 7. Macroeconomic Instability

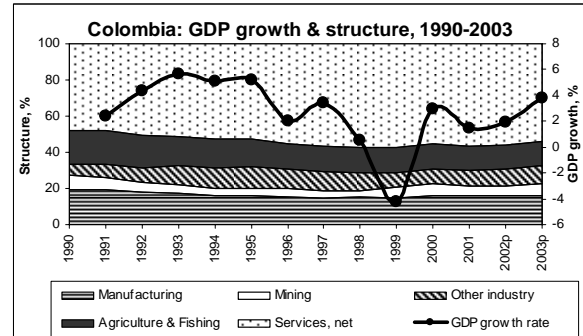
1.67 Macroeconomic instability (inflation, exchange rates) is ranked as a high priority to reduce in many surveys (Figure 1.19). The government can only influence it indirectly. From the international comparison, Colombia, although better than Brazil, is at the level of Central American countries, and is far behind the fast-growing economies of Chile and China.

Figure 1.19: Macroeconomic Instability; Colombia Compared to Selected Countries



Source: World Bank–ANDI survey, 2004–2005.

Figure 1.20: The Uneven Growth in the 1990s



Source: DANE.

1.68 **Over the last decade growth has been highly uneven.** Labor market, financial sector, and trade liberalization reforms of 1990–91 stimulated growth in subsequent years that peaked at 5.7 percent in 1993 and stayed above the 5 percent mark during 1993–1995. However, the mounting problems in the financial sector, especially in the mortgage segment, political turmoil, and the Asian crisis soon reversed the trend, with GDP losing more than 4 percent in 1999 (Figure 1.20). The crisis has been followed by a relatively quick recovery in the new millennium. The macroeconomic behavior of the economy has been substantially different across the political regimes.²⁸

1.69 **Trade reform and export-led expansion under the Gaviria administration.** The trade reform of 1990–91 was followed by a steady export expansion that, unlike overall growth, remained uninterrupted during the crisis. The first half of the 1990s saw a steady growth in export volume, despite the real appreciation of the peso (Figure 1.21). The expansionary monetary policy of the Gaviria government temporarily led to a decline in real interest rates during 1992–93 (Figure 1.22) that, coupled with strong foreign capital inflows reinforced by a stable and even appreciating exchange rate, boosted investment activity and accelerated growth. The excess of liquidity coupled with the lack of due diligence by banks played an important role in contributing to the crisis that followed in 1998–99.

1.70 **Economic decline under the Samper administration.** During this administration (1995–98), overall growth, and especially that in the manufacturing sector, declined. The

²⁸ Not all the differences were necessarily caused by the political changes. Some of the problems that surfaced under one administration had their origin in previous administrations (for example, some of the problems in the banking sector).

factors behind the decline included high real interest rates, including from the unexpected formula-based adjustments to the mortgage interest rates, the Asian and related crises (1997–98), the political turmoil in the country, and an increase in corruption (1998–99). The slowdown in capital inflows, coupled with the effects of persistently high inflation in the first half of the 1990s, led to a depreciation of the nominal and the real exchange rates after 1997, and put pressure on domestic demand and slowed and eventually reversed growth.

Figure 1.21: Dynamics of Major Prices

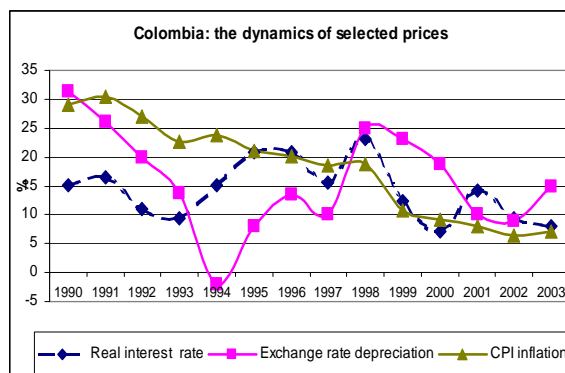
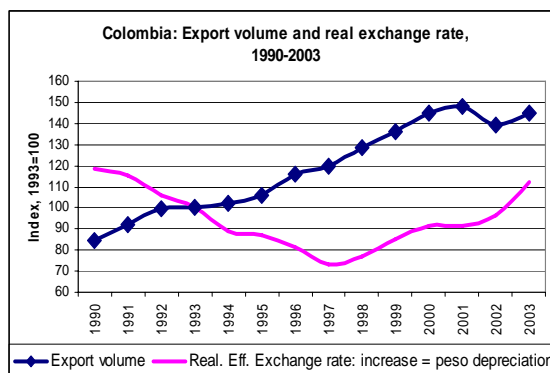


Figure 1.22: Continuous Export Growth



Source: World Bank (WDI/GDF 2004).

1.71 The economic recovery and the initiation of business environment reforms under the Pastrana government. Having started in a crisis mode, the Pastrana government (1998–2002) worked successfully toward a quick recovery in 2000 that stabilized the exchange rate, the inflation rate, and the real interest rates at reasonably low levels. Since 1999, inflation has stayed below 10 percent and the real interest rates have been hovering around 10 percent (Figure 1.21). Real GDP growth averaged some 2.1 percent during 2000–02 following a dip of more than 4 percent in 1999. The temporary decline in growth during 2001–02 and the fall in exports in 2002 were, in large part, associated with the slowdown in the global economy, and with the weakening of the security situation in the country (Figure 1.22). The Pastrana government initiated major reforms aimed at improving the business environment, including the program to fight corruption and policies to streamline bureaucratic procedures.

1.72 The Uribe administration continued and expanded the policies aimed at improving the business environment, as described in detail in Section II. Much effort has been devoted to strengthening the security situation and fighting corruption. A strong participatory approach has been exercised in the development and application of economic policies, including through the *Agenda Interna* program, and is envisioned for the Vision Colombia 2019, which would provide a longer-term strategy. Red tape reduction, implementation of technology policies, efforts to support microentrepreneurs (who provide 20 percent of GDP and account for 60 percent of total employment), and support for establishing the vertical integration of SMEs into the production process are the important parts of the current administration’s program.

1.73 ***Positive structural changes are evident*** and are discussed in detail in subsequent parts of this document: the Doing Business indicators have significantly improved, the security situation is much better than two to three years ago, and corruption is gradually declining. In response, private investment is growing: in particular, FDI grew by nearly 70 percent in 2004.²⁹ An additional positive structural change (more related to the effects of trade reform in the 1990s than to Uribe administration policies) can be seen in the substantially higher high-tech orientation of exports: currently, high- and medium-tech exports constitute some 40 percent of the total nontraditional exports, whereas this figure stood at only 20 percent during 1991–94.³⁰

1.74 ***The recent positive developments in the global economy have been a catalyst in the stabilization process.*** The positive external environment, with high oil prices, low international interest rates, and the economic recovery of the U.S. and Venezuelan economies, major trading partners of Colombia, along with the more attractive business environment have helped Colombia increase its growth in the last three years, with annual growth in 2003 and 2004 at about 4 percent. The National Association of Industrialists (ANDI), a well-known think tank in Colombia, is projecting 4.5 percent growth in 2005. Although the Uribe administration has been successful in continuing to reduce inflation while maintaining low interest rates, persistent peso appreciation remains a challenge.

1.75 ***Can stability and growth be sustained?*** Whoever is elected president in 2006, there seems to be a political consensus for continuing the main directions in which the efforts aimed at improvement of the business environment are currently being applied:

- A participatory approach to policymaking for longer-term stability through consensus among major stakeholders; for this, the Vision 2019 is a major step forward
- Easing the business environment through reductions in red tape, micro- and SME support, and implementation of technology policies
- Fighting corruption.

These, of course, have to be coupled with sound fiscal and financial sector policies, as described in Chapter 2.

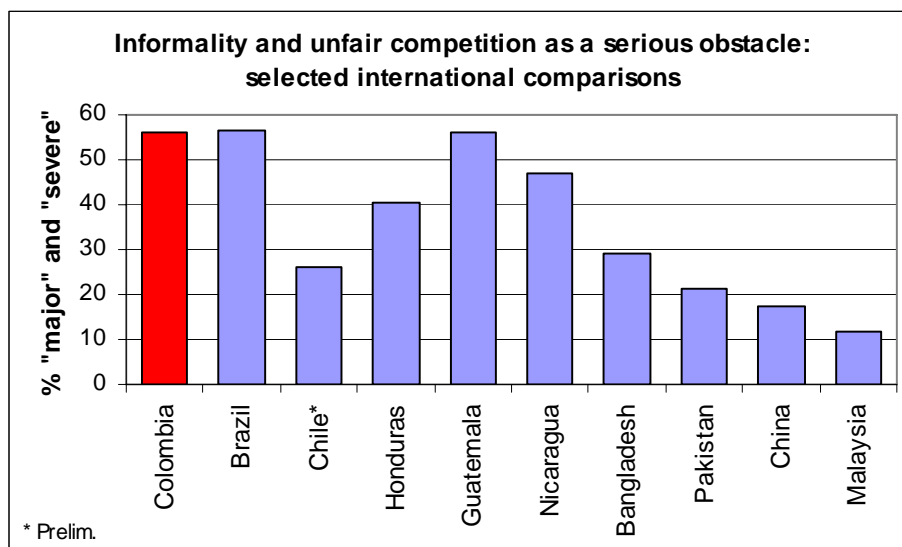
I. 8. Informality

1.76 Informality is not under the direct control of the government but can be influenced by government policies. Key areas in which the government can act to reduce informality are by reducing taxes and regulation that make formality costly. As Figure 1.23 indicates, practically in no country for which data are available are entrepreneurs concerned more about informality than in Colombia. About 60 percent of the respondents considered informality a serious obstacle. Colombia is at the same level as Brazil and Guatemala, and is far behind the fast-growing economies of Chile and China.

²⁹ Banco de la República, Economic Studies Division, Colombia

³⁰ United Nations Industrial Development Organization (UNIDO) definition. *Source:* ANDI.

Figure 1.23: Informality— Colombia Compared to Selected Countries



Source: World Bank–ANDI survey, 2004–2005

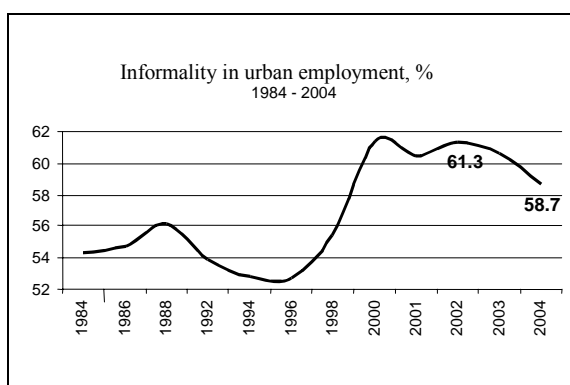
1.77 Informality in Colombia is as high as 40 percent for economic activity and around 60 percent for employment (Figure 1.24) (Confecámaras). Tax evasion is one of the driving forces behind informality: firms can save some 50 percent in labor costs by evading paying social security and other mandatory obligations (Table 1.4).³¹ Due to evasion of the value-added tax (VAT), its productivity (measured as the revenues from the VAT as a percentage of final consumption divided by the average VAT rate) is close to 30 percent in Colombia, compared to some 70 percent in Chile and Nicaragua (Figure 1.25).³² The division into formal and informal is not black and white—informality has different scales. In their decision about what part of their business firms to keep as formal, firms assess the costs and benefits of complying with rules and regulations, including the difficulties in coping with bureaucratic procedures.

1.78 Informality could have a significant impact on productivity and growth. Informal firms have limited access to credit from formal credit institutions and other sources of funding. They also lack the means to protect their property rights, business transactions, and contracts. Finally, informal firms have fewer incentives to invest in training personnel and innovation through new machinery and equipment, and they have shortened investment horizons (also see World Bank 2004c). All these factors substantially constrain the opportunities for technology adoption and growth.

³¹ The forthcoming World Bank Labor Market study for Colombia also finds that since 1990 there has been a significant and positive relationship between non-wage costs and unemployment. Therefore, the negative impact of the high non-wage costs on economic development is not only through increased informality, but also through higher unemployment.

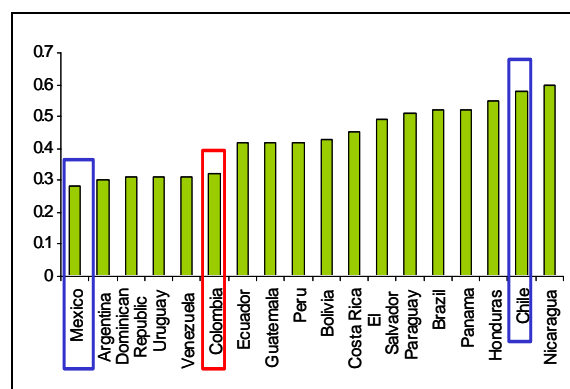
³² **Figure 11** shows a ratio of the actual VAT collection to the projected collection that would materialize if VAT were paid on all consumption.

Figure 1.24: The High Labor Informality



Source: DNP.

Figure 1.25: Value-added Tax Productivity



Source: Perry, Guillermo, Presentation, March 2005.

Table 1.4: The High Cost of Social and other Labor-related Obligations in Colombia

Principal labor-related obligations (% of salary)			
	Before Laws 50 & 100	After Laws 10 & 100	After Law 789
Severance payments			
- current	9.3	9.3	9.3
- retroactive	4.2
Complementary benefits:			
- Vacations (15 working days per year)	5.8	5.8	5.8
- Legal premium on services (1/2 mo per sen	8.3	8.3	8.3
Social security contributions:			
- Pensions	6.5	13.5	15.5
- workers	2.2	3.4	3.9
- employers	4.3	10.1	11.6
- Health insurance	7	12	12
- workers	2.3	4	4
- employers	4.7	8	8
- Professional risk insurance (employers)	2	2.4	2.4
Other:			
- SENA (labor training)	2	2	2
- ICBF (social programs)	3	3	3
- Family compensation benefits	4	4	4
Total paid by employer	47.6	52.9	54.9

Source: DNP

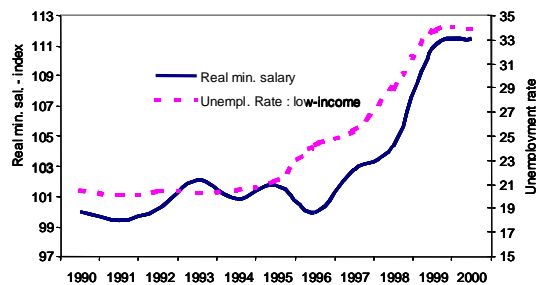
1.79 The inflexibilities in the labor market and especially the high cost of labor are a strong factor behind the high informality and unemployment.³³ The rapidly climbing minimum wage in Colombia (Figure 1.26) is currently slightly above COP400,000 per

³³ On a scale of 0 to 100, the inflexibility of the labor market in Colombia is 51, according to the Doing Business report (2004). This compares unfavorably with peer countries such as Peru.

month, or around US\$180.³⁴ The forthcoming World Bank Labor Market study for Colombia (2005)³⁵ shows that if the minimum wage had been kept constant at 1995 levels, unemployment for men and women would have been 7 and 4 percentage points lower in 2002, respectively, halving its actual level for men. The high minimum wage has its largest negative impact among those groups that supposedly were to be protected: the young and the least skilled. Adding the mandatory obligations results in a minimum unit labor cost of around US\$260 per month. While some may argue that the high minimum wage pushes producers into the most productive and cost-efficient businesses, the major impact is to increase labor market informality and unemployment.

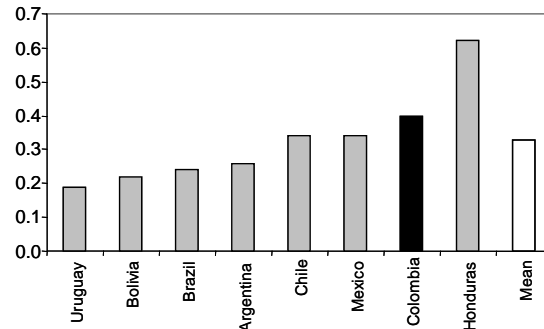
1.80 *The high minimum wage negatively affects labor demand.* The minimum wage rate is a parameter that should follow the existing demand–supply conditions in the labor market and should not be a significantly binding constraint that prevents the less-productive workers from becoming employed. As the simulations carried out in the forthcoming World Bank Labor Market study for Colombia indicate, had the minimum wage been kept constant at the 1995 level, the male unemployment rate in 2002 would have been below 10 percent—compared to the actual rate of some 16 percent.³⁶ Among countries in the LAC region, the minimum wage in Colombia is one of the highest (Figure 1.27).

Figure 1.26: The Rapid Increase in the Real Minimum Wage



Source: DNP.

Figure 1.27: International Comparisons of the Ratios of Minimum Wage to Average Wage



Source: World Bank.

1.81 *Government policies and measures aimed at reducing informality through labor market reform have been good, but more reform is needed.* In the labor market, Law 789 of 2002 and subsequent regulations introduced some flexibility, for example, allowing entrepreneurs to pay a lower than 100-percent markup for weekend work (75 percent). Yet, the impact on employment generation seems to have been modest.³⁷ Employers' social and other labor-related obligations actually increased (Table 1.4).

³⁴ The climb in the real minimum wage in the late 1990s was mainly due to the backward-looking inflation adjustment (introduced in 1998) under constantly falling inflation.

³⁵ "Labor Market Adjustment, Reform and Productivity in Colombia: What are the Factors that Matter?" (World Bank 2005).

³⁶ All income categories included.

³⁷ The World Bank Study on Labor Markets found significant impacts on formality, underemployment, and employment for the young.

Currently, a joint government–Congress committee is analyzing recent developments in the labor market with the idea of drafting additional legislation in the future, but in the run-up to the 2006 elections substantial labor market reform seems unlikely.

1.82 *Perceptions of unfair competition are closely linked to informality.* The cost savings achieved through informality sometimes allows undercutting of the prices of the producers or the service providers in the formal sector. The effect is especially strong in the retail sector, where illegal imports are a serious problem. The value of smuggled goods in 2000 has been estimated by various sources to be between US\$1 billion and US\$5 billion (6 to 30 percent of the formal merchandise imports). The joint efforts of the *Dirección de Impuestos y Aduanas Nacionales* (National Tax and Customs Administration, DIAN) and major importers have resulted in cutting the contraband by as much as 50 percent during 2000–02. Yet, of the 217 respondents to an ANDI survey who answered the question about the changes in the situation with anticompetitive practices and contraband during 2003, only 18 percent indicated positive changes, 56 percent saw no changes, and as many as 26 percent thought things were getting worse. In 2004, 45 percent of the 306 respondents indicated they were subjected to anticompetitive practices, 57 percent of whom cited contraband imports as its major component.

1.83 *It is important to concentrate on eliminating the roots of the contraband.* While strengthening the police skills of the DIAN and other responsible agencies might play some role, it is not a cure for the illness—just a pain reliever. It is more important to eliminate the major causes of the problem. Contraband is a well-known way of money laundering—which is a big issue in Colombia. It is, therefore, important to support global anti-money-laundering activities, including those within the Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) regulatory framework.

1.84 Government policies and measures aimed at reducing informality through labor market reform have been good, but more reform is needed. In the labor market, Law 789 of 2002 and subsequent regulations introduced some flexibility, for example, allowing entrepreneurs to pay a lower than 100 percent markup for weekend work (75 percent). The reform, however, did not change other aspects that affect labor market outcomes importantly such as non-wage costs or the minimum wage. So far, the impact on employment generation seems to have been modest and on informality unclear.³⁸ Employers' social and other labor-related obligations actually increased (Table 1.4).

1.85 *Make hiring and firing decisions more flexible.* According to the World Bank's Doing Business Report 2006, the average cost of firing an employee is equivalent to 44 weeks of salary, and although is down from 49 weeks last year, the cost is well above the 33 in OECD countries; the difficulty of hiring index, that measures easiness and limitations of using term contracts and how close the minimum wage is to the value added per worker, is 72 in Colombia compared to 30 in OECD countries. Making hiring

³⁸ The World Bank Study on Labor Markets found significant impacts on formality, underemployment, and employment for the young, but not for other worker groups. When using a broad version of formality such as the ILO's, most of the evidence points to a favorable impact that was concentrated in the least skilled. However, when the topic is analyzed using affiliation to health and pensions, the situation is not so clear cut, especially in what has to do with the latter, for which none of the exercises reported positive results.

and firing decisions more flexible should lead to higher employment and lower production costs. Currently, a joint government–Congress committee is analyzing recent developments in the labor market with the idea of drafting additional legislation in the future. While greater reforms may be unlikely until after the 2006 elections, the government could ensure that the message of the need for continued reform remains at the top of the agenda and political debate.

1.86 *Reducing informality in Colombia could result in higher growth and investments. The near-term costs are small and are likely to be outweighed by the medium-term increase in tax collection.* Informality affects access to financing; reduces the means to protect firms’ property rights, business transactions, and contracts; and provides fewer incentives to invest in training personnel and innovation through new machinery and equipment. All these have a significant impact on growth and investment. Regarding costs of reducing informality, these are small because required changes are mostly in regulations and enforcement. Moreover, in the medium term, any short-term costs are likely to be outweighed by increases in tax collection.

I. 9. Summary and Recommendations

1.87 Section I analyzed the major constraints on productivity and competitiveness that firms in Colombia are facing. They included corruption; economic and regulatory uncertainty/policy instability; tax rates; access to financing; inadequate infrastructure; inefficient bureaucracy/red tape; tax regulations; crime, theft, and violence; macroeconomic instability (inflation, exchange rates); and informality. A summary of this analysis and recommendations follow:

- The evidence on the progress in fighting corruption is mixed, with most international agencies pointing at significant improvements in the recent past. Corruption is concentrated at the local level (municipalities, other local public offices). It is important that the government continue with the recently initiated program of “transparency pacts” among local authorities, departmental-level authorities, and citizens in order to fight corruption through increased social control and participation.
- To reduce the uncertainty in economic policy and regulations, a comprehensive legislative agenda with a longer-term vision is necessary. It should be built on the experience of the participatory process that the government is increasingly exercising through the *Agenda Interna* and envisioned for the *Vision Colombia 2019 strategy for reform*, and through other means (such as agreements between regulators and firms).
- Colombia’s financial sector has recovered from the crisis of 1998–99, but the recovery has not helped to increase loans to the private sector, nor to develop and deepen capital markets. Recent and planned measures for financial markets, being supported through a proposed Bank Development Policy Loan, could help make more credit available to the private sector. These measures (including a reduction of transaction costs associated with basic financial products, promotion

of an active microfinance sector, and a new securities law enacted in August 2005 to develop capital markets) are expected to have a significant impact on increasing financing to the private sector.

- By regional standards, Colombia has relatively high coverage and relatively equitable access across income brackets to basic household services such as water and sanitation, electricity, roads, and teledensity. However, Colombia's endowments in some specific areas of business infrastructure are small (especially electricity generation capacity and paved roads). To improve Colombia's endowments in some specific areas of business infrastructure where it lags behind its peers and higher-growth countries, Colombia needs to work consistently across three broad areas: refocusing of public investment; reactivation of private finance; and revision of a number of regulatory aspects with direct impact on competitiveness. Specifics on these recommendations that we encourage the government to implement are contained in the REDI report and further analysis being undertaken in the Competitiveness and Logistics Analytical and Advisory Activity (AAA).
- The government has put much commendable effort into reducing red tape. In fact, this process was the major reason behind the substantially improved international competitiveness rankings of Colombia in 2003–05. It is important to ensure full implementation of the ambitious plans—the success of many of which is rooted in computer-based tools that will require technical skill upgrading among some employees. The authorities should secure the necessary financing to provide for this upgrading.
- Crime and theft are linked to the level of violence in the country. The security situation improved substantially in the last two years. Insecurity and theft, especially highway piracy, is a binding constraint on productivity, and there is a significant negative correlation between TFP and losses due to security problems. While progress in improving the security situation has been substantial, much remains to be done. President Uribe has demonstrated a strong commitment to and effectiveness in increasing security. Continued efforts by the authorities to increase security are encouraged.
- Macroeconomic instability in Colombia is very much driven by political cycles. To sustain the recently achieved macroeconomic stability, sound fiscal and monetary policies should be coupled with implementation of the structural reforms that are aimed at improving the business environment and attracting investment and that are *politically feasible in the long run* (that is, do not strongly depend on the political regime)—such as red tape reduction, anticorruption program implementation, increased transparency, financial market deepening, and so forth. A participatory process in the development and implementation of these reforms is, again, a necessary condition for long-term stability.

- To reduce informality, a major labor market reform is needed in order to make hiring and firing decisions more flexible, which should lead to higher employment in the formal sector. Currently, the labor market is rigid and the minimum wage is a significantly binding constraint. The government should help facilitate the debate on continued labor reform by ensuring that analysis (currently in progress) on the impact of the 2002 labor legislation results in wide debate and motivates consideration of future reform.
- Perceptions of unfair competition are primarily associated with illegal imports. Smuggling is a way of money laundering, which is a big problem in Colombia. While strengthening the policing skills of the DIAN may have a positive effect, it is not a cure for the problem. Implementation of global anti-money-laundering activities—including those within the Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) regulatory framework—would help in this regard.

II. THE COLOMBIAN MANUFACTURING SECTOR: RECENT TRENDS AND CHALLENGES IN PREPARING FOR THE FTA

1.88 The manufacturing sector is considered to be an important element in growth and foreign trade diversification. It is also the sector where most of the high-skilled labor is employed. The existence of a substantially “thick” layer of high-skilled workers in the country is an important element in ensuring the country’s ability to follow world technological progress and to absorb the knowledge base. Trade liberalization at the beginning of the 1990s in Colombia has led to a substantial increase in manufactured exports and significantly changed its structure toward a greater share of high- and medium-tech products—from some 20 percent during 1991–94 to around 40 percent by 2000.

1.89 With the upcoming FTA with the United States (Colombia’s major trade partner), the manufacturing sector will have new possibilities opened for trade expansion and technology adoption. The ability to exploit these opportunities depends on a number of factors, most notably productivity—on which this section concentrates.

II.1. A Historical Perspective

1.90 *The market reforms of the early 1990s had a positive impact on the competitiveness of the manufacturing sector in Colombia.* Eslava and others (2002) find that these reforms led to increased productivity in the 1990s, relative to that in the 1980s, with the increase “largely driven by reallocation away from low- and toward high-productivity businesses.”³⁹ While the output growth has been uneven (Figure 1.28), the positive productivity trend continued and has been robust (Figure 1.32). The slowdown

³⁹ Total factor productivity is meant.

or even a drop in total factor productivity around 1994 is likely to be attributed to the rapid inflow of new capital during 1993–95.⁴⁰

1.91 ***The 1998–99 crisis has resulted in a higher concentration of production.*** **Figure 1.29** indicates that the post-crisis growth in the manufacturing sector was associated with higher concentration of production. Consistent with this is the finding that the average price-cost markup increased—at least after the crisis (see Annex 1). Firms that lacked market power, mostly smaller ones, were hurt more during the crisis, while larger ones had a better chance of survival and growth.

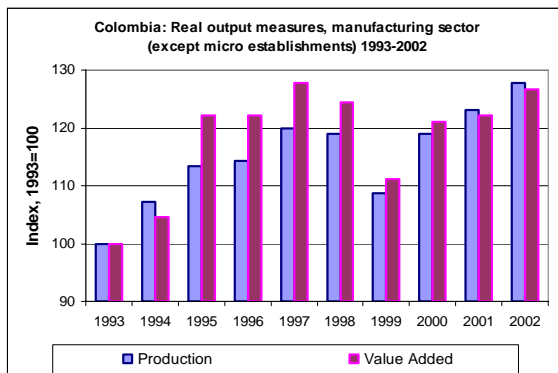
1.92 ***Following the crisis, demand and capacity utilization have gradually improved, increasing the demand for new investment.*** The crisis of 1999, which was preceded by a sharp increase in the instability of demand, was accompanied by a significant drop in capacity utilization (Figures 1.30 and 1.31).⁴¹ Since 2000, demand and capacity utilization have increased to practically the pre-crisis levels, implying a higher demand for investment. The levels of capacity utilization in Colombia, Brazil, and China during 2000–02 were practically identical, around 72 to 74 percent, and similar to those in other advanced developing economies.

1.93 ***The employment level remained low after the crisis due to increased efficiency, a growing minimum wage, and an unstable security situation.*** Output growth was due to higher capacity utilization and productivity. There are several factors that explain this: (a) higher productivity and cost efficiency of the firms that survived the crisis already implied lower labor requirements; (b) the rapidly growing minimum wage (as discussed in Section I) was a reason for the lack of employment expansion; and (c) the unexpected deterioration of the security situation during 2001–02 (see Section I) constrained growth and labor demand.

⁴⁰ See, for example, Ljungqvist and Sargent (1996, 1998, 2002). One hypothesis is that during periods of significant technological advances, demand for completely new sets of skills appears and old skills have a high chance of becoming obsolete. The authors use this hypothesis to explain the differential impact of technological advances on unemployment: in countries with high unemployment benefits and other labor rigidities, the rise in unemployment would be higher, because the incentives to adjust skills would be weaker. In the same spirit, the shift in the demand for skills must temporarily lower the productivity attributed to labor. Thus, if a large portion of total factor productivity is attributed to labor (for example, the technical change is labor augmenting, rather than Hicks-neutral), the estimated TFP may even go down temporarily—which we observe. The effect on productivity would be stronger in countries with more rigid labor markets, such as in Colombia.

⁴¹ Every month ANDI asks companies to rate the volume of their orders: 4 = high, 3 = normal, 2 = regular (moderate), 1 = low. The data in the graph are annual averages of monthly proportions of each of the responses (1 to 4) weighted by production and by the scale of 1 to 4.

Figure 1.28: Real Output by Small, Medium, and Large Manufacturing Establishments



Source: Author's calculations based on EAM, DANE.

Figure 1.29: Real Output by Small, Medium, and Large Manufacturing Establishments, Average per Establishment

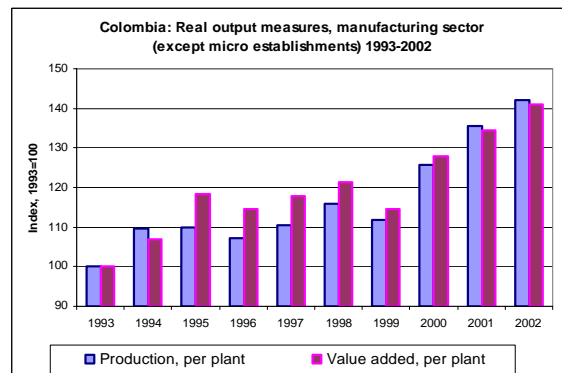


Figure 1.30: The Effect of the Crisis on Capacity Utilization

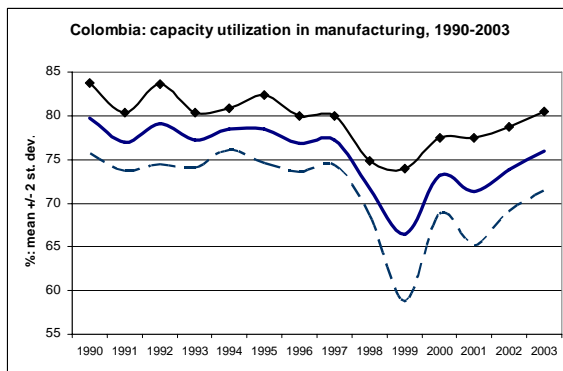
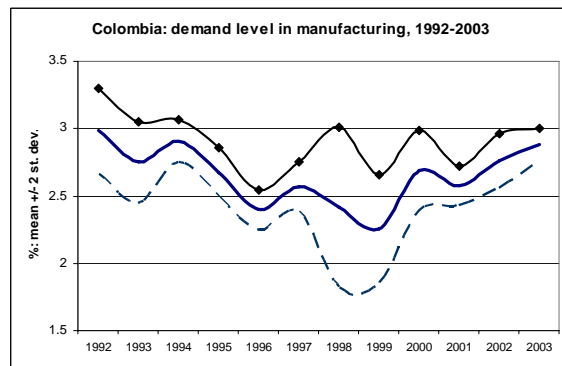


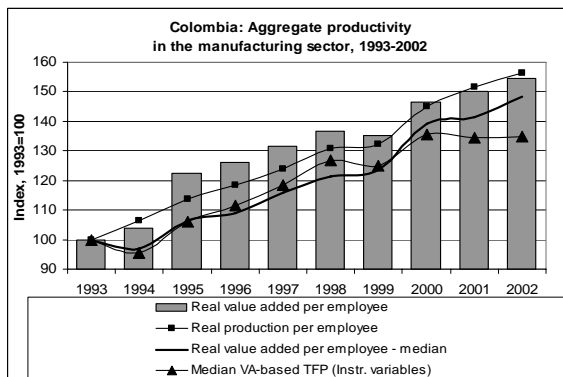
Figure 1.31: The Increased Demand Instability prior to and during the Crisis*



*Means are production-weighted, and standard deviations are those of monthly averages.

Source: Author's calculations based on data from ANDI.

Figure 1.32: The Robust Growth in Labor and Total Factory Productivity



Source: Author's calculations based on data from EAM, DANE.

Figure 1.33: The Decline in Total Employment in the Manufacturing Sector



1.94 *The journey toward higher productivity growth has been accompanied by greater orientation toward exporting, especially among smaller plants.* As Figure 1.34 indicates, some 30 percent of plants were exporting during 2000–02 compared to only 20 percent during 1992–94, while the proportion of importers of raw materials did not change much over the same period (Figure 1.35).⁴² As Figure 1.29 indicates, the proportion of exporters among small plants more than doubled over the decade. While the corresponding relative increases in the export orientation of larger plants have been smaller, the share of exporters among them remained much larger than among smaller establishments.

Figure 1.34: Export Orientation of Manufacturing Establishments

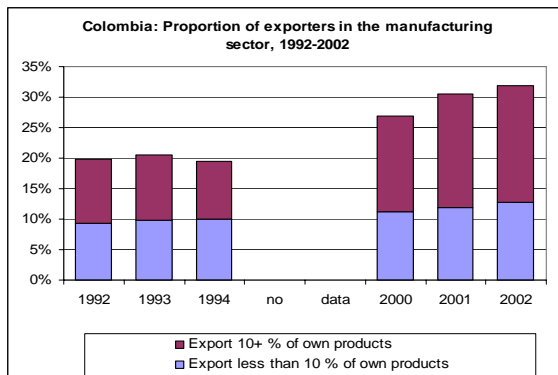
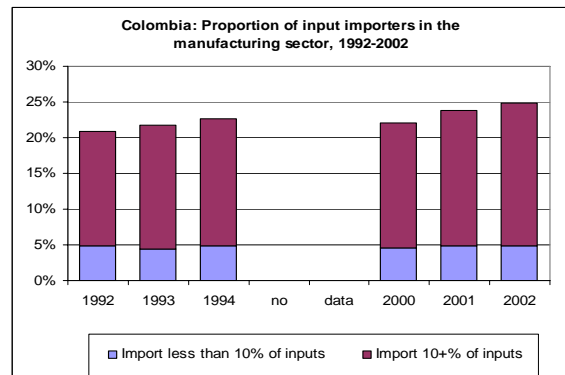


Figure 1.35: Import Orientation of Manufacturing Establishment

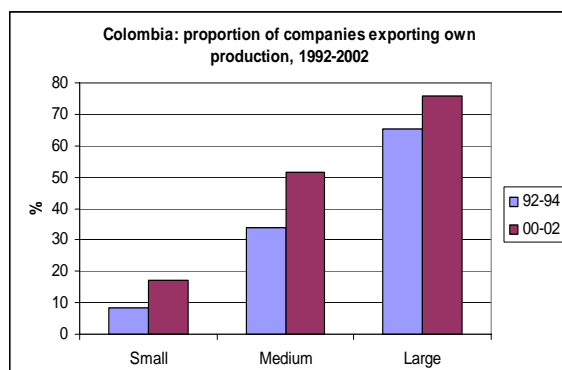


Source: Author's calculations based on data from EAM, DANE.

1.95 *There is much room for increasing export orientation further.* When we look at export and import intensities, on a production-weighted basis (Figures 1.37 and 1.38), some 20 percent of production was exported during 2000–02, primarily by large plants (Figure 1.36). On average, a manufacturing plant in Colombia exports about 8 percent of its sales, compared to 14 percent in Mexico (excluding maquiladoras), 18 percent in China, and 45 percent in India (Table 1.5).

⁴² Data on exports and imports, at a plant level, are available in the *Encuesta Anual Manufacturera* (EAM) only for selected years.

Figure 1.36: The Greater Export Orientation of Larger Plants



Source: Author's calculations based on data from EAM, DANE.

Figure 1.37: Export and Import Intensities of Manufacturing Establishments (weighted)

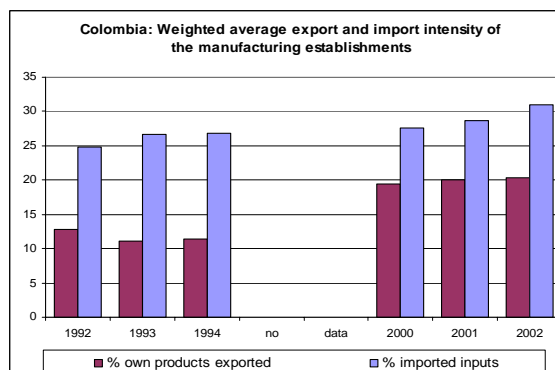


Table 1.5: The Export and Import Intensities in Manufacturing: Cross-country Evidence

Unweighted Average, %	Colombia'02	Brazil'02	Mexico'01	China'01	Malaysia '01	India'99
Export/ Sales	7.8	6.4	14.1	18.3	30.8	45.6
Imports/ Materials used	10.0	11.1	17.2	13.9	30.5	7.9

Sources: Data sources for Table 1.4:

Colombia: EAM, DANE.

Mexico: Annual Survey of Manufacturers, INEGI (does not include maquiladoras).

Other countries: Investment Climate Surveys, the World Bank.

Figure 1.38: Export and Import Intensities in Manufacturing (weighted)

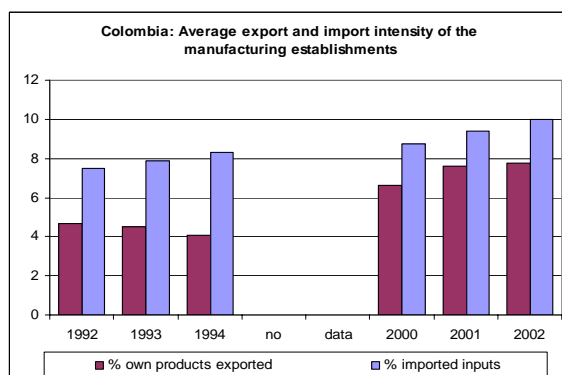
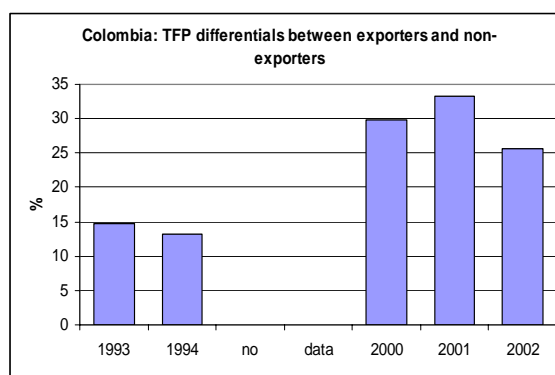


Figure 1.39: Productivity Gap between Exporters and Non-exporters Widened



Note: The productivity estimates used in Figure 1.32 are net of size and industry effects. Medians are used. Value-added-based production function is used. Instrumental variables regression is used. Other approaches produce qualitatively similar results.

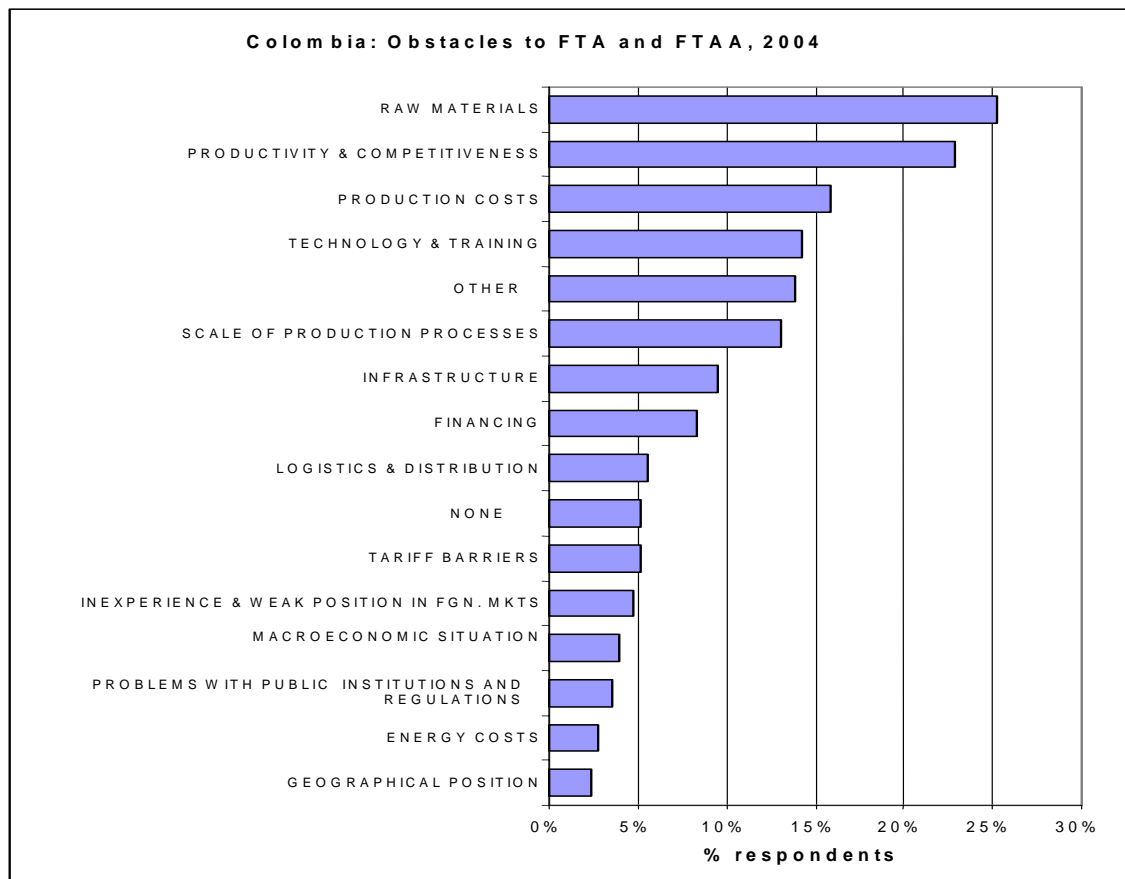
Source: Author's calculations based on data from EAM, DANE.

II. 2. Moving toward the FTA

1.96 Further productivity enhancement is needed in order to reap the potential benefits of the upcoming trade agreements. Many firms in Colombia view their lack of productivity and competitiveness as a major obstacle to realizing the potential gains from the expected trade agreements. Close to 25 percent of the 253 respondents to the ANDI's

2004 questionnaire on the impediments to the proposed FTA with the United States and Free Trade Agreement with the Americas (FTAA) cited lack of productivity and competitiveness as a major obstacle to gaining from the trade agreements. Around 15 percent of the respondents also cited high costs and lack of adequate technology and training, which are also productivity-related elements (Figure 1.40). Also, it is worth highlighting that the obstacles for businesses in the context of an FTA and an FTAA are viewed differently from the question of businesses environment in general: for example, policy and regulations and macroeconomic problems are near the bottom of the list even though they ranked highly on the list of constraints on competitiveness in general. This reflects primarily the nature of the survey. Here, firms were asked to identify their own constraints and entrepreneurs recognize improvements in productivity and competitiveness are priorities for their firms. In the surveys discussed in the prior section the focus was on the overall business environment.

Figure 1.40: Obstacles to FTA and FTAA

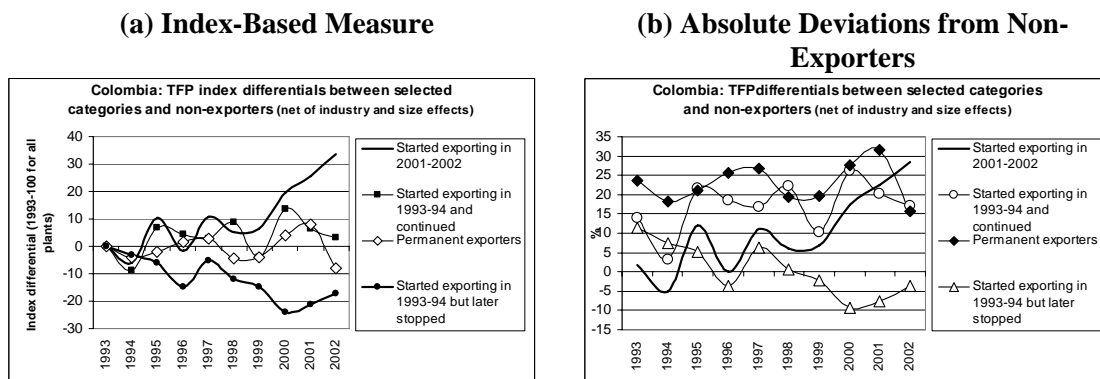


Source: ANDI (April 2004).

1.97 *The trade agreement should attract more non-exporters into foreign markets, rather than just stimulate the activities of the existing exporters.* More evenly distributed export activity would help to avoid the creation of “enclaves,” and create better competition throughout the economy instead of centered on a few exporters. This would help to make growth of the economy more equitable.

1.98 The opportunities for growth through exporting induce non-exporters to upgrade their technologies and increase their productivity to the world standards. The productivity differentials between exporters and non-exporters have always been sharp, and have recently widened (Figure 1.41). Statistical evidence from a number of countries suggests that the productivity of a non-exporter is normally upgraded prior to entering a foreign market (see, for example, Clerides, Lach, and Tybout 1996; and Roberts and Tybout 1997) in order to fully realize the potential comparative advantages. Figure 1.41 indicates that Colombia is not an exception: the entrants distinctly increase their productivity around the entry time (Figure 1.41a) to practically the level of the existing exporters (Figure 1.41b).⁴³

Figure 1.41: TFP Behavior of Entrants into Exporting Compared to other Categories



Source: World Bank calculations.

1.99 *Therefore, the wider the productivity gap between the exporters and the non-exporters in a given industry, the more potential gains there are for the non-exporters if they start exporting.* This calls for analyzing the TFP differentials between exporters and non-exporters in order to identify the sectors most likely to gain from more open trade: the ones that (a) can benefit from the agreements, but (b) in which non-exporters are far apart (productivity-wise) from the existing exporters. According to the Fedesarrollo, a major think tank in Bogotá, textiles, garments, leather, and selected foods will be among the potential sectors to see prices rise after the FTA, whereas, cereals, corn, maize, wheat, soybeans, and sugar may see prices fall. The FTA may have practically no effect on coffee, metals, and other industries with little current protection in Colombia or in major destination markets.

1.100 *Some of the expected “winning” sectors are likely to experience greater difficulties among individual firms in taking advantage of the FTA than the sectors for which the impact is expected to be small.* The manufacturers of the products that have high export potential for export to the United States, food producers (sector 31), for example, appear to have the largest productivity gap between exporters and non-exporters

⁴³ Plant-level export data are not available for 1995–99, which has an effect on the construction of the categories in Figure 1.34b.

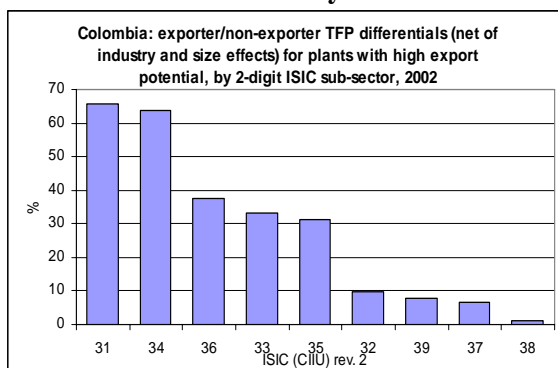
(see Figure 1.42a).⁴⁴ This implies that the food producers that are not currently exporters have, on average, a substantially longer way (in terms of productivity) to become exporters than, for example, the domestically oriented producers of metal products (sector 38). Not all firms in a “high-export potential” sector will—or necessarily should—become exporters, but the analysis does suggest that there may be some unexploited trading opportunities present. In addition, a comparison of the productivity of firms across all four export potential categories leads to the conclusion that, by and large, the manufacturers of the products in the “A+” category (a category ranked by the Colombian Proexport agency as having a high export potential) have a lower, and not a higher, productivity than the producers of the goods with smaller potential for exporting to the U.S. market (Figure 1.42b). This suggests two possible conclusions: either the classification of firms with “high” export potential is inherently a poor indicator and does not do a good job of identifying export potential, or it is a good classification, and there are many unexploited export opportunities. Either way, this information may assist the government in its push to improve the business environment and targeted competitiveness programs (for example, *cadenas productivas*, technology, and training).⁴⁵

⁴⁴ For the last several years, Proexport, the semi-public export promotion agency in Colombia, has been studying the markets for a variety of products and categorizing the products according to their “export potential” into four groups: “A+”—high export potential, “A”—moderate, “B”—low, and “C”—lowest/none. The factors considered include the growth of the demand for the product in question in the destination market, the de facto ability of countries in the same income category as Colombia to break into this market, and the existence of exporters of this product in Colombia. Yet, they did not include the productivity of the Colombian producers. The methodology is presented in Annex 2. For the United States, each four-digit International Standard Industrial Classification (ISIC) category has been assigned one of the four export attractiveness ratings according to the category to which the majority of the studied products in this category belonged. Note that any such aggregation (at a level higher than product) is only indicative because (a) not all the products have been studied, and (b) the same four-digit category includes products with different “export potentials.” Based on the 2002 measure of TFP, sector 31, for example, appears to have the deepest productivity gap between exporters and non-exporters. It is possible, however, that since then changes may have occurred. They are followed by pulp and paper products, sector 34.

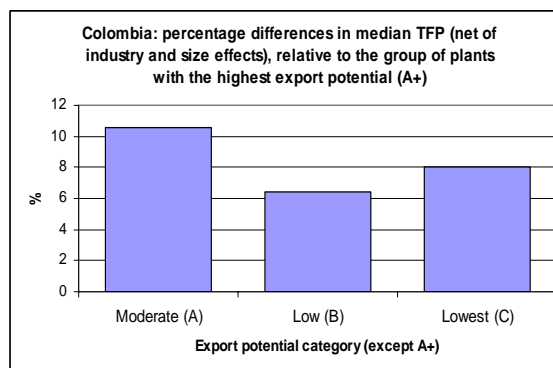
⁴⁵ The figures in Figure 1.35 should be taken as indicative. TFP estimated by different approaches gives different numerical results for the TFP differentials (here defined as differences between the medians). A fairly robust result across the different TFP estimation specifications tried in Annex 1 is that industries 31 and 34 rank the worst among the two-digit industries (considering the “high export potential” four-digit categories only)—with TFP differentials between exporters and non-exporters being in the range of 40 to 70 percent (results not reported). Within industry 31, the three-digit sectors 311, 312, and 314 have plants with high export potential. Sectors 311 and 312 are the food sectors, and sector 314 is tobacco (sector 313, beverages, has no plants with high export potential). The TFP differentials in sectors 311 and 312 are roughly the same and equal to the aggregate differential for industry 31. Sector 314 had only six plants in 2002, which is not sufficient to draw any conclusions. Industry 34, pulp, paper, and paper products, has two three-digit sectors: 341—manufacture of pulp and paper, and 342—printing and publishing. Both have notably large TFP differentials between exporters and non-exporters, with the differential for sector 342 generally being higher. For the TFP estimate in Figure 1.34, the TFP differential for sector 341 is some 54 percent, whereas the one for sector 342 is 73 percent.

Figure 1.42: Industry-specific TFP Gaps for Plants with High Export Potential

(a) Exporter/Non-exporter /Gaps, by Industry



(b) Cross-category Gaps



1.101 *The recent increase in investment has been more and more aimed at preparation for the FTA and FTAA.* With capacity utilization already at a normal level by 2002, and the security level in the country improving (see Section I), investment activity started to pick up in 2003 (Figure 1.43). The primary objective of recent investment projects has been technological modernization (Figure 1.44). While in September 2004 preparation for the FTA or FTAA was the objective of 14.4 percent of the investing firms, the figure went up to 17.4 percent by March 2004. The April 2004 ANDI survey on the FTA showed that more than 65 percent of firms had or were developing a strategy for confronting the FTA and/or FTAA. The figure for the producers of the products with high U.S. export potential was the highest: close to 80 percent (Figure 1.45).

Figure 1.43: The Rebound of Investment Activity in 2003

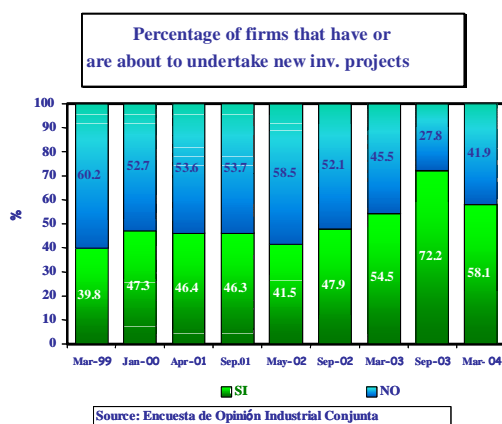
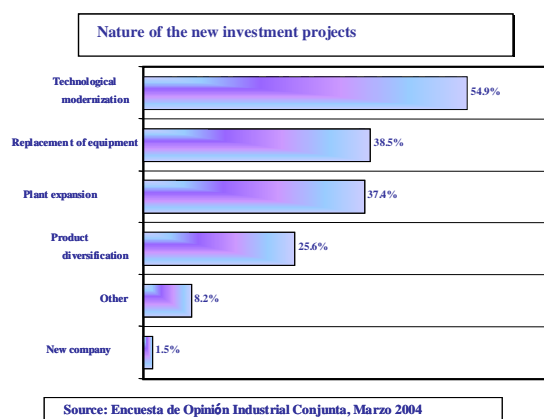
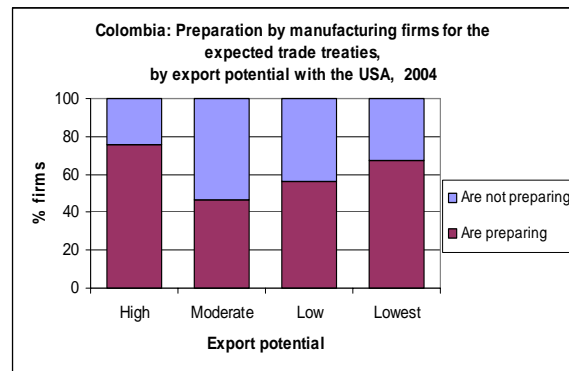


Figure 1.44: The Nature of Investment Projects



Source: Encuesta de opinión industrial conjunta Marzo 2004, ANDI.

Figure 1.45: The Greater Investment Intensity in Firms with High Export Potential



Source: World Bank calculations.

1.102 Bottlenecks in infrastructure and logistics contribute to low productivity and competitiveness. While insufficient productivity and inadequate technology and training are among the most important obstacles to exploiting the opportunities from the FTA and FTAA, difficulties with obtaining raw materials top the list in Figure 1.40. An important dimension of the problem is infrastructure and logistics (or, more precisely, infrastructure for logistics). As is well known, within-country transportation is very inefficient, with costs that often significantly exceed international freight charges. This leads to higher prices or higher inventory holdings of raw materials and reduces productivity. Indeed, as shown in Annex 1, inventory holdings (days of inventories held) negatively and significantly affect TFP. Transportation is also positioned relatively high among the general obstacles to growth and competitiveness (Table 1.1).

1.103 Ground transportation is a major bottleneck. The strong lobby of some 120,000 truck owners coupled with the inefficient contracting system (that includes the mandatory use of a “transportation company” as an intermediary between the client and the trucker) account for the growing distortions in the sector. The distortions include the legally fixed prices for trucking services, the rent-seeking (rather than quality-enhancing) behavior of the transportation companies, the extremely depreciated stock of trucks in possession of the truckers, and the 2004 prohibition on importing new trucks (a result of the recent strike).⁴⁶ Politically, the situation is a stalemate and requires a serious effort by all the stakeholders (the government, the transportation companies, and the truckers) aimed at removing most of the distortions simultaneously, because a one-by-one removal does not seem to be feasible. The Competitiveness and Trade Logistics study by the World Bank, currently in progress, is addressing in detail this and other issues related to the infrastructure for logistics.

⁴⁶ Many of the 1,057 transportation companies are just a single-person entity without any own vehicles, set up specifically for the purpose of capturing the intermediation margin. The right to capture the margin has recently become a part of the law. The average age of the 168,077 trucks owned by the truckers is 24 years, while the full-depreciation age (normal life span) of a truck is 12 years.

II. 3. Summary and Recommendations

1.104 This section has analyzed developments in the manufacturing sector after the trade liberalization and the challenges of moving toward the next round of trade agreements, the FTA in particular.

1.105 The post-reform period (1992–2002) has been characterized by growing productivity and increasing share of high-tech exports. While the export orientation increased, the number of exporting plants (relative to the total) is still small compared to other countries, Mexico and China, in particular. The post-crisis growth (2000–02) has been a jobless growth—in part due to the higher efficiency of the firms that survived the crisis, the high cost and rigidity in the labor market, and the instability of the security situation.

- To correct the inefficiencies in the labor market, as recommended in Section I, major labor market reform is needed in order to make hiring and firing decisions more flexible, which should lead to higher employment. The government should help facilitate the debate on continued labor reform by ensuring that analysis (currently in progress) on the impact of the 2002 labor legislation results in wide debate and motivates consideration of future reform.
- The security situation improved substantially in the last two years, but much remains to be done, as mentioned in Section I. President Uribe has demonstrated a strong commitment to and effectiveness in increasing security. Continued efforts by the authorities to increase security are encouraged.

1.106 Firms are increasingly preparing for the upcoming free trade agreements, particularly the FTA with the United States. FTA-related investment is rising and corporate FTA strategies are being developed.

- For many firms, especially non-exporters, a big challenge on the way to reaping the potential benefits of the upcoming FTA is achieving a higher productivity level in order to be competitive in the international markets. The government has in place a variety of programs aimed at improving competitiveness of the private sector (explored in further detail in Section III). The high potential for productivity improvements seems to be concentrated in food and beverages and in pulp and paper products. This information may assist in better understanding the problem of the business environment, and prove valuable to the private sector.
- Transportation is one of the bottlenecks to realizing the gains from the expected trade agreements. It is clear that a comprehensive reform of the trucking industry is very important. The reform should involve a politically difficult consensus of the major stakeholders (government, transport companies, truckers) and simultaneously eliminate most of the numerous inefficiencies. The upcoming World Bank Competitiveness and Trade Logistics report will shed more light on the issue of the infrastructure for logistics, the trucking industry in particular.

III. THE FTA AND SMALL AND MEDIUM ENTERPRISES IN COLOMBIA

1.107 The Small and Medium Enterprise (SME) sector makes up the vast majority of firms and accounts for a substantial part of productive activity and employment in Colombia. Further trade liberalization and, in particular, the expected FTA with the United States, will provide new opportunities and challenges for private sector firms in Colombia. Market access and cheaper intermediate inputs will provide export opportunities in some sectors, whereas others will face increased competition from cheaper imports or foreign firms establishing themselves in Colombia.

1.108 This section examines the characteristics of the SME sector in Colombia and some of the main constraints on enhancing their productivity and growth. The possible impact of an FTA on economic activity, particularly in the tradable goods and manufacturing industry, and its relation with the current firm-size based production patterns, is also examined. A final subsection provides an overview of the main public sector enterprise development programs in Colombia and offers some policy recommendations on how to focus and improve the effectiveness of government-supported SME programs. A more detailed analysis is presented in Annex 3.

III.1 Small and Medium Enterprises in Colombia

1.109 The design of SME support strategies and the evaluation of their effectiveness and economic and social impact not only require a definition and delimitation of SMEs, but also information on this business segment in Colombia and its relative importance in terms of employment and contribution to GDP. Data limitations, due to different objectives and the cost of data gathering and informality prevailing particularly among smaller firms and microenterprises, are a severe constraint on making a consistent and accurate diagnosis of SMEs in Colombia. Improving the quality of and access to SME business information, without breaching the confidentiality constraints or putting too high an administrative burden on firms, should be an objective of government policy. Data on SMEs are not only important for the design and evaluation of public sector support programs, but also for the development of private sector-based business support services demanded by SMEs (OECD 2002; Rodriguez 2003). Despite these data limitations, this subsection presents a profile of the SME sector on the basis of data available from business registrations and survey statistics.⁴⁷

1.110 The Confecámaras business registry reports 664,320 firms with an updated *registro mercantil* for 2003 (Table 1.6).

⁴⁷ The law for the promotion of micro-, small, and medium enterprises in Colombia establishes the official criteria for the classification of firms by size. Colombia classifies firms by size using a combination of number of employees and the total value of reported assets, with the value of assets being the determining factor if there is a discrepancy between the two indicators. Microenterprises are firms with assets of less than 500 minimum wages in value or less than 10 employees, small enterprises are firms with asset value between 501 and 5,000 minimum wages or number of employees between 11 and 50, medium enterprises are firms with asset value between 5,001 and 30,000 minimum wages or number of employees between 51 and 200, and large enterprises are firms with asset value of more than 30,000 minimum wages or more than 200 employees.

Table 1.6: Distribution of Firms According to Sector and Firm Size in Business Registry; 2003

Sector	Micro		Small		Medium		Large		Total
	Number of Firms	Shares %	Number of Firms	Shares %	Number of Firms	Shares %	Number of Firms	Share %s	
Agriculture	8,830	72.7	2,306	19.0	621	5.1	386	3.2	12,143
Industry	82,690	86.9	8,700	9.1	1,897	2.0	1,818	1.9	95,105
Commerce	285,686	94.4	13,862	4.6	1,984	0.7	1,219	0.4	302,751
Services	198,661	91.2	14,814	6.8	2,485	1.1	1,947	0.9	217,907
Others	36,005	98.9	334	0.9	43	0.1	32	0.1	36,414
Totals	611,872	92.1	40,016	6.0	7,030	1.1	5,402	0.8	664,320

Source: Confecamaras (2003)

1.111 As one would expect, the vast majority of firms are micro- and smaller-sized enterprises, though these firms tend to account for a much smaller share of economic activity in terms of output and employment. The number of firms provides an indication of the challenge faced by specific microenterprise and SME support programs, particularly those directed at providing support at an individual firm level, though output and employment data by firm size provide a much better indication of the relevance of smaller-sized firms in the economy.

1.112 In contrast to the huge proportion of firms belonging to the micro-, small, and medium enterprise segment of business, their contribution in terms of employment and value added is substantially lower. The contribution of Micro, Small, and Medium Enterprises (MSMEs) compared to large firms in Colombia is estimated at about 63 to 73 percent in terms of employment, and 37 to 53 percent in terms of production or value added.⁴⁸ In terms of employment, the lower average number of employees per firm of smaller firms per definition adds up to a lower proportion of employment in MSMEs than the proportion observed by number of firms. In terms of contribution to GDP or value added, the relative contribution of MSMEs can be explained as a combination of employment and labor productivity, that is, value added per worker. Since labor productivity tends to be lower in smaller-sized firms, because of a concentration of more capital-intensive production processes in larger firms or lower efficiency in smaller-sized firms, the contribution of MSMEs in value added tends to be lower than their contribution in terms of employment.

1.113 As can be observed, microenterprises operate throughout the economy, though particularly in the commerce and service sectors due to relatively low entry barriers and capital requirements in these sectors. A lot of these firms are probably family businesses or self-employed persons operating in the semiformal and informal sectors with limited chances of growing into large-scale operations and becoming internationally competitive. Serving them often requires different institutions and instruments, such as group-based lending methodologies used by some microfinance institutions (Hallberg 2000).

⁴⁸ *Asociación Nacional de Instituciones Financieras (ANIF) and Ministerio de Industria, Comercio y Turismo.*

1.114 The 2003 survey on microenterprises confirms the very small size of operations and low labor productivity of this segment of economic activity in Colombia.⁴⁹ The average number of workers employed by a micro firm in 2003 was 2.1, with an average annual labor productivity of COP6.1 million (equivalent to US\$2,173), substantially below the levels of labor productivity observed by SMEs and larger firms in all sectors of economic activity.

1.115 The remaining 52,448 non-micro firms are more likely to operate in the formal sector of the economy, with the ability to grow and stay or become competitive in domestic and international markets. Almost 90 percent of these firms are classified as small or medium sized. The market and institutional failures that may inhibit the development, productivity growth, and growth of these firms due to their current size of operation provide an opportunity to raise their competitiveness with a major positive impact for the economy as a whole because they constitute such a large share of business in Colombia.

III. 2 The FTA and SMEs in Colombia

1.116 Historically, the United States has been the main trading partner of Colombia. During 2004, exports to the United States accounted for 39.4 percent of total exports, while imports from the United States represented 39.6 percent of total imports.⁵⁰ Colombian exports to the United States showed an annual average increase of 5.2 percent over the past decade, while imports from the United States decreased at an annual average rate of 1.2 percent over the same period. In addition to traditional products such as petroleum, coffee, and coal, some of Colombia's main exports are produced by the chemicals, textiles, wearing apparel and leather, and the food, beverages and tobacco sectors of the manufacturing industry. At the same time, Colombia's imports are largely located in the machinery and equipment, chemicals, food, beverages, and tobacco, and textiles, wearing apparel, and leather industries.

1.117 During 1991, the U.S. Congress approved the Andean Trade Preference Act (ATPA). The purpose of ATPA was to promote economic development and economic alternatives to coca cultivation and cocaine production by offering Andean products broader access to U.S. markets. The ATPA tariff reductions and tariff eliminations were effective in 1992 for Colombia and Bolivia, and later for Ecuador and Peru in 1993. According to the Uniform Standard International Trade Classification (USITC), during 2001, nearly 15 percent of Colombian exports were under the ATPA scheme. The ATPA expired on December 4, 2001 and was renewed retroactively on August 6, 2002 under the Andean Trade Promotion and Drug Eradication Act (ATPDEA), which also amended the ATP to cover additional products.⁵¹ During 2003, total U.S. imports from the ATPA region increased substantially. The eligibility of petroleum and derivatives was the main

⁴⁹ *Encuesta Nacional de Microestablecimientos de Comercio, Servicios e Industria 2003.*

⁵⁰ Colombia Ministerio de Comercio, Industria, y Turismo

⁵¹ The ATPDEA included certain textiles and wearing apparel (tariff reduction), petroleum and derivatives (0 percent import tariff), footwear (tariff reduction) and leather wearing apparel, flowers (0 percent import tariff), watches and watch parts, and certain tuna in smaller foil or packages (0 percent import tariff), which were not previously included on the ATPA tariff preference.

cause of the large increase in U.S. imports. Colombia was the largest supplier of petroleum derivatives under the ATPA, accounting for 62 percent.⁵²

1.118 Further trade liberalization, including the negotiation of an FTA with the United States replacing the current unilateral trade benefits obtained under the ATPDEA, is expected not only to raise the level but also to change the composition of economic activity. Additional trade will generate new opportunities in some sectors and require adjustments in others. Overall, the impact of the FTA negotiated with the United States will be limited because existing tariffs facing Colombia are already low, and tariff elimination on sensitive markets is likely to be gradual.

1.119 Analysis of trade liberalization generally focuses on estimating the potential trade gains in different sectors according to their revealed comparative advantage. A study by Martin (2002) thus identifies sectors in which Colombia has a comparative advantage, and those in which current production and trade patterns indicate a comparative disadvantage in comparison to production in the rest of the world.⁵³ Similarly, identifying the products and sectors in which the United States displays a comparative advantage and disadvantage, one can construct a 2 by 2 matrix as shown in Table 1.7.

1.120 Sectors in which both Colombia and the United States display a comparative advantage (or disadvantage) with respect to the rest of the world are unlikely to be strongly affected by a bilateral trade agreement. Rather, additional trade is expected to occur in those sectors in which one country has a comparative advantage and the other country a comparative disadvantage and vice versa, that is, the sectors located in the upper-right and lower-left quadrants of the matrix.

⁵² Colombia petroleum exports accounted for 62 percent, followed by Ecuador with 34 percent, and Peru with 4 percent.

⁵³ The determination of sectors with a competitive advantage or disadvantage is based on estimates of the relative trade balance (RTB) measured as the participation in the trade balance of each sector in total trade.

$RTB_j = \frac{(E-M)_i^w}{(E+M)_i^w}$, where RTB = relative trade balance of country j , E = exports of sector i to the rest of the world (w), and M = imports of sector i from the rest of the world (w).

Table 1.7: Colombia: Comparative Advantages and Disadvantages

		United States/Rest of the World	
		<i>Comparative Advantage</i>	<i>Comparative Disadvantage</i>
Colombia / Rest of the World	Comparative Advantage	Precious metals Food products Some textiles Petroleum derivatives and coal	Fishing Crude oil and natural gas Sugar Textiles and wearing apparel Leather and footwear Cement, lime, and plaster Cocoa, chocolates, and candies Fruits and vegetables Jewelry and similar products Clay, slab, and porcelain
	Comparative Disadvantage	Wood products Food for animals Chemicals Machinery and equipment Textile spinning and fibers Metal products Rubber and plastics Oils and greases	Electricity Mineral extraction Textiles and some manufactures Paper Electrical equipment (radio, TV) Vehicles Beverages

Source: Martin (2002).

1.121 Thus, according to this methodology, Colombia should be able to expand its production and trade particularly in the fishing, oil and gas, sugar, textiles and wearing apparel, leather and footwear, cement, lime and plaster, cocoa, chocolates and candies, fruits and vegetables, jewelry and clay, and slab and porcelain industries, whereas it will face increased competition particularly in the areas of wood products, animal feeding, chemicals, machinery and equipment, textile spinning and fibers, metal products, rubber and plastics, and oils and greases. Comparing these groups of products to the current distribution of gross production according to firm size, it can be observed that with the exception of oil and gas and machinery and equipment, there does not seem to be a specific firm-size bias with respect to the sectors that are likely to expand their production and those that will experience increased competition.

III.3 SME Support Policies in Colombia

1.122 Like many countries around the world, Colombia has many programs in place to promote the development and growth of private enterprise through a variety of support services in areas such as training, innovation and technology development, export promotion, and access to finance (Box 1.1). While the objectives, delivery mechanisms, and scale of these programs may differ, they all seek to promote private sector growth,

productivity, and competitiveness. Some of these programs may target smaller firms and the specific size-based constraints they face, whereas others tend to address more generally perceived market failures in areas such as training and investment in new technologies.

1.123 General business (and export) development services, training, technology development, and innovation, and access to finance are the main areas in which the Colombian government has business support programs in place focused particularly on smaller firms. A common denominator of these programs is the lack of more rigorous impact evaluations that could orient program implementation and budget allocation among different programs. Based on limited program data, the impact of some of these programs tends to be limited due to an excessive dispersion of resources or a supply-driven orientation in the provision of services. Cost and risk-sharing arrangements in several of the programs such as FOMIPYME, PROEXPORT, CDTs, and credit guarantees seem to be an effective instrument to enhance their impact and budgetary sustainability by providing for an important quality check on the service provided through the demand for these programs.

Box 1.1: Private Enterprise Development and Support Services in Colombia**General Business Development Services**

The law that promotes the development of micro-, small, and medium enterprises (MSMEs), adopted in 2000, includes the creation of a trust fund (FOMIPYME) to finance technological development activities and non-financial business development services for MSMEs. The fund is managed by the Ministry of Commerce, Industry and Tourism in close consultation with MSME business associations. The fund co-finances generally up to 50 percent of the costs of activities in the areas of commercialization and marketing, production technology, forward and backward linkages, strengthening of management capacities, technical assistance, and training. It has an annual budget allocation of COP20 billion (about US\$7 million to US\$8 million).

Training

Labor legislation in Colombia includes a 2 percent payroll tax dedicated to the training of the labor force. The revenue generated by this tax is fully earmarked (*recurso parafiscal*) and transferred to the National Training Service (SENA) for this institution to supply vocational training through one of its 114 training centers throughout the country. Resources obtained by SENA are substantial and rather insulated from the annual budget allocation process due to the parafiscal nature of the resources. At about COP700 billion annually this is by far the largest public sector program aimed at improving the quality of an essential input, labor, in the private production process.

Innovation and Technology Upgrading

The Colombian Institute for the Development of Science and Technology (COLCIENCAS) is the government agency in charge of implementing public policies that favor the generation and application of scientific and technological knowledge in Colombian society and productive activities. In addition to scientific research, COLCIENCAS finances projects of technological development, adaptation, and innovation. A major limitation faced by COLCIENCAS is the amount of budget resources dedicated to its activities. Between 1998 and 2003 the budget allocated to COLCIENCAS was reduced from about COP85 million to COP41 million, less than half that amount in current prices (Analdex 2003).

Export Promotion

The Expopyme program, managed by the Colombian export development agency PROEXPORT, provides support in the design, preparation, and implementation of an export plan for SMEs. The program is implemented through universities throughout the country. Firms assume about 50 percent of the cost of the initial investment (about US\$6,000) with the remainder subsidized by PROEXPORT. The program provided support to about 2,000 SMEs and operated successfully during the initial years of operation, 1999–2002, as more than 50 percent of the firms supported continue exporting. The temporary nature of the support and the cost-sharing of the business (export) development services are probably important elements in the success of EXPOPYME.

Finance

Colombia has an SME credit guarantee program for the provision of credit to SMEs through the commercial banking sector. This scheme allows for a percentage of the loan to be guaranteed by the State so that, in the event of default, the loss to the financial institution is only a proportion of the sum at risk. In return, the charge paid by the borrower on such loans is higher than under normal arrangements since an additional premium is paid to the State to cover expected losses.

III.4 Recommendations

1.124 *A better understanding of the micro-, small, and medium-size enterprises, including more comprehensive government data collection on firm activities, is needed to help identify ways of improving the business environment.* It is estimated that micro-, small, and medium-sized enterprises make up 63 to 73 percent of employment and 37 to 53 percent of value added generated by the private sector in Colombia. Yet, one of the most pressing issues in analyzing the Small and Medium Enterprises (SME) segment of private business in Colombia is the lack of data and the deficiencies in business statistics in line with the official definitions of SMEs. The lack of data not only severely limits the ability to design, formulate, and evaluate public sector support programs and policies oriented to this segment of private business, but also restricts the private sector itself in the design of its business strategies. Improving the collection and integration of business statistics without putting an unnecessary administrative burden on smaller firms would be a large benefit. In addition, broad access to such information in a format that does not breach confidentiality issues should be a priority for public sector action.

1.125 *An evaluation of government SME support programs is needed.* General business (and export) development services, training, technology development and innovation, and access to finance are the main areas in which the Colombian government has business support programs in place focused on smaller firms. A common problem is the lack of rigorous impact evaluations that could better focus these programs and the allocation of the budget among different activities. Based on limited program data, the impact of some of these programs tends to be limited due to an excessive dispersion of resources and a supply-driven, rather than needs-based, orientation in the provision of services.

CHAPTER 2. MACROECONOMIC AND FISCAL POLICY: ESSENTIAL SUPPORTS FOR COMPETITIVENESS⁵⁴

2.1 The regulatory and other microeconomic factors contributing to competitiveness, discussed in the previous chapter, need a complementary macroeconomic and tax policy in order to have their intended effects on investment and growth. The government has made the necessary first steps toward short-term macroeconomic stability, but there remains a substantial reform agenda to support sustained growth yet to be implemented.

2.2 The stagnation of 1998–2002 has given way to economic recovery and continued strengthening of investor and consumer confidence, thanks largely to improvements in the external economic environment and the domestic security situation (see Box 2.1). Growth in the United States rebounded strongly and stopped falling in Venezuela, Colombia's second-largest trading partner. Prices for export commodities, like oil, coal, coffee, and citrus fruit, have climbed by a weighted average of 25 percent in the past three years. World interest rates have continued to be quite low, and Colombia's credit spread has declined from 5.6 percentage points in early 2002 to only 3.3 percentage points at the end of 2004. Fueled by an increase in real investment of almost 5 percent, real economic growth more than doubled, from 1.6 percent in 2002 to almost 4 percent in 2003 and 2004, while the unemployment rate dropped from 17 percent in 2002 to 12 percent in 2004—the lowest in four years. The combined public sector deficit decreased from 3.7 percent of gross domestic product (GDP) in 2002 to 2.7 percent in 2003, and a projected 1.3 percent in 2004—well below the target in the Stand-by Agreement with the International Monetary Fund (IMF). The non-financial public sector deficit has decreased from 4.2 percent of GDP in 2002 to 1.4 percent of GDP in 2004 (see Figure 2.1). Inflation has continued to fall, dropping from 6.5 percent in 2002 to 5.5 in 2004, which is the lowest since the late 1960s.

Box 2.1: Security Improvements in Colombia

Colombia's security situation deteriorated seriously in the late 1990s, but with the current government's emphasis on addressing the problem, security has improved substantially since 2002. From a high of 3706, kidnappings in 2000 declined to 1,441 in 2004. Attacks on population declined from about 150 per year during 1998–2002, to 35 in 2003 and 19 in 2004. Terrorist attacks and murders also declined, although less dramatically. Attacks on transport and communications infrastructure declined dramatically during 2003–04, with direct and indirect effects on returns to investment.

Source: DNP (2004).

2.3 Since 2003 Colombia's exports have grown robustly (about 10 percent a year). In 2004, the government and the Central Bank took measures to restrain imports and avoid a contraction in exports by slowing the appreciation of the peso. Despite these efforts,

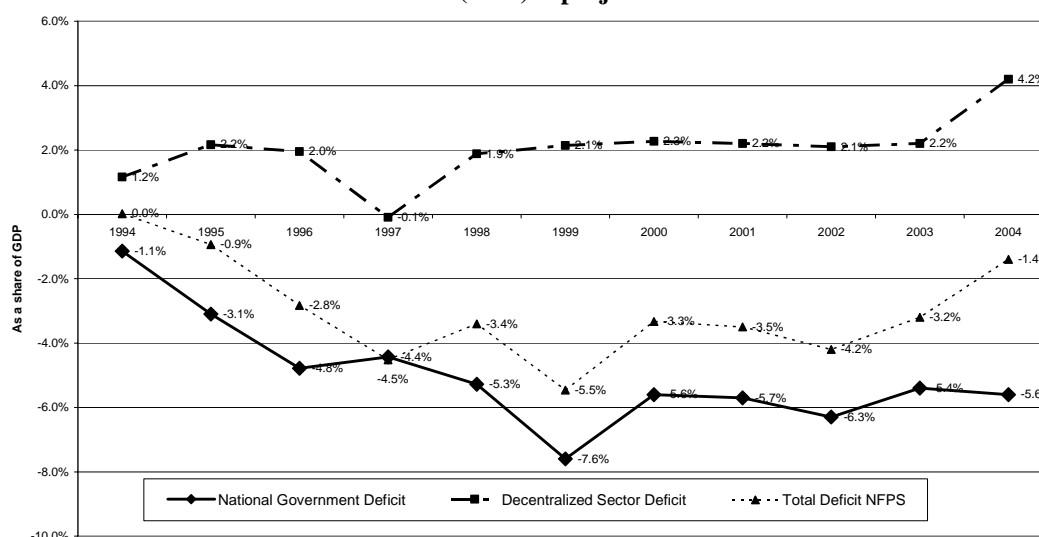
⁵⁴ Primary contributors to this chapter include Steven B. Webb and Christian Y. Gonzalez with valuable input from George Zodrow.

increased domestic demand for imports outstripped export growth and thereby widened the trade deficit. Nevertheless, the current account deficit decreased from 1.5 percent of GDP in 2003 to 1.1 percent of GDP in 2004, due to reduced cost of debt service.

I. FISCAL EQUILIBRIUM

2.4 Over the past half-decade, new realities have emerged in Colombia's fiscal accounts, including significant deficits and large future liabilities. The rapid expansion of public sector spending throughout the past decade, (from 25 percent of GDP in 1990 to over one-third today), combined with growing pension and other liabilities, has led to significant and persistent structural deficits. As public spending surpassed the government's revenue-generating capacity, the increasing fiscal deficit was financed with debt, both domestic and external, which peaked at 54 percent of GDP in 2002.

**Figure 2.1: Non-Financial Public Sector Deficit, 1994–2004
(2004) is projected**



Source: CONFIS

2.5 The Uribe Administration has made some improvements on the fiscal front, in particular, on the revenue side. In December 2002, Congress approved Law 788, which brought additional revenues of 0.7 percent of GDP in 2003 and about 1.1 percent of GDP in 2004. At the same time, expenditures have continued to increase. In 2003, a fiscal referendum designed to close the deficit by reducing spending was rejected, thereby creating a substantial fiscal gap in the 2003 and proposed 2004 budgets. On December 29, 2003, Congress approved Law 863, a tax package designed to fill part of the fiscal gap created by the unexpected rejection of the referendum. While this law improved tax policy in some ways, it also introduced new distortions.

2.6 Colombia's budget is very rigid, and the two main areas in which expenditures increased substantially over the last decade are transfers to subnational governments and to the pension system, discussed below. Transfers to the pension system have continued to increase over the past two years, a trend that will continue until 2013 under the current

rules, after which the deficits will decline gradually over a generation as those in the old system retire and die. The new system has individual accounts and is sustainable; the fiscal problem is in the long and costly transition. Getting over this hump has been encumbered by legislative and judicial interventions that extend and further soften the transition period, and such backtracking could happen again.

2.7 About 96 percent of the budget is earmarked. The broad loopholes in the legal framework have allowed public agencies to seek legislation and earmark resources. This has made the budget extremely rigid, and left the Government almost no flexibility in allocating public resources. This budgetary rigidity severely limits the Government's planning flexibility, and makes it extremely difficult to undertake new programs or capital investments.⁵⁵

2.8 As mentioned in the Colombia Public Expenditure Review (2005), a "tax" on "inflexible expenditures" such as the one that Brazil implemented several years ago is a short to medium-term option to obtain more aggregate flexibility. Under such an option, the Government would be entitled to proportionally reduce mandated expenditures up to a predefined percentage in order to ensure fiscal sustainability, as it will be discussed below.

Debt Sustainability

2.9 Colombia is able to manage its present level of public debt—about 46.6 percent of GDP—which is down from the peak of 54 percent in 2002. Nonetheless, many (including the government) recognize that this level of debt is too high because of its fiscal cost and the concern that shocks of one sort or another could push up the debt ratio and initiate an unsustainable path of indebtedness. The government's target is to reduce the level of debt to 38 percent of GDP by 2015, which seems feasible and prudent. We analyze the debt prospects in five different ways: (a) a baseline projection with historical average values of key parameters, (b) an analysis of policy responses that would be necessary for the government to meet its debt-reduction target in the face of possible economic shocks, (c) projections of what would happen to debt ratios if the economic shocks came and policy responded to keep the primary surplus of 2.1 percent of GDP, (d) Monte Carlo simulations of the path of debt driven by key parameters following random patterns that have the same variability as historically, and (e) an analysis of the sustainability of total public plus private external debt. (See Annex 4 for full details.)

2.10 The baseline scenario makes the following key assumptions:

- Historical average real GDP growth of 3.2 percent, which is below growth in 2004 of about 4 percent.
- A primary balance of 2.1 percent. In 2004 it was 3.3 percent, but this includes a 1.1 percentage point surplus from subnational governments and public entities, which is not readily available to service the debt.

⁵⁵ See "Colombia Country Financial Accountability Assessment" (2005).

- A 30 percent depreciation of the real exchange rate over five years, bringing it back in 2005 to its historical average for 1980–2004.⁵⁶
- An average implicit real interest rate on domestic and external debt of 6.3 percent, which is the historical average 1998–2004.
- In this scenario, the government achieves its target of reducing the debt ratio to 38 percent in 10 years.

2.11 The second and third scenarios use three adverse shocks to this baseline—an immediate depreciation of the real exchange rate of 30 percent in 2005 (instead of spread over five years), a reduction of growth to -2.1 percent for 2005 (two standard deviations from the average) and then gradually returning to its average by 2009, and a rise of the real interest rate to 8.6 percent in 2005 and returning gradually to 6.3 percent by 2009. And there is a combination shock, where all three bad events happen. If the government still wants to meet its target debt ratio for 2015, it would have to tighten fiscal policy from the baseline primary balance of 2.3 percent, up to 3.6 percent in the case of the combination shock. Table 2.1 summarizes these scenarios.

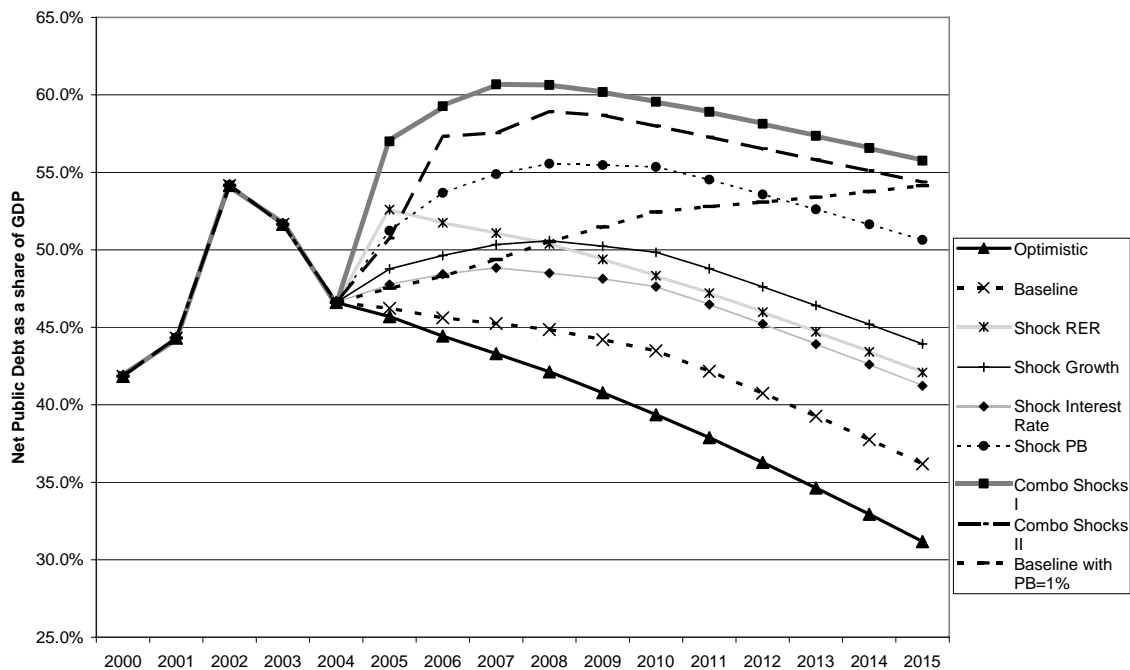
Table 2.1: Debt Sustainability with Shocks and Policy Adjustment

Type of Shock	Primary Surplus Required to Achieve the Target Debt Ratio (38 percent by 2015)
<i>Baseline scenario</i> (see above).	2.1%
<i>Real effective exchange rate</i> depreciation of 30 percent in 2005 and keep other variables at the values described in the baseline scenario.	2.5%
<i>GDP growth shock.</i> In 2005, historical growth average minus two standard deviations (implies -2.1 percent growth). In 2006, historical average minus one standard deviation (implies 0.5 percent growth). In 2007, a growth rate of 1.5 percent is assumed, and in 2008 a growth rate of 2.5 percent is assumed. Afterward, it assumes the historical growth rate. All the other variables are kept at the values described in the baseline scenario.	2.6%
<i>Real interest rate shock.</i> In 2005, we assume a real implicit interest rate of 8.6 percent. Afterward, it gradually declines to 6.3 percent. All of the other variables are kept at the values described in the baseline scenario.	2.4%
A combination of all three shocks.	3.6%

⁵⁶ Since about half of Colombia's debt is foreign, mostly in U.S. dollars, the exchange rate has a large and instantaneous impact on the debt ratio. In the decline of the debt ratio from its peak of 54 percent of GDP in 2002 to 46.6 percent at the end of 2004, the 30 percent real appreciation of the exchange rate accounts for 6 of the 8 percentage point decline. The exchange rate is unlikely to retain all of this recent appreciation, so the government should continue with fiscal caution, despite a decline of the debt ratio.

2.12 If these shocks came and policy responded to keep primary balances unchanged at 2.3 percent, then the government would not achieve its target of reducing the debt ratio, but after an initial jump the debt ratio would decline. With each of the individual shocks, the debt ratio would be below 45 percent by 2015. With the combination of all three shocks, the ratio would peak at just over 60 percent of GDP in 2007, then slowly fall to about 588 percent in 2015 (see Figure 2.2, Combo Shocks I).

Figure 2.2: Debt Sustainability even without a Policy Response to Shocks



2.13 During 1998–2001 Colombia had one of the worst fiscal crises. By considering the same external and domestic conditions, as well as the same government response, we constructed another scenario called Combo Shocks II. Under this scenario, net public debt to GDP will reach close to 60 percent of GDP and then decline to about 577 percent of GDP in 2015 (see Figure 2.2).

2.14 It is critical for Colombia to continue its fiscal discipline. The analysis shows that if Colombia maintains a primary balance of less than 1 percent of GDP under the baseline scenario for the forecast period (the next 10 years), Colombia's debt path becomes explosive (see Figure 2.2). While we do not foresee this as a likely scenario, it highlights the need for the government to continue its efforts to cut current expenditures through the

pension and budget reform, and the importance of addressing central government transfers to the regions.⁵⁷

2.15 On the other hand, under a more optimistic scenario Colombia could exceed its fiscal target in 2015. If remittances continue to flow strongly into the country, the real exchange rate might not depreciate as much as the 30 percent anticipated in the baseline scenario. In the optimistic scenario, we assume a constant real exchange rate and all of the rest of the variables remain the same as the ones described in our baseline scenario, and the net public debt-to-GDP ratio declines to about 2525 percent of GDP by 2015.

2.16 The fourth approach, also detailed in Annex 4, carries out Monte Carlo simulations (with 1,000 simulated scenarios), where the key random variable is the growth rate, which is allowed to vary with its historical standard deviation (2.4 percent) around its historical average (3.2 percent). The other key variables—real exchange rate, real interest rate, seignorage, and primary fiscal balance—vary around their historical averages according to their historical correlation with growth. The rationale is that negative growth shocks do not come in isolation but rather are typically accompanied by negative movements in other key variables for debt sustainability. (We do not attempt to identify the direction of causality, which could go in various directions.) The mean result has the debt declining to 36 percent by 2015. The fifth percentile (two standard errors toward pessimism) has the debt ratio drifting just below 50 percent, indicating debt sustainability unless a very unlikely series of adverse events occur. (See Figure A4.9 in Annex 4.)

2.17 Analyzing the sustainability of the external debt requires a model that incorporates another set of key macroeconomic variables such as Colombia's current account, and allows us to model another set of different shocks, in particular, one for international capital flows into the country. Total external debt service (public and private) as a percent of exports of goods, services, and income, while having fallen from a high of above 67 percent in 2002 to more manageable levels of less than 40 percent now, remains one of the highest in Latin America (just below Argentina's 42 percent).

2.18 Colombia's total external debt profile (public and private) is likely to be sustainable. Total external debt is expected to decline to 27.99 percent of GDP in 2010 under our baseline scenario. The primary risk associated with external debt sustainability is exchange rate risk. A depreciation of the real exchange rate in excess of 30 percent within one year would increase the total external debt-to-GDP ratio from about 3232 percent currently, to about 42about42 percent, generating a significant risk of market closure in the near term. A two-standard-deviation drop in international capital inflows from the historical average would generate an increase in the external debt-to-GDP ratio to about 400 percent, but this is unlikely to generate a debt crisis. Total external debt reached nearly 48 percent in 2001 without a crisis in an economic environment that was

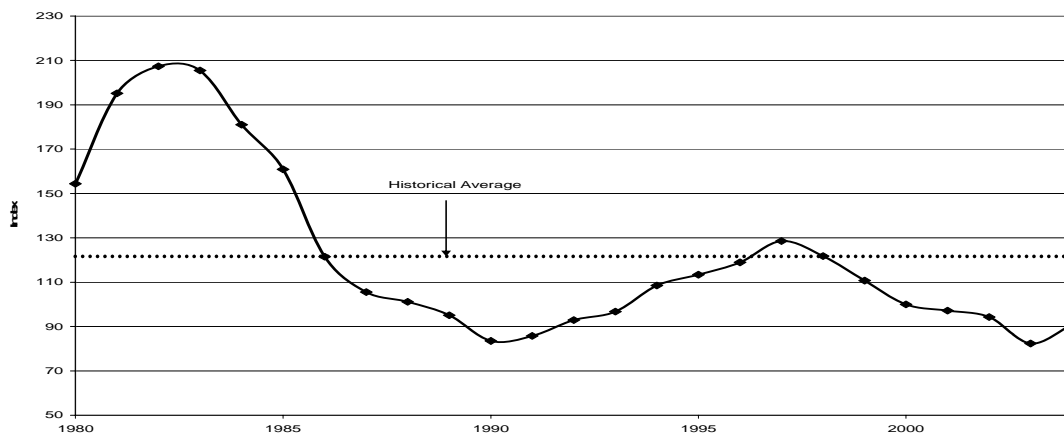
⁵⁷ Most of the congressmen agree on the substance of the reform; however, they disagree on the timing of the transition period. This will only delay potential savings. The budget reform allows the Executive to have more control over the budget and gives more flexibility to it. This reform has already passed four out of eight debates.

less favorable than today. A transitory peak of 422 percent total external debt would put pressure on financing, but is expected to be manageable.

Competitiveness of the Exchange Rate

2.19 Recent high oil prices have boosted Colombia's total exports and contributed to the pesos appreciation, raising concerns among Colombia's non-energy export- and import-competing industries about the loss of competitiveness due the relatively expensive peso. However, peso depreciation would raise the cost of both borrowing internationally and intermediate inputs to production as well as the price of imported goods for consumers. Figure 2.3 shows the real effective exchange rate for the last quarter century (up indicates a devalued peso).

Figure 2.3: Real Effective Exchange Rate, 1980–2004



Source: IIF

2.20 While exchange rates are floating in Colombia, policymakers have nonetheless started to seriously consider some options for preventing further exchange-rate appreciation, or even encouraging depreciation. In a traditional open macroeconomic model with a floating exchange rate (Mundell-Fleming), a combination of fiscal tightening and monetary loosening will lower interest rates and lead to capital outflows and an endogenous currency depreciation; more net exports and investment will offset the contractionary fiscal policy. In Colombia, however, the credibility of government debt has been in question in the recent past, so an improved fiscal stance might actually attract capital and heighten the appreciation. Authorities have discussed more direct measures—like a small tax on short-term capital inflows (the Tobin tax)—that would attempt to defer *hot* money inflows, but with less of an effect on longer-term funds. While the tax has a clear appeal in theory, it has proven difficult in practice to enforce (Chile, for instance), except as a tax on certain kinds of capital inflows that leave other kinds of flows untouched. This would be especially problematic in Colombia, where the illicit drug trade brings in such large volumes of untraceable money.

2.21 Colombia's flexible exchange rate has helped it weather the storms of the international markets, so it should maintain this policy. Nonetheless, market-based

movements in the exchange rate can help provide a signal for monetary and fiscal policy. If the exchange rate is appreciating because of high domestic interest rates attracting short-term capital inflows, then the government could tighten fiscal policy to reduce borrowing and ease monetary policy to bring down the interest rates. If the exchange rate is depreciating rapidly because of capital flight over concerns about debt sustainability, then both fiscal and monetary tightening would be needed to restore confidence. The different reasons why the exchange rate may move, and the short history of the recent fiscal stability, both imply that fiscal restraint is important for seemingly opposite situations. The government seems well aware of these considerations, and needs to continue to follow prudent monetary and fiscal policy with a focus on maintaining low inflation and a fiscally sustainable budget balance. The exchange rate, in itself, should not be an independent target for government policy. Indeed, targeting the exchange rate is inconsistent with the Central Bank's explicit inflation target.

Fiscal Responsibility and Transparency Law

2.22 The Colombian Congress approved a Fiscal Responsibility Law (FRL) in June 2003 that sets the stage for fiscal sustainability. The FRL contains rules for fiscal stability, transparency, macroeconomic consistency, and fiscal discipline. It requires: (a) the establishment each year of fiscal targets linked to debt sustainability and primary balance for the Non-Financial Public Sector (NFPS), (b) publication of the financial plan, (c) annual reports of fiscal results to Congress, and (d) the obligation to include the fiscal impact and source of financing within any new law affecting taxes or expenditures. Regulations for the law build on the earlier practice of publishing quarterly fiscal results, defining deficits on the basis of cash revenue and accrual of spending obligations, and defining debt to include floating debt. The FRL sets a target to eliminate *reservas presupuestales* in two years. The other part of floating debt, *cuentas por pagar*, will be counted as regular debt and will thus be controlled by the fiscal/financial plan. To discourage electoral cycles in fiscal policy, the FRL also prohibits any government from committing future spending (*vigencias futuras*) or increasing personnel spending in an election year.

2.23 In June 2004, the government presented its first Medium-Term Fiscal Framework (MTFF) to Congress, as mandated by the FRL.⁵⁸ The framework covers not only the fiscal and financial outcomes for 2003, projections for 2004, and plans for 2005, but also analysis and information on key issues such as quasi-fiscal activities and contingent liabilities, and the expected fiscal cost of all existing tax exemptions and deductions and of laws approved in the previous legislative session. The document was disseminated widely and was praised for the comprehensiveness of its information and the quality of its content. It has been used as a reference by civil society and international organizations (including the IMF) to conduct assessments of fiscal and macroeconomic projections. Despite this important step in transparency and commitment, the national government still has institutional problems in assuring that if revenues fall short of budget projections, the expenditure will adjust to keep deficits inside the budgeted limits.

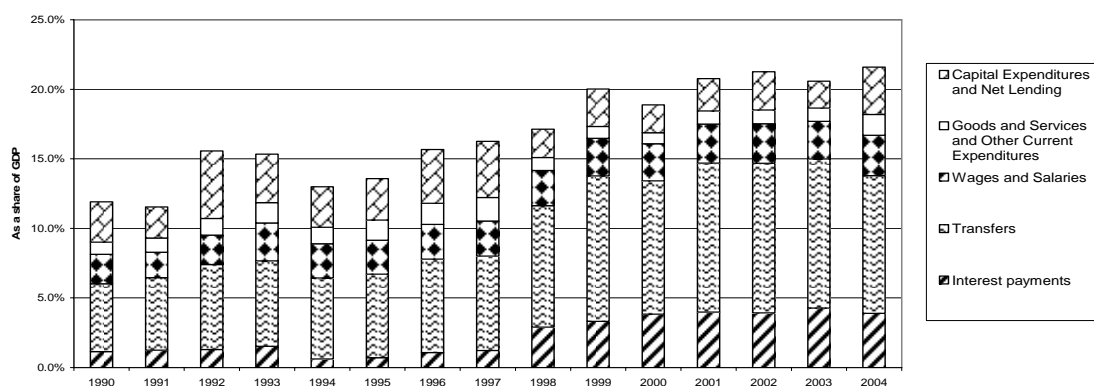
⁵⁸ The full text of the MTFF, along with the presentation made to Congress, can be downloaded from www.minhacienda.gov.co.

2.24 The strategy for fiscal control in the FRL differs between the national and subnational levels, because of the different constitutional constraints they face on fiscal policy. For the subnational governments (discussed in more detail below) the Constitution specifies most of their revenue, via transfers, and gives them little leeway to raise more own revenue, so the FRL strengthens the *ex ante* restraints on subnational deficits to complement the existing restraints on subnational spending, mostly in *Ley 617*. For the national government, where the severest fiscal problems have centered, the FRL increases transparency but still does not give the Ministry of Finance a hard budget constraint with which to enforce fiscal discipline in the face of special-interest demands, including those coming through subnational governments (SNGs) on behalf of teachers and others. The Constitution, debt obligations, pensions, and other legal entitlements specify almost all outlays for the national government, so the FRL focuses on limiting the deficits so that the adjustment will have to concentrate on the tax side, and thus eventually motivate political restraint on spending. Control over spending would improve if less spending is earmarked to special interests, and if the budget law, considered by congress in 2004-05 had authorized the Ministry of Finance in case of a revenue shortfall to curtail spending in order to meet the fiscal balance in the approved budget. The draft did not include this provision, however, and the FRL alone cannot control the national deficits. Thus, further measures are needed. Two important ones are: (a) passing a strong budget law to give the Ministry of Finance the necessary tools to control aggregate spending to stay within the limits approved by Congress; and (b) reducing the commitments for current spending, especially those made several years in the past.

Public Investment

2.25 Public investment has declined over the past decade to under half of its former GDP share, crowded out by debt service and the rise of transfers (mainly to subnational governments for teacher salaries and to pension schemes). As Figure 2.4 shows, capital expenditures and net lending have decreased while transfers and interest payments increased. In an effort to limit the growth of debt, fiscal adjustment has come through revenue increases and cuts in public investment. In the past two years fiscal adjustment has helped reduce the deficit and debt from unsustainable levels, but the government and others recognize the need to take into account the longer-term effect of public investment on growth. While to some extent growth varies exogenously, as in the previous discussion of debt sustainability, it also depends on public investment. Models that take that into account show that achieving overall fiscal balance by reducing investment—say by 2.5 percent of GDP—will not reduce debt ratios in the long term, but does reduce growth by about 1 percentage point per year (Suescún 2004). This leads to a lower consumption level in about four years, with increasingly negative effects over time.

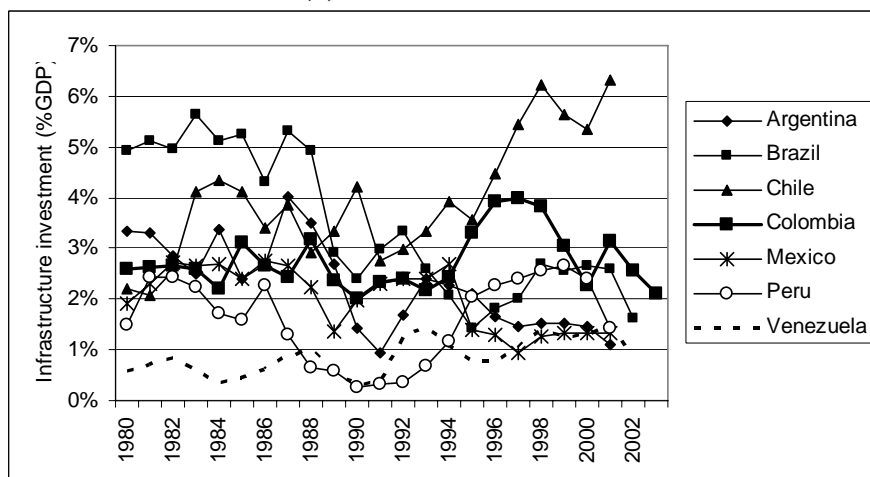
**Figure 2.4: Composition of Central Government Expenditures
(2004 is projected)**



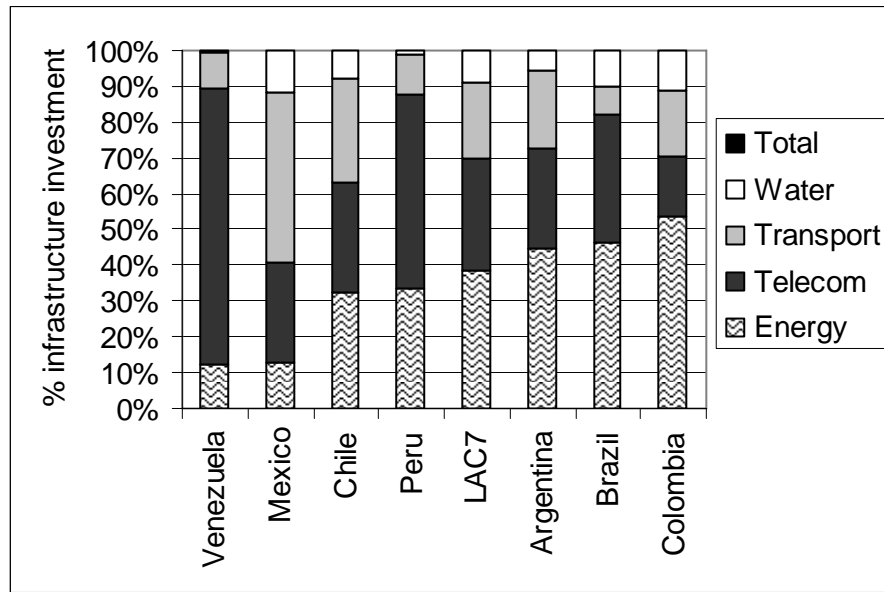
Source: Ministerio de Hacienda

2.26 Compared to other Latin American countries, Colombia has maintained a relatively stable flow of infrastructure investment, reaching a peak of around 4 percent of GDP during the mid-1990s, but falling to about 3 percent of GDP more recently (Figure 2.5a). The decline in infrastructure investment followed the onset of domestic and international financial market turbulence in the mid-1990s, and was further hit by Colombia's loss of investment-grade status in 1998. Despite the recent declines, Colombia is one of only two Latin American countries (Chile is the other) that has consistently maintained infrastructure financing above 2 percent of GDP, but ranks lower when compared to East Asia. During the last decade, Colombia's infrastructure investments were predominantly in the energy sector, with relatively little in telecommunications and transport, compared to elsewhere in Latin America (Figure 2.5b).

**Figure 2.5: Total Financing for Infrastructure
(a) Trend Over Time**



(b) Sectoral Composition



Source: Adapted from Easterly and Servén (2003).

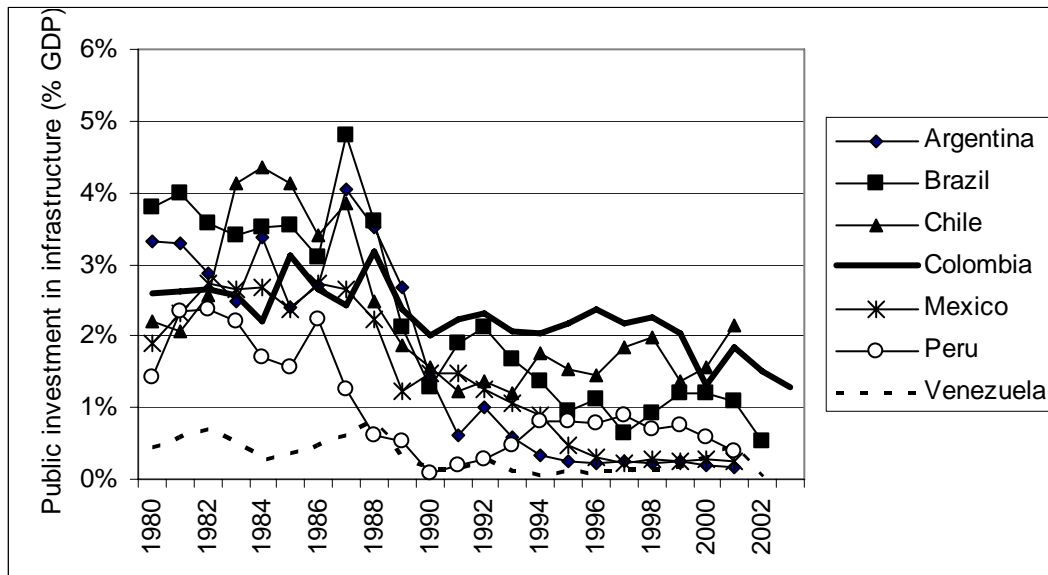
2.27 In contrast to other Latin American countries, Colombia allowed greater private finance for infrastructure without simultaneously decreasing public finance. While the vast majority of Latin American countries experienced a sharp decline in public financing for infrastructure investments toward the end of the 1980s, falling from 2 to 4 percent of GDP to around 0 to 2 percent of GDP, Colombia's public financing of infrastructure remained at around 2 to 2.5 percent of GDP. Nonetheless, fiscal constraints and greater social spending have led to a gradual decline since the mid-1990s (Figure 2.6a). Private financing of infrastructure in Colombia started comparatively late, but reached relatively high levels by the mid-1990s (Figure 2.6b). Flows peaked at close to 2 percent in 1997, and then began to fall off, reflecting the economic crisis and the loss of investment-grade rating. Nevertheless, they have remained consistently above 1 percent of GDP, experiencing a modest resurgence toward 1.3 percent of GDP in 2001–02.

2.28 The private sector financed about 40 percent of total infrastructure investment in Colombia in the 1990s, compared to about half in other middle-income countries. Colombia's private financing has been more effective, however, in actually increasing the stock of infrastructure, because almost all (98 percent) of Colombia's private capital flows resulted in new infrastructure investment—greenfield projects—rather than asset divestitures, which mostly went to general fiscal revenue. Elsewhere in the region, typically only 40 to 60 percent of private capital flows actually went for new infrastructure investment.⁵⁹

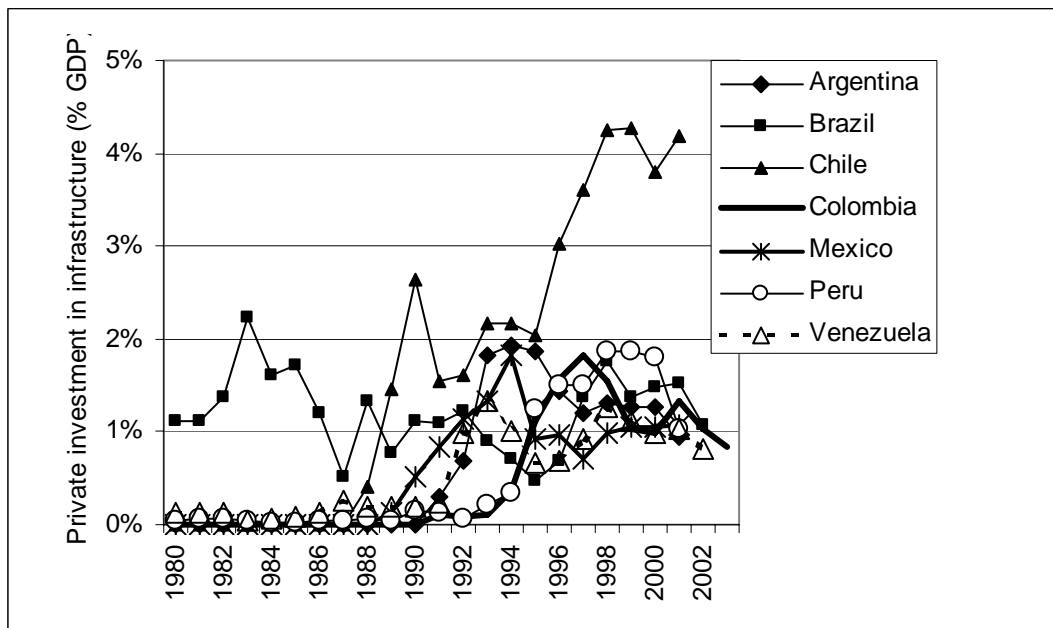
⁵⁹ The relative quality and efficiency of Colombia's infrastructure presents a mixed picture. Annex II.2 discusses the public and private investment in individual infrastructure sectors—telecommunications, transport, energy, and water.

Figure 2.6: Infrastructure Financing, by Source

(a) Public Finance



(b) Private Finance



Source: Adapted from Easterly and Servén (2003).

2.29 In summary, the challenge for Colombia is to reorient its infrastructure investment toward the productive sectors without jeopardizing its strong performance in social infrastructure. Given that the overall level of resources devoted to infrastructure will be difficult to increase, this shift will have to be funded primarily by reducing other current expenditures and by new sources of finance for productive infrastructure. While the

private sector can play an important role in addressing the deficits in energy and telecommunications, the key challenge of financing improvements in the road network will necessarily remain a predominantly public responsibility, since private toll roads have already expanded to about their limit. The “Recent Economic Developments in Infrastructure” (REDI) report found that the public sector needs to finance about 2.2 percent of GDP in productive infrastructure in order to meet the country’s needs for competitiveness (Table 2.2). Currently, the government is spending about 1.7 percent of GDP. Therefore, the government would need to increase spending in productive infrastructure by about 0.5 percent of GDP to achieve its growth goals. In the fiscal reform agenda section we discuss different options on how to finance the infrastructure needs.

Table 2.2: Infrastructure Needs

	As a Share of GDP
Maintenance	0.8
Rehabilitation	0.5
Guarantees	0.2
Investment	0.7
Total Public Finance Infrastructure Needs	2.2
Actual Expenditures on Infrastructure	1.7
Additional Public Finance Infrastructure Needs	0.5

Source: REDI.

Social Sector Expenditures

2.30 Social sector expenditures have doubled in the last decade but poverty has not decreased significantly, mostly due to the economic crisis during 1999–2001. The current level of social expenditures, about 14 percent of GDP, has helped to alleviate poverty, reduce inequality, and improve access of the poor to basic social services. The challenge is to use these resources more efficiently. Although most of Colombia’s social programs are progressive, the larger ones are not (in absolute terms) (see Figure 2.7). Thus the initial impact of social spending favors the rich, but if one considers that revenue is raised at least proportionately with income, then the overall impact of public finance is redistributed toward the poor. Nevertheless, the equity of public social spending may be improved by expanding the participation of the poor in the programs or by reallocating public expenditure in favor of more progressive programs.

2.31 ***Expanding coverage of post-basic education and reforming financing in tertiary education.*** Given that the largest economic returns at present are achieved at the tertiary educational level, this should be a first priority in reforming the allocation of public spending to achieve growth and equity. The participation of the poor in tertiary education will become more likely in the near future as a result of the rising trend in completion rates of secondary education by the poor.⁶⁰ Ensuring and accelerating this process, however, will require targeted scholarship programs designed to finance the opportunity costs for the poor. Given the costs of such programs and the limited fiscal

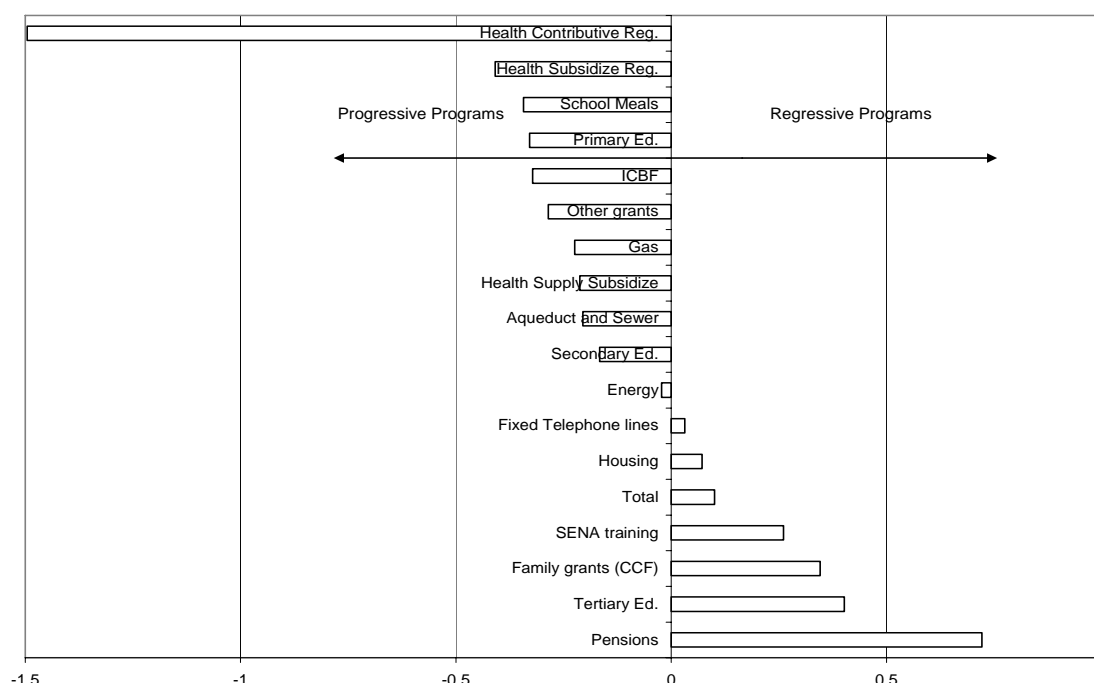
⁶⁰ Net enrollment rates in Colombia are about 80 percent in secondary education.

resources available, this would require a reform in the financing of higher education in Colombia.

2.32 *SENA's money could be used more effectively.* According to the paper, “Public Training Reform Issues in Colombia: The Case of SENA,” about 60 percent of SENA's students are from the two richest quintiles. Therefore, it is necessary to improve the targeting of this institution.

2.33 *Pensions are highly regressive.*⁶¹ Therefore, a potential area for tax reform will be to tax pensions, as was proposed to Congress in 2004.

Figure 2.7: Concentration Coefficients, 2003



Note: From 1996 to 2001 actual transfers include the extraordinary transfers that subnational governments received during that period.

Source: 2003 Budget, HH Survey & WB calculations (Misión para el Diseño de una Estrategia para la Reducción de la Pobreza y la Desigualdad)

Subnational Fiscal Balance

2.34 The subnational (local) governments in Colombia—departments, municipalities, and special districts—affect the national fiscal picture through two channels: (a) the transfers that they receive from the national central government budget, and (b) their own fiscal balances. The 2001 constitutional reform temporarily de-linked transfers from national current revenues and put them on a more sustainable path, and thus limited the

⁶¹ Gross payments to pensions do not take into consideration the contributions of the pensioners. If we considered the net payments to pensions it would have been more progressive.

growth of central administration outlays (*gastos generales*).⁶² The reform combined the three main transfers, which had grown and proliferated since the 1991 Constitution, into a single *Sistema General de Participaciones*. In the transition, the *Participaciones* would grow at 2 percent in real terms during 2002–05 and at 2.5 percent during 2006–08.⁶³ In 2009 subnational governments will receive the same amount of transfers they received in 2001—in other words, about 40 percent of current revenues, or about 7.3 percent of GDP. After 2010 the increase in *Participaciones* will equal the average growth of the central administration’s current revenue during the previous four years. It was expected that the transfers would decline from about 6 percent of GDP in 2002 to about 5.4 percent of GDP in 2008. This trend is confirmed in Figure 2.8, which compares the revenue shares under the current and previous rules. Although, the *Acto Legislativo* has been able to save on average about a percentage point of GDP, in 2009 there could be significant pressure on the central government because transfers to subnational governments would have to increase from about 5.4 percent of GDP in 2008 to about 7.3 percent of GDP in 2009. Therefore a priority in the Fiscal Agenda would be to change this provision in the law in such a way that transfers to subnational governments are kept constant in real terms after 2008. To preserve this fiscal breathing room for itself, the central government must resist pressure and temptation to expand transfer programs, as happened in the 1990s. This should be easier if the departments and municipalities with major expenditure responsibilities are given more of a tax base of their own, and restraining transfers will create incentives for the local governments to use their tax bases.

Table 2.3: Local Governments Finances

	Local Governments—Fiscal Summary (as a share of GDP)				
	2000	2001	2002	2003	2004
Revenue	11.3	11.9	12.5	12.5	12.0
Own Revenue	5.6	5.5	6.3	5.6	5.3
Transfers	5.7	6.4	6.2	6.9	6.7
Expenditure	11.4	11.8	12.0	12.1	10.9
Current expenditure	7.2	7.3	7.9	7.1	6.7
Own	7.1	7.3	7.9	7.1	5.9
Transfers	0.1	0.0	0.0	0.0	0.8
Capital expenditure	4.2	4.5	4.1	5.0	4.2
Fixed Capital Formation	4.2	4.5	4.1	5.0	4.2
Transfers	0.0	0.0	0.0	0.0	0.0
Overall Balance	-0.1	0.1	0.4	0.4	1.1

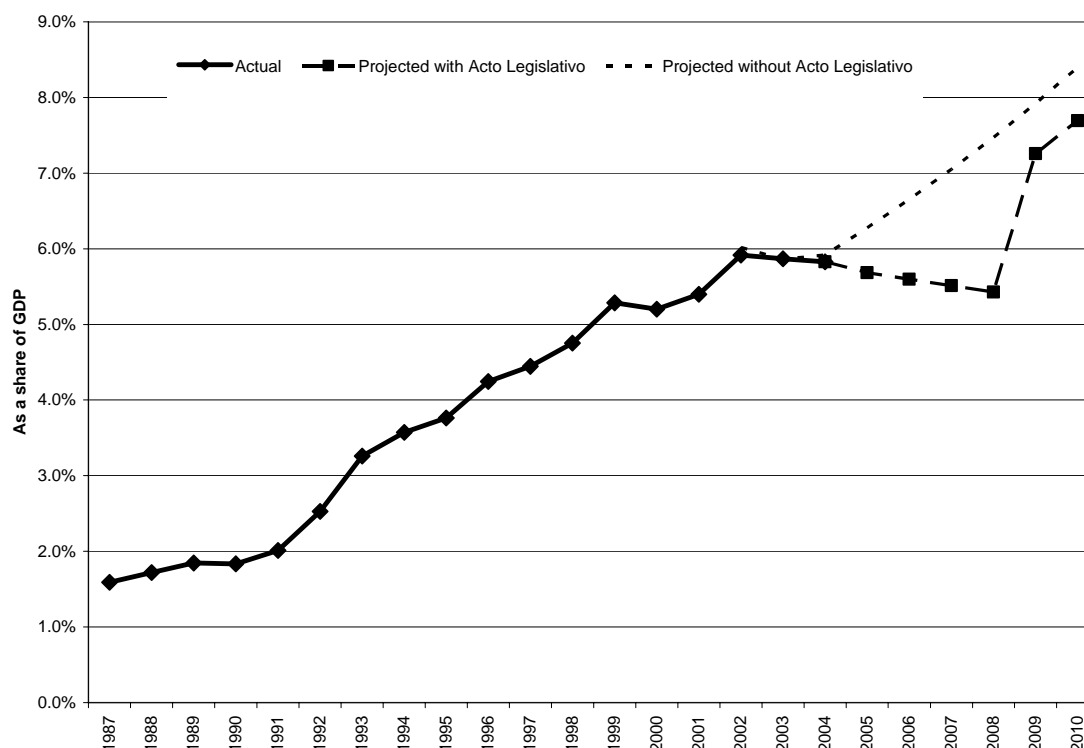
*p = projected.

Source: IMF.

⁶² The limits on the central administration’s operational expenditures have been: (a) 1.5 percent real growth for 2002–08, and (b) thereafter a growth rate equal to the moving average growth of current revenues for the previous four years.

⁶³ If real GDP growth exceeds 4 percent in any transition year, *participaciones* would increase proportionately, but only after adjusting for the years when real GDP grew more slowly than *participaciones*.

Figure 2.8: Subnational Transfers, Actual and Counterfactual



Note: From 1996 to 2001 actual transfers include the extraordinary transfers that subnational governments received during that period.

Sources: DNP and World Bank calculations.

2.35 The own finances of the subnational governments have also improved, thanks to a series of measures from 1997 to 2003, which aimed at debt control directly and through spending control (See Table 2.3). In the late 1980s and 1990s the trend toward political decentralization was accompanied by more freedom for subnational domestic borrowing. There was no effective ex ante control of cash advances from banks, and subnational debt with the banking sector rose from 2.6 percent of GDP in 1991 to 4.6 percent in 1997.⁶⁴ To increase the central government's control over subnational debt, the so-called Traffic Light Law of 1997 introduced a rating system for territorial governments, based on the ratios of interest to operational savings and of debt to current revenues. Highly indebted local governments (red light) were prohibited from borrowing, and intermediate cases (yellow light) were required to obtain permission from the Ministry of Finance. The law was not fully effective, however, since some governments with a red-light rating obtained new financing without permission from the Ministry of Finance. "Out of 21 departments that required permission for new loans in 1997, 10 received new credit without permission from the Ministry of Finance. In order to be able to violate the law, departments presented defective financial information, and the financial institutions analyzed it only superficially. In addition, the Ministry of Finance gave its authorization in cases where it should have denied it" (Echevarria and others 2002:22–23). Rather than

⁶⁴ For further details, see Dillinger, Perry, and Webb (2001).

moving from yellow to green, as expected, the departments often changed from yellow to red.

2.36 The importance of bank lending as a source of financing for subnational governments in Colombia makes bank regulation an alternative way to control subnational borrowing. The Superintendency of Banks altered its requirements regarding provisions against nonperforming territorial loans. After SNG borrowing from banks expanded during 1993–94, the Superintendency required any subnational loan with over a year maturity to be classified as risky and to have some provisioning. These regulations were relaxed again in 1996, leading to two years of high borrowing. In 1999, the Traffic Light Law was strengthened to require banks to provision fully for the debt of any territory with a red rating, thus increasing the cost of those loans for banks.

2.37 In a new attempt to implement fiscal rules to stabilize subnational finances, Colombia passed Law 617 in 2000, which functioned in many ways as a subnational Fiscal Responsibility Law. The law appears to move in the right direction, and initial evidence suggests that it is bringing about a structural change in fiscal outcomes:

- Primary current expenditure (most of which is wages) may not exceed non-earmarked current revenues, and should not exceed a fixed percentage, depending on the state or municipality category; governments must make across-the-board cuts in spending whenever effective non-earmarked current revenues are lower than budgeted.
- Expenditure for departmental legislatures is limited.
- Departmental and municipal central administrations are not allowed to make transfers to their public entities.
- Strict limits apply to the creation of new municipalities, and municipalities proven nonviable have to merge.
- When subnational governments do not comply with the limits imposed by the law, they have to adopt a fiscal rescue program to regain viability within the next two years.
- To promote transparency, there is an extensive list of characteristics and requirements for the election of governors, mayors, legislators, and their relatives.

2.38 In June 2003 the government passed the Law of Fiscal Responsibility and Transparency, which applied to both the subnational and national governments, as discussed later. The law eliminates the intermediate yellow-light category in *Ley 357* (thus putting tight fiscal restraints immediately on SNGs that show signs of problems), and requires that departments and large municipalities get satisfactory credit ratings from international rating agencies before they borrow. It prohibits the national government from lending to an SNG or guaranteeing its debt if it is in violation of *Ley 617* of 2000 or

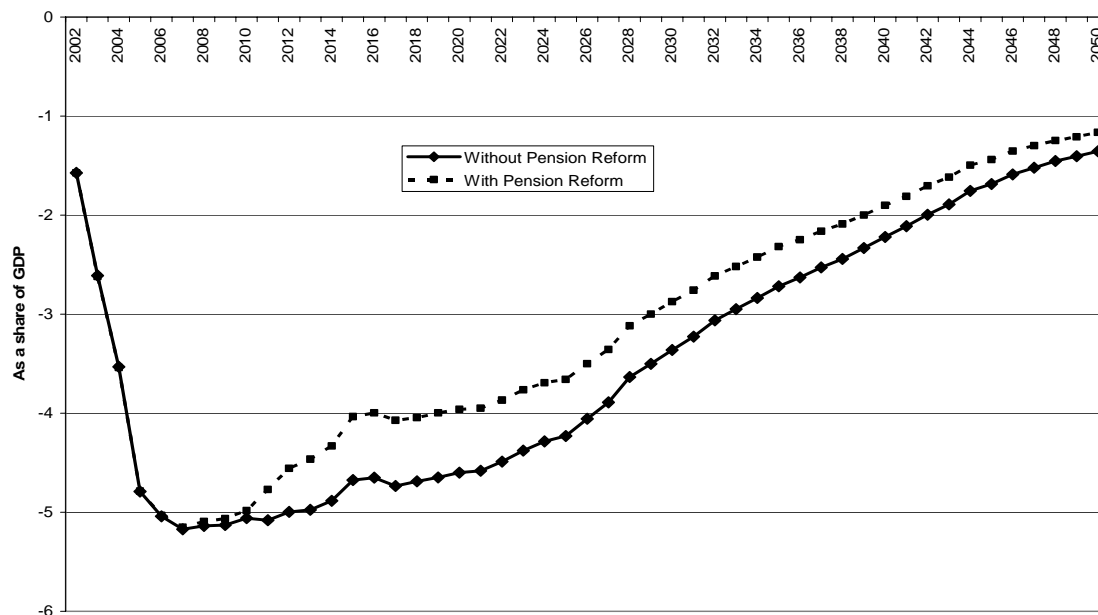
Ley 357 of 1997, or if it is in arrears on any debt service to the national government. Indeed, a subnational government with those fiscal violations may not legally borrow from anyone.

2.39 The policy agenda for subnational finances, in summary, is to preserve the recent progress made in reducing deficits, and to increase the spending efficiency and tax effort of those governments.

Pensions

2.40 Colombia has a constitutionally mandated pay-as-you-go pension system managed through the *Instituto de Seguridad Social* (ISS). Although the system underwent reforms in 1993 through Law 100, it is still generating major deficits that need to be covered through large central government transfers. Law 100 addressed issues of low contributions and overly generous retirement benefits; however, it did not take into consideration demographic changes (it calculated an average payout lifetime of 15 years, which has now reached close to 26 years) and did not eliminate a number of very expensive special regimes. Over the last five years, average contributions to the system have remained constant at 1.1 percent of GDP, while payouts have been increasing from 4.4 percent in 2000 to 5.7 percent in 2004.

Figure 2.9: Social Security Operational Balance



Source: DNP

2.41 In 2005, Congress approved a constitutional amendment to make the pension system more sustainable. Among the key elements of this reform are the following: (a) introduction of a mandate of financial sustainability of the pension system into the

Constitution, (b) elimination of special regimes, (c) ineligibility of negotiating pension issues in collective bargaining agreements; (d) elimination of the 14th salary (*mesada 14*), and (e) a cap on individual pension entitlements equivalent to 25 minimum wages. The government estimates that these measures will reduce the pension system imbalances significantly, leading to a reduction of about 19 percent in the net present value of the accumulated operational deficit. The net present value of the contingent stock is now estimated to be about 143 percent of GDP. This reform made some improvements to the pension system. Nevertheless, for the next 15 years the cash flow deficit will remain at about 4 percent of GDP, which is high and will continue to create significant pressure over the central government's finances unless further reform is undertaken.

II. TAX POLICY AND ADMINISTRATION AND COMPETITIVENESS

2.42 Colombia's welcome rebound of growth in the past three years resulted substantially from investors' positive reaction to improvements in domestic security and the external environment, as discussed above. The boost from this improvement is likely to be a one-time shift, and if Colombia wants to continue being attractive for new investment (especially in the context of greater free trade with the United States) it will need to improve its business environment relative to competitors. The dimensions of such improvement should include infrastructure (see Recent Economic Developments in Infrastructure, REDI), labor (see Labor study), regulation (see Competitiveness chapter), and taxes. In this section we investigate the implications of taxes on the business environment.

2.43 Total domestic tax collection as a share of GDP in Colombia is around the median of similar middle-income countries—higher than Mexico and Peru—but well below the levels in Brazil and Chile (see Table 2.4).⁶⁵ The next chapter discusses tariffs on trade. The valued-added tax (VAT) is a major source of revenue. As a tax on domestic consumption, it does not affect competitiveness directly; mainly it discourages consumption, including of imports. (The small effects on the rate of return to capital are noted below in the marginal effective tax rate calculations.) The main tax affecting competitiveness is the corporate income tax. The base rate is 35 percent, to which the government added surtaxes of 5 percent and then 10 percent to raise more revenue. Investors facing a 38.5 percent statutory tax (and often effectively more—see Annex 6) find Colombia a less-competitive place to invest compared to many places where the statutory rate is 30 percent or less. Less investment leaves laborers using less capital (for example, less machinery), and therefore is less efficient and productive.

⁶⁵ If we include subnational taxes, Colombia ranks one of the highest tax collectors in Latin America.

Table 2.4: Domestic Tax Revenue, by Source

	1990	1995	2000	2001	2002	2003	2004
Tax Revenue	9.3%	9.7%	11.2%	13.2%	13.5%	14.0%	14.7%
Income tax	3.8%	4.0%	4.3%	5.3%	5.3%	5.4%	6.1%
Value-added tax	2.9%	4.1%	4.8%	5.3%	5.3%	5.9%	6.0%
Net wealth tax	0.0%	0.0%	0.0%	0.0%	0.6%	0.5%	0.2%
Financial transactions tax	0.0%	0.0%	0.6%	0.8%	0.7%	0.7%	0.9%
Tariffs	1.5%	1.0%	1.0%	1.1%	1.0%	1.0%	0.9%
Gasoline	0.7%	0.6%	0.5%	0.6%	0.5%	0.5%	0.4%
Other	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Non-tax Revenue	1.0%	1.7%	2.1%	1.7%	1.6%	1.4%	1.3%
Total Revenues	10.3%	11.4%	13.3%	14.9%	15.0%	15.2%	16.0%

Sources: DIAN, IMF, and World Bank calculations.

2.44 The financial transactions tax causes some distortions to the business environment. This tax has compromised the efficiency of the payment system, reduced the volume of financial transactions, and encouraged business to migrate to the underground economy. Nevertheless, it has provided revenues of about 0.8 percent of GDP on average per year. In the near term, tariff revenues will decline as a result of the Free Trade Agreement, and in order to increase competitiveness, Colombia will have to invest more. Therefore, it will not be feasible for Colombia to eliminate this tax in the short term. It can be phased out (or reduced), however, in two years if it is accompanied by increasing tax revenues with less-distortionary measures.

2.45 Tax Reform Law 788 of December 2002 (effective in 2003) established the framework for tax reform and brought significant advances in reducing the inefficiencies and distortions of the Colombian tax system, although it also had several distorting measures that were necessary to meet the short-term revenue targets. The law: (a) eliminated some of the exemptions and expanded the tax base for the value-added tax; (b) reduced the wage exemption under the personal income tax and set a ceiling on it;⁶⁶ and (c) phased out the corporate income tax exemption for capital gains from sales of stock, mutual funds, and real estate, and for profits from previously privileged corporate firms, contracts, funds, or bonds.⁶⁷ The big revenue-raising measures with adverse microeconomic effects were the increase in the corporate income surtax and the financial transactions tax, and imposition of a “one-time” wealth tax (subsequently repealed). Law 788 also introduced some sector-specific distortions—exemptions such as for hotel services of new and remodeled hotels and seismic services for the hydrocarbon industry. Subsequently the government took follow-up measures in 2003 to continue to balance the objectives of efficiency and raising revenue. (See Annex 6, Table A6.11 for reform

⁶⁶ The ceiling includes all forms of compensation and thus reduces incentives for non-taxed compensation to employees.

⁶⁷ The income tax is partially integrated by exempting dividends from taxation as personal income. Law 788 introduced taxation of capital gains at the individual level, which results in some double taxation of business income, but has the advantages of increasing revenue and reducing opportunities for tax avoidance through schemes that convert labor and accrued capital income into capital gains.

measures since 2002 that improved the efficiency and reduced distortions of the system, and Annex 6, Table A6.12 for the measures that raised revenue but also increased distortions.).

2.46 On December 29, 2003, Congress approved Law 863, a tax package designed to fill part of the fiscal gap created by the unexpected rejection of the referendum. This law made further improvements in tax policy, but also introduced new distortions to the tax system. Law 863: (a) phased out a year earlier than planned some sectoral exemptions under the corporate income tax, (b) introduced partial expensing as an investment incentive under the corporate income tax, (c) extended the temporary corporate income surtax, (d) tightened the eligibility rules for the special income tax regimes applied to small firms and nonprofits, (Article 8), (e) introduced anti-avoidance provisions limiting the transfer of profits to tax havens (Article 4) and the ability to hide assets or create false liabilities (Article 6), (f) expanded slightly the base of the VAT, (g) accelerated VAT collections by retaining more at the source,⁶⁸ (h) and tightened access to the simplified VAT regime to stop some abuses.

2.47 Although most of the reforms enacted in 2003 were desirable, two were not. Overriding Law 788 of 2002, which specified that the 10 percent surcharge under the corporate income tax would be reduced to 5 percent in 2005, Law 863 (Article 7) instead extended the 10 percent surcharge for 2005 and 2006. This policy change is undesirable since the base tax rate of 35 percent is already high by international standards, which discourages capital formation, including foreign direct investment, and encourages transfer pricing schemes and other manipulations by multinational firms that reduce Colombian tax revenues. A preferable approach is to expand the corporate income tax base by eliminating more exemptions. If the surcharge (and the partial expensing provision) is dropped after 2006 as scheduled, however, this would represent an improvement over Law 788, which left the surtax at 5 percent indefinitely.⁶⁹ Law 863 also raised the tax rate of the financial transactions tax.

2.48 In September 2004 the government submitted another tax bill to Congress. The proposed tax bill would: (a) raise the general VAT rate from 16 to 17 percent; (b) expand the base of the VAT by incorporating with a tax rate of 3 percent almost all of the goods that are currently zero rated or exempt (hopefully satisfying constitutional requirements by excluding a small basket of basic foodstuffs and certain essential services such as housing, education, and health, so that roughly half of typical expenditure package for the poor is exempt); (c) tax high-income pensioners under a regime with an exemption structure similar to that used under the personal income tax; (d) expand the base of the wealth tax; and (e) reduce the corporate income tax rate in 2008 to 32 percent (including elimination of the surtax).⁷⁰ The proposal did not pass and seems unlikely to be revived before the next election, in 2006.

⁶⁸ Some firms are now required to withhold the VAT on their purchases from other firms, with the selling firms receiving credits for tax withheld.

⁶⁹ Partial expensing is scheduled to be dropped after 2007.

⁷⁰ By lowering the threshold of the wealth tax to COP\$1,000 million, about 15,150 additional taxpayers will start paying this tax.

2.49 Nonetheless, the proposed measures would have reduced a number of important distortions left in the system, and they can usefully remain on the reform agenda for the future. Expanding the base of the VAT would help reduce evasion. Taxing pension income on a progressive scale is reasonable and equitable. Under current law, pensions are treated extremely favorably, because contributions are deductible and neither income within the pension funds nor pension receipts are taxed. As a result, pensions are treated much more favorably than they would be even under a consumption-based tax. Given the existence of the wealth tax, expansion of its base will improve equity and minimize the distortions of savings and investment decisions inherent in taxing wealth. Reducing the corporate income tax rate relative to its currently high level would reduce tax disincentives for saving and investment and close the opportunities for tax avoidance and evasion via transfer pricing and other manipulations by multinational firms. The financial transactions tax rate should be reduced or eliminated.

Marginal Effective Tax Rate Analysis

2.50 Since a variety of tax measures affect the competitiveness of business in Colombia, we use the marginal effective tax rate (METR) method of analysis, which is described in detail in Annex 6. METR analysis shows the net effect of all components of the tax system on the *level* of the taxation of capital income generated by marginal investments in the various types of assets defined by the tax code. In addition, by considering a variety of investments that differ in asset composition, method of finance, type of investor, and economic sector, METR analysis provides an indicator of the tax differentials that arise across different types of investments—that is, it shows how taxes affect the *composition* of investment. To improve competitiveness, investments should be allocated according to economic rates of return and the tax system should not distort this information to investors by favoring or penalizing one sector or type of capital over another. Thus, to improve competitiveness, METRs should be as low as possible (given fiscal needs), and uniform. Eight results of the METR analysis stand out for Colombia.

2.51 First, depreciation deductions under the income tax are relatively generous, because they were initially set high to offset the effect of inflation but not adjusted downward when the tax system was indexed for inflation in 1988 (see Zodrow 2002). This results in some distortion of the allocation of investment across different types of assets. Therefore, it is necessary to reduce the depreciation deductions to reduce tax distortions across assets and business subsectors.

2.52 Second, the business income tax system in Colombia, like most corporate income taxes, is biased toward debt finance, although the problem is less critical in Colombia than in many other countries since dividends are not taxed at the individual level. Nevertheless, to the extent interest income is not fully taxed at the individual level, a bias favoring debt finance exists. Also, the modest degree of withholding of tax on interest under current law (7 percent) results in only a limited reduction in the variability of METRs with respect to the debt–capital ratio. In addition, for investments by foreigners, withholding on dividends imposed at a 7 percent rate increases the METRs on the equity-financed component of investment. This implies that the government should consider increasing interest withholding to reduce the existing tax bias favoring debt finance.

2.53 Third, the granting of immediate partial expensing at a rate of 30 percent for investments in depreciable assets other than structures has a huge effect on their METRs. This is especially true because this investment incentive is inappropriately designed and is thus overly generous, since the tax basis of the asset is not reduced to reflect immediate partial expensing, implying that investors effectively get to deduct 130 percent of the cost of the asset. As a result, the METRs under the business income tax, including withholding on interest payments at a 7 percent rate and assuming 100 percent equity finance, fall from 32.5 percent to 0.1 percent for investment in machinery, equipment, and furniture, and from 29.2 percent to a subsidy of 67 percent (an METR of -67 percent) for investment in computers and vehicles. The decline in METRs is even more dramatic if part of the investment is debt financed, with the METR falling to -54.2 percent for investment in machinery, equipment, and furniture with 60 percent debt finance, and to a subsidy greater than 1,000 percent for investment in computers and vehicles. (The METR concept is not well suited to analyzing subsidies, since with sufficiently large subsidies, METRs become arbitrarily large as the denominator of the effective tax rate, the gross return required, becomes very small.) These results demonstrate that a first priority for reform should be “fixing” immediate partial expensing by adding a basis adjustment so that the purchase price of the asset is deducted only once, as described in Zodrow (2003b). This would result in METRs that vary from 22.4 to 38.5 percent with all equity finance, and from 10.2 to 29.3 percent for 60 percent debt finance, and such a reform is assumed in most of the subsequent discussion in order to avoid highly negative METRs.

2.54 Fourth, the 0.3 percent wealth tax has a relatively minor impact on investment incentives under the Colombian tax system, if it remains temporary primarily because it applies to both new investments and the existing capital stock. Thus it generates revenues primarily by taxing the existing capital stock while causing only relatively small disincentives for new investment. For example, with partial expensing with basis adjustment and interest withholding at 7 percent, the addition of the wealth tax increases METRs by roughly 2 to 6 percentage points. Moreover, because the wealth tax applies to all capital investments regardless of the level of debt finance, it reduces the dispersion of effective tax rates across types of assets and across methods of finance. For the medium and long run, the wealth tax should expire as scheduled in order to reduce the overall taxation of capital income in Colombia, and to avoid creating the impression that “temporary” tax rate increases are inevitably permanent. Nevertheless, in the short run, while revenue needs are pressing, the wealth tax could be maintained at its current rate, especially if partial expensing, modified as described above, is also maintained.

2.55 Fifth, the delay in crediting the VAT on purchases of capital equipment (the VAT is credited over a three-year period rather than immediately) has only a modest effect on METRs. For example, with partial expensing with basis adjustment and interest withholding at 7 percent, the addition of the VAT with three-year crediting increases METRs on the affected assets by between 0.5 and 2.7 percentage points. However, the VAT, as a tax on the purchase price of a capital asset rather than on its net income, can have significant effects if it is not credited (as is appropriate for a consumption-based tax). For example, with partial expensing with basis adjustment and interest withholding at 7 percent, the addition of an uncredited VAT increases METRs on the affected assets

by between 8.5 and 42.5 percentage points. In addition, an uncredited VAT results in wide variations in METRs across assets and business sectors, with METRs varying from 29.5 to 50.7 percent with all equity finance, and from 14.8 to 52.7 percent with 60 percent debt finance. Thus, crediting of the VAT (even in delayed form) should not be allowed to expire, and consideration should be given to implementing the standard treatment of full immediate crediting.

2.56 Sixth, as would be expected from the previous discussion, the addition of the wealth tax and the VAT with three-year crediting by no means offsets the deleterious effects of immediate partial expensing with no adjustment of basis. METRs for the current system, including the business income tax with partial expensing with no adjustment of basis and interest withholding, the wealth tax, and the VAT, are very low or negative on investment in machinery, equipment, and furniture, and on investment in computers and vehicles. Coupled with METRs that range from 18.2 to 41.0 percent on investment in structures and non-depreciable assets, the tax system results in huge distortions across assets and across business subsectors, with METRs ranging from -44.8 to 41 percent for all equity-financed investments and -412 percent to 31.7 percent for investments financed with 60 percent debt.

2.57 The METR analysis suggests two general routes for reform of the business tax in Colombia. In the short run, especially since revenue needs are pressing due to scheduled tariff reductions and various public investment needs, the statutory rate could be maintained at its currently relatively high level of 38.5 percent, coupled with changes in depreciation deductions and appropriately designed partial expensing at the current 30 percent rate with basis adjustment, as an incentive for new investment. Such an approach would create incentives for new investment in depreciable assets while still taxing the income from existing capital at the statutory rate. It would result in METRs that vary from 32.1 to 41.0 percent for all equity-financed investments and 20.4 to 33.6 percent for investments that are 60 percent financed with debt.

2.58 In the longer run, rate reduction coupled with base-broadening would be an attractive route for reform of the Colombian business-income-tax system. The above analysis shows that the negative effects on investment incentives of a high statutory rate under the business income tax can be offset with the appropriate tax incentives, such as partial expensing with basis adjustment. Moreover, the use of investment incentives avoids the transitional problem of lowering the tax burden on existing capital that arises with a statutory rate reduction. Such incentives, however, coupled with a statutory corporate tax rate that is relatively high (especially by Latin American standards), suffers from two important problems. First, a high statutory tax rate creates incentives for multinationals to use accounting manipulations, such as transfer pricing schemes or judicious allocations of loans, to shift revenues away from, and deductions to, the high rate jurisdiction. Such manipulations can dramatically reduce revenues in countries with relatively high statutory tax rates such as the current rate in Colombia. A second less-obvious but perhaps critical issue is whether a high statutory rate creates the perception in the international business community of an unfavorable tax regime, even if the effects of the high statutory rate are greatly mitigated with investment incentives. Both of these considerations suggest that a lower-rate, broad-based approach to corporate taxation

would be more desirable than one characterized by a high statutory rate and generous investment incentives.⁷¹

2.59 One such approach would be to reduce the statutory business tax rate to 30 percent, coupled with elimination of partial expensing. METRs under this approach, including interest withholding at a 7 percent rate, the current wealth tax, and the VAT with three-year crediting, would range from 25.1 to 32.9 percent with all equity finance and 16.1 to 27.2 percent with 60 percent debt finance. Such a system would thus result in a fairly low overall tax burden and few distortions across assets or subsectors. Moreover, even this fairly narrow range of METRs could be further narrowed by reducing current deductions for depreciation as outlined above, resulting in a tax system that would be desirable on efficiency, equity, and simplicity grounds, because it would have virtually uniform rates across all assets and business subsectors at any given level of debt finance (32.3 to 33.7 percent with all equity finance, and 26.3 to 27.2 percent with 60 percent debt finance), less variation in METRs across methods of finance (since the difference in the rate at which interest is deducted and taxed is reduced), and a relatively low overall level of taxation, determined primarily by the statutory rate.

2.60 In summary, the METR analysis suggests that a number of reforms of the Colombian tax system are worthy of consideration. Most urgent, the system of partial expensing should be amended by allowing for a basis adjustment in the calculation of depreciation deductions. Alternatively, partial expensing could be replaced by a rate reduction that would reduce incentives for revenue-reducing transfer pricing and other manipulations by foreign multinationals and reduce distortions across assets, business subsectors, and methods of finance. In either case, consideration should be given to reducing depreciation deductions to reduce tax distortions across assets and business subsectors. Moreover, delayed crediting of the VAT should not be allowed to expire, and should in the long run be replaced with the standard treatment of full immediate VAT crediting of all business purchases. Finally, consideration should be given to an increase in interest withholding to reduce the existing tax bias favoring debt finance, although this is complicated by the extent to which such a change would encourage domestic capital flight to Miami and elsewhere.

Subnational Government Taxes

2.61 In order to both reduce reliance on funding from the central government, the resources of which are overstretched, and to increase reliance on own sources of funding and thus local accountability, Colombia is currently attempting to strengthen its subnational taxes. The two primary municipal taxes are the property tax (*Impuesto*

⁷¹ Another commonly noted point is that the effects of investment incentives may be muted for firms based in countries, such as the United States, that tax their multinationals on a residence basis, subject to a foreign tax credit for taxes paid abroad, because incentives in the host country may simply be offset by higher taxes in the home country. It should also be noted, however, that many factors, including the existence of countries that tax on a territorial basis or allow tax sparing, the existence of many firms with excess foreign tax credits, and the fact that home taxes are deferred until profits are repatriated, suggest that the importance of this “Treasury transfer effect” is limited in many cases.

Predial Unificado) and a tax on gross business receipts known as the industry and commerce tax (*Impuesto de Industria y Comercio*) (Zodrow 2003). The efficiency of the property tax and appropriateness of its assignment to municipalities is clear. They do need the political will and some technical assistance to make it more effective.

2.62 An industry and commerce tax on the gross receipts of local businesses is common in Latin America and elsewhere, because it is relatively easy to collect and administer. These taxes cause substantial economic distortions, however, because they fall mainly on a mobile factor, capital, and are not related to benefits. Because it is assessed on a gross basis with no deductions for costs, the effective tax rates vary considerably across business sectors, and thus distort resource allocation; in particular, gross receipts taxes impinge heavily on industries and products characterized by considerable turnover in the production and distribution process as the tax cascades at each stage of this process. Such tax cascading in turn creates inefficient incentives for vertical integration by firms in an attempt to reduce tax liability. Moreover, to the extent that gross receipts taxes are shifted to local consumers, they inefficiently distort consumption choices. Finally, the value added by the firm (which is likely to be correlated with local benefits received) varies widely as a proportion of the gross turnover being taxed, making tax burdens vary capriciously across firms, independently of the public service benefits they receive. In Colombia, when firms produce in one locality and sell through branches in another, there is uncertainty about which jurisdiction should collect the tax. Also, the tax is rife with exceptions, some of them mandated from the national level.

Tax Administration

2.63 The National Directorate of Taxes and Customs (DIAN) is in charge of tax administration for the central government. Although traditionally a well-staffed organization, DIAN had nonetheless been unable to structure itself properly to achieve the desired levels of performance. Over the years, it has evolved from a department of the Ministry of Finance to a semi-autonomous agency, and as such has also suffered structural changes in terms of the unification of the tax and customs areas. In 2002, the Uribe administration brought in a new vision to the DIAN, with the following elements:

- An institutional development strategy based on: (a) the Integral and Integrated Tax Administration System (MUISCA), (b) organizational restructuring, and (c) legal restructuring.
- A production and transition strategy, including performance targets, “cleansing” of the accounting systems, review of workloads, de-concentration of the operational tasks, and IT sustainability;
- The supervision and control strategy, which includes the entity’s auditing plan.

2.64 In December 2003, Congress enacted Law 863, which included measures to support tax administration including the creation of a new mechanism to identify, locate and classify taxpayers and non-taxpayers. This registry system allows the DIAN to

increase the number of taxpayers and update its database. The anti-evasion component of the law yielded additional revenues of US\$350-400 million in 2004, and annual average increases of approximately US\$45 million per year between 2005 and 2010.⁷²

2.65 The implementation of this strategy has so far shown promising results. For the MUISCA system, DIAN put together an outstanding team of professionals, including DIAN staff and external consultants, to design, develop, and deploy this system.⁷³ MUISCA will become a seamless, integrated, platform covering, among other things, tax/customs audits, collections, control, and information technology. This system represents a significant shift from the traditional model of isolated systems for each business process. The DIAN has estimated that the deployment of the MUISCA and its improved control systems will yield an average annual reduction in tax evasion of up to 0.2 percent of GDP over the next few years.

2.66 DIAN implemented important actions reducing data-reporting thresholds for firms, improving and redesigning a web platform where taxpayers can submit their tax returns and payments, improving customs clearance times, cross-referencing taxpayer data with financial institutions, and developing integrated tax/customs audits, among others. These measures, along with a strong campaign to control tax evaders, have increased tax revenues through improved administration. Also, from the firm's point of view it has improved the tax returns procedure.

2.67 In 2002–03, DIAN showed measurable improvements in terms of effectiveness and efficiency. The percent of tax returns presented in a voluntary and timely manner increased from about 50 percent to over 80 percent, while the voluntary and timely payment of taxes increased from 67 percent to 81 percent. The ratio of DIAN administrative costs to total tax collections, a measure of efficiency, dropped in 2003 to about 60 percent of its 2001 level. Part of this gain in efficiency is attributable to the online submission of tax returns by upper-bracket taxpayers.⁷⁴

2.68 DIAN lacks a method to measure tax evasion based on national accounts. Overall revenue as a percent of GDP is not a good indicator of administrative improvements since revenues have been dramatically affected by tax policy reforms and economic growth, but gross tax collections minus the expected impact of each tax reform measure is a good measure of tax compliance. DIAN carried out such a calculation and found that improvements in tax administration have yielded an additional 1 percent of GDP in revenue over the past four years. From 2003 to 2004, when many of the control and auditing actions were undertaken, the administrative effect on tax collections is expected to be at least 0.3 percent of GDP. This represents a major accomplishment.

2.69 The ratio of administrative costs to collections is also improving and should continue decreasing as the new systems and organizational restructuring increase revenue while maintaining operational costs in check. The MUISCA system will revolutionize

⁷² Source: *Marco Fiscal de Mediano Plazo* (Medium-Term Fiscal Framework).

⁷³ This strategy is being aggressively implemented with the support of several agencies and governments, including the Bank (Public Financial Management II Project [MAFP II]), and the Government of Spain.

⁷⁴ All the information on indicators is derived from the MAFP II midterm report (August 2004).

information management for voluntary compliance, auditing, and control, while the organizational modernization process is introducing sector-specific intelligence to auditing that will promote better understanding of particular taxpayer behavior in specific sectors of the economy. DIAN's overall efficiency has improved over the last few years. Administrative costs per 1,000 pesos collected have dropped from 10.3 pesos in 2003, to an expected 9.6 pesos in 2004, and it is anticipated that costs will decline to 9.0 pesos in 2005, which is good by international standards.⁷⁵

III. FISCAL REFORM AGENDA

2.70 Maintaining the initial achievements in macroeconomic stability, while making fiscal policy compatible with sustained growth, is the challenge now for Colombia. The crisis of 2000–02 was overcome with various policy actions, including some emergency measures that the government should replace with more fundamental fiscal reforms. Colombia has little room for fiscal policy error, and important uncertainties remain on the horizon. Therefore, by having primary surpluses around 3 percent of GDP, Colombia will lower debt ratios to where it is much less vulnerable to shocks. Growth and continued progress with tax administration will be needed to keep up revenues, while the surcharges and special taxes on wealth and financial transactions need to be phased out. Getting rid of the sectoral and regional exemptions in the income tax and VAT would also reduce distortions and increase revenue (See Table 2.5). Harmonizing the different VAT rates, which was agreed among all the other Andean countries, would improve efficiency in collection. In addition, the capital depreciation allowance should be amended so that the basis reflects any deduction already made for partial expensing of investment, and the depreciation rate takes account of the inflation indexation. For tax administration, the government should continue with the implementation of the MUISCA and simplify even further the tax return procedures.

2.71 Expenditure reform is the part that has lagged most and needs more attention. Public infrastructure investment, especially for transport (and telecommunications from the private sector), needs to rebound from the emergency cuts over the past decade. As indicated in the REDI report, transport and telecommunications are priority areas. The private sector should be able to handle telecommunications, with improved regulations, but transport investment will be especially important for a positive response to the free-trade agreement, and will require public sector spending. Budget flexibility should allow better options than cutting investment to achieve the needed primary surpluses. Making room for this public investment will require curtailing current outlays, especially transfers to pensions and subnational governments. Transfers to territorial entities need to be reformed by 2009, otherwise they will create significant pressure on central government finances. Pensions still require active reform. Given that pension expenditures are regressive, they should be taxed as income (above the normal threshold). Additional revenues could be used to increase public investment.

⁷⁵ These efficiency indicators have been adjusted to eliminate the revenue effects of the tax reforms over the period.

2.72 To show one possible package of fiscal reforms with an overall neutral budget impact, Table 2.5 combines the fiscal impact estimates of these recommendations. These estimates are only for the initial first round impacts and do not include the positive dynamic fiscal effects that would occur as the reforms stimulate growth and a larger private sector tax base

Table 2.5: Fiscal Reform Agenda-first round fiscal impacts
(annual, as a share of GDP)

	Short Run	Medium-Long Run
Additional Infrastructure Needs	0.3	0.5
Tariff Revenue Loss	0.5	1.0
Net Wealth Tax Loss	0.2	0.2
Eliminating the surcharge on CIT and reducing the CIT rate to 30 percent		0.3
Reduce the financial transactions tax rate to 0.2 percent		0.4
Additional Total Fiscal Costs	1.0	2.4
<i>Fiscal Reform Agenda</i>		
Savings due to Pension Reform	0.1	0.4
Savings due to cutting other current expenditures	0.4	0.2
Taxing pensions	0.1	0.1
Elimination of Partial Expensing in the CIT		0.3
Fixing the depreciation of partial expensing	0.1	
Reduce assumed depreciation in the CIT	0.2	0.2
Increasing the VAT rate from 10 to 16 percent	0.1	0.1
Expanding the base of the VAT (3 percent rate all exempt and zero rates goods)*	0.2	0.2
Increasing the VAT rate from 3 to 16 percent*		
or Eliminating Exemptions		1.0
or broaden concept of taxable income		
or a combination of the three		
Savings and revenue gains from Fiscal Reform Agenda	1.0	2.4

* Maintaining basic food basket, and health and education services zero rated.

Sources: Ministry of Finance, DNP and Bank staff calculations.

2.73 Delivering more and better social services should focus on using resources more effectively and raising more by the subnational governments, which have the frontline responsibility for most education and health, and the most client contact. Subnational tax reform is thus doubly important for rebalancing intergovernmental finances, reducing central outlays, and reducing tax distortions.

CHAPTER 3. ECONOMIC EFFECTS OF THE PROPOSED COLOMBIA–U.S. FREE TRADE AGREEMENT

3.1 As Colombia prepares to enter a regional free trade agreement (FTA) with the United States, the country will grapple with determining and preparing for its likely economic impact. Knowing what will be the probable economic impact will help the country develop a strategy to take advantage of the new opportunities the FTA will bring, as well as adjust smoothly to the structural changes that will occur under freer trade. It will also help the government to inform its citizens of the potential costs and benefits of the agreement.

3.2 Under the FTA, the reduction in U.S. trade barriers will likely be modest. Colombia already enjoys substantial preferential tariff treatment under the Andean Trade Preference and Drug Eradication Act (ATPDEA). The majority of Colombia's exports currently enter the United States duty free, and in those areas where tariffs are likely to be lowered the most, (for example, in some categories of textiles), Colombia is unlikely to be the lowest-cost producer (see DNP 2003). In other cases, for example sugar, U.S. agricultural interests are strongly opposed to lowering trade barriers.

3.3 Nevertheless, the economic impact of the FTA in Colombia will likely be important. The United States is already Colombia's largest trading partner and absorbs some 40 percent of the country's exports, which have grown on average over 6 percent annually since 1999, despite a fallback during the U.S. recession in 2000. The FTA will likely result in a greater decline in Colombian tariffs on U.S. goods than vice versa. While Colombia's tariffs have declined sharply over the last decade as the country unilaterally lowered its trade barriers and joined the World Trade Organization (WTO) in 1994, Colombia's tariffs are still relatively high for agriculture, and this is likely to be an area of significant import growth if barriers fall, especially for cereals, grains, and oil seeds, where the United States has a large comparative advantage (see Light and Rutherford 2003). While tariffs may fall the most in agriculture, U.S. goods exports are likely to remain concentrated in machinery and equipment and chemicals.

3.4 According to Light and Rutherford (2003), the overall benefits of the agreement may be small for Colombia because the benefits of greater goods trade will be partially offset by a reduction in tariff revenues. Static models, such as the one used by Light and Rutherford, may be a good predictor of the immediate impact of the FTA, but they are likely to miss its other important longer-term effects. A much greater potential benefit of an FTA is likely to be the permanence that the accord will afford to the trading relationship that already exists between Colombia and the United States. The fact that the previous preferences were granted on a temporary basis has made uncertainty a major part of the calculation when domestic firms make decisions about investing in the export sector. In 2002, for example, U.S. trade preferences for Colombian goods under the ATPDEA lapsed for eight months, suddenly leaving many exporters without their largest market. In the same manner, uncertainty about the trading environment has probably also restrained foreign direct investment.

3.5 While the international experience with regional FTAs, particularly between developed and developing countries, has been positive in terms of positive static gains, higher economic growth, technology transfers, and capital inflows, important distributional effects will also occur as some sectors gain and others lose. Accordingly, this chapter of the Country Economic Memorandum will investigate the static distributional and welfare effects of the proposed Colombia–U.S. FTA—with a focus on the agricultural sector—and its effects on long-term economic growth and poverty. The chapter also discusses programs that may aid in the transition to the more open markets. The key conclusions and recommendations are:

- The static impact of agricultural trade liberalization will be to reduce poverty. Welfare gains are positive and small (relative to household income) and decline as household income increases. Gains due to market opening in agriculture vary more widely across households at lower levels of income, due to the variety of economic activities.
- The dynamic impact of the FTA will also be to reduce poverty. Using parameters obtained from cross-country regressions, the trade agreement is estimated to raise growth by about 0.6 to 0.8 percentage points and to reduce poverty by 1.7 to 2.3 percent in the first five years after the FTA is in force, and 3.4 to 4.6 percent after 10 years.
- Unemployment in Colombia appears to be sensitive to shocks because the labor market is highly rigid and labor mobility is low. To better address the needs of workers displaced by a trade agreement or other shocks, Colombia should improve policies to reduce labor rigidity and increase mobility and strengthen its small unemployment insurance program.

3.6 To substantiate these conclusions, the remainder of this chapter covers the detailed analysis of the static distributional impact of trade liberalization in agriculture due to the FTA (Section I), the growth and poverty impact (Section II), and trade assistance policies (Section III).

I. THE EFFECTS OF AGRICULTURAL TRADE LIBERALIZATION ON THE DISTRIBUTION OF INCOME IN COLOMBIA⁷⁶

I.1 Introduction

3.7 Like other countries in recent decades, Colombia has undertaken important trade reforms policy. In 1991–92, the country opened up considerably and reduced tariffs, and the current government is negotiating a proposed Free Trade Agreement (FTA) with the United States. In this section, possible distributional consequences of agricultural trade liberalization are calculated using the methodology proposed by Deaton (1997) and

⁷⁶ Primary contributors to this section include Orazio Attanasio (University College of London and the Institute for Fiscal Studies), Andrew Shephard (Institute for Fiscal Studies), and Ana Gómez and Diego Sandoval (Econometria, Bogotá, Colombia). The section also benefited from the comments and editing of David Gould (LCSPE).

recently applied to the analysis of trade liberalization in Guatemala (see Pörtner 2003) and Morocco (see Ravallion and Lokshin 2004). The idea is relatively simple: Predicted price changes in several agricultural commodities implied by the proposed FTA are taken from some existing studies that use a computable general equilibrium (CGE) model. Given these price changes and a large household survey, the analysis computes, for each household in the survey, a first-order approximation to the changes in its welfare implied by these changes and the pattern of commodities consumed and produced by that household. The analysis then considers the distribution of welfare changes in different sectors of the economy and reports on how these changes are distributed across households.

3.8 The rest of this section is in six parts. In part 2, a brief history of trade liberalization in Colombia is presented and the FTA that is currently being negotiated is discussed. Agricultural commodities are focused on because this is an area where trade barriers may be reduced the most and the greatest concerns have been raised both within and outside the government. In part 3, a description is presented of the methods used in the welfare computations. In part 4, the data are described, as are the price changes implied by the FTA that are taken as inputs into the analysis. In part 5, the “aggregate” results are presented, that is, average welfare changes implied by the FTA. Part 6, which is the core of the section, describes the distribution of welfare changes. Finally, the measures of inequality are briefly discussed, and a conclusion and summary of the main results are presented.

I.2 A Brief History of Trade Liberalization in Colombia and the Proposed FTA

3.9 To provide the context for the discussion on the effects of the FTA, this section describes how trade policies, particularly in agriculture, have changed in recent years, and describes the proposals being discussed. The current proposals will constitute the base from which the predicted price changes will be used in the subsequent analysis. The history presented in the first part of this section constitutes a useful historical benchmark.

I.2.1 Changes in Trade Policy in the Agricultural Sector, 1990–2003

3.10 During the last 15 years, Colombian agriculture has experienced an acceleration of the long-term reduction in its relative importance in gross domestic product (GDP). From 38 percent in 1960, it was reduced to 18 percent in 1990 and 14 percent in 2001. This continuous reduction, as noted by Kalmanovitz (2004), was similar to those observed in other countries of similar income in Latin America until 1990. Since then, the share of agriculture in national income in Colombia has continued to decline, a phenomenon that has not occurred in the other countries.

3.11 Explaining this trend has been the object of many studies, among which one can find those that refer to the trade opening of 1991 as a possible important factor. According to some of these studies, the trade liberalization affected not only the reduction in the relative size of agriculture, but also the composition of agricultural production in Colombia during this period. The studies by Jaramillo (2002) and Bejarano (2001) examine different aspects of the trade policy that has prevailed in recent years and the political economy behind the opening process.

3.12 Until 1991, Colombia had a relatively high level of tariff protection for agricultural production, which was dramatically reduced in 1992 with the liberalization measures put in place by the Gaviria administration. These measures reduced the average tariff protection in agriculture from 31.5 percent in 1991 to 15 percent in 1992. In terms of effective rate, protection for agricultural commodities went from 77 percent in 1991 to 30 percent in 1993. In addition to the reduction in tariffs, there were also substantial reductions in non-tariff barriers, the most important of which was the reduction in the number of import permits.

3.13 Also in 1991, the Ministry for Agriculture established a system of “price bands” (*franja de precios*) for sensitive products. These fix upper and lower bounds for Cost, Insurance and Freight (CIF) prices, and effectively establish a new additional tariff to protect producers of these commodities. This system changed the previous policy of fixing a minimum price that would be implemented to sustain production of some key products. Rather than an arbitrary minimum price, the price bands were based on international prices that were used as a reference. In 1996, Colombia and other Andean countries adopted a common set of price bands to support agriculture (*Sistema Andino de Franjas Precios—SAFP*). The National Agricultural Marketing Institute (IDEMA), a state entity that bought at guaranteed minimum prices, was replaced by a system of guaranteed purchase agreements, which were later removed after the World Trade Organization ruled against them. Currently, Colombia has the Contingent Allotment Mechanism (*Mecanismo de Asignación de Contingentes—MAC*), which allows for reduced tariffs on certain agricultural imports if importers also agree to purchasing a certain amount of domestically produced goods.

3.14 Another important element of Colombian trade policy was the abolition in 1992 of all tariffs among the countries belonging to the *Comunidad Andina de Naciones* (CAN). Subsequently, CAN adopted a Minimum Common Tariff regime with outside countries and the price-band system for sensitive products. As a result of the successful 1994 Uruguay round of trade negotiations, which established the World Trade Organization (WTO), Colombia committed to eliminating all subsidies to exports, even though a relatively high level of consolidated tariffs for agricultural products remained. Also in this period, the subsidized credits to agricultural production issued by the Central Bank were eliminated and substituted by a guarantee fund.

3.15 The trade opening after 1991 was not continued for several reasons, including a production crisis induced by El Niño and the continuing appreciation of the Colombian peso, which generated an increase in the imports of food and various agricultural commodities (these imports increased from US\$401 million in 1991 to US\$1,800 million in 1996). At the same time, the civil conflict in the country, and the activities of leftist guerrillas, right-wing paramilitary, and drug dealers, generated a severe obstacle to investment activities in the agricultural sector up to 2002, when again investment explains the expansion of the sector.

3.16 The appreciation of the peso up to 1998 was compensated by increases in the level of protection, which again reached levels previously seen before the opening of the early 1990s. For the large majority of products in nominal price bands, tariffs were higher in 1997 than in 1992. The exceptions were rice and soy (see Jaramillo 2002:138).

As for the effective level of protection after the opening of 1991–92, several measurements are available. Hernández and Perilla (2001) compute an average level of effective tariffs for agricultural products during 1991–99. Their computations show that from 14.4 percent in 1991, the effective rate of protection decreased to only 2.8 percent in 1996 and increased again to 25.8 percent in 1999. A large proportion of these changes are due to the effect of the price bands, which allow extremely variable effective tariff rates.

3.17 Another measure of the effective level of protection is given by the nominal coefficient of protection, defined as the ratio of the prices of Colombian products to the international prices at the border. Jaramillo (2002) uses this measure to illustrate the level of protection in the pre-opening period (1986–90), the opening (1991–92), and the post-opening period (1994–97). Table 3.1 reproduces the pattern of these values for the products subject to the price-band regime and for products excluded from this system.

Table 3.1: Coefficients of Nominal Protection, 1986–97 (percent)

Product	1986–90	1992	1994–97
Sugar	12.0	25.0	29.0
Rice	9.0	4.0	49.0
Corn	26.0	16.0	46.0
Palm oil	47.0	–19.0	–8.0
Sorghum	17.0	17.0	36.0
Soy	16.0	12.0	10.0
Wheat	21.0	11.0	10.0
Barley	33.0	36.0	32.0
Milk	41.0	42.0	16.0
Total for products with price band	25.0	21.0	23.0
Cotton	2.0	24.0	3.0
Bananas	9.0	5.0	–4.0
Coffee	–24.0	1.0	–20.0
Cocoa	–9.0	–8.0	–7.0

Source: Jaramillo (2002:140–1).

3.18 As is evident from the figures in the table, the patterns are very different across commodities. After the opening, protection increased to levels even higher than those in the pre-opening era for products such as rice, corn, and sorghum. These are products that tend to be produced much less expensively abroad. Protection also increased for sugar, for which exports are very important. On the other hand, protection decreased for soy, barley, milk, palm oil, cotton, bananas, and coffee. For the other products, there were no big changes during 1991–92. In general, with the exception of sugar, the products that lost protection are those that can be exported, while for those that are typically imported, the mechanism of the price band implied an effective protection rate of around 40 percent over international prices.

3.19 Despite the presence of this mechanism, imports increased for two important reasons. The first is the reevaluation of the peso in the last 14 years, with the two exceptions of 1998 and 2002. The second reason for the increase in imports is related to

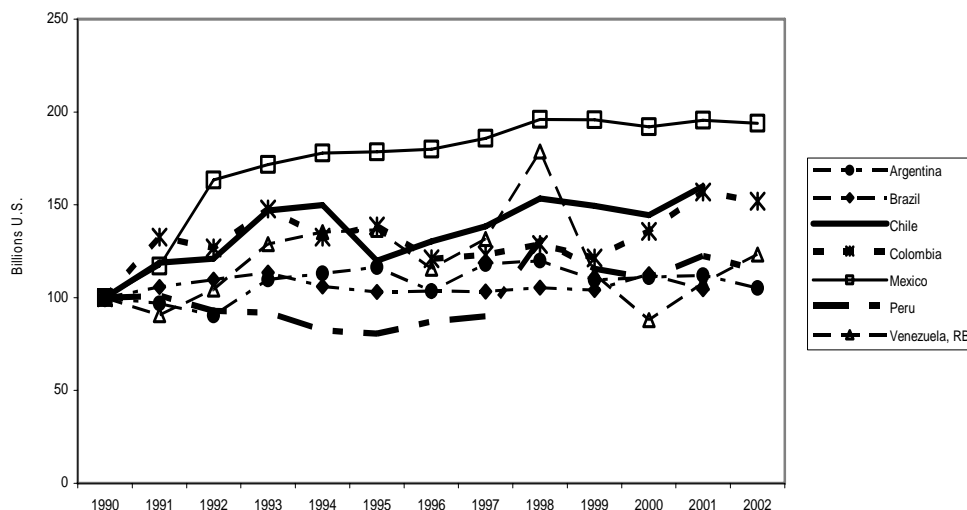
the abolition of import restrictions and quotas. The import of agricultural prime commodities has allowed the growth of various industries, such as that of processed food, honey production, pork, and shrimp. Also, the import increase was related to the decrease in and stabilization of food prices, although it was not possible to turn the areas that are currently used for the production of potatoes, various vegetables, and flowers over completely to the production of commodities that are currently imported, with the exception of wheat and barley.

3.20 According to Jaramillo (2002) and Kalmanovitz and López (2004), despite the decrease in the share of agriculture in GDP, the opening contributed to a better allocation of resources, to an increase in permanent crops, to a reduction in transitory ones, to the development of new types of production, such as that of honey and other industrial foods (for example, palm oil), and to the reduction in the price of food. According to Kalmanovitz and López's computations, total factor productivity (TFP) in agriculture during 1991–2000 explains 68.7 percent of the growth in the sector, which was unprecedented in this sector in Colombia. During the 1996–2000 crisis, the agricultural sector grew at a rate of 0.8 percent per year, of which was explained by completely TFP increases.

1.2.2 Agricultural Trade with the United States

3.21 The growth opportunities from trade reflect not only the industrial structure of each country, but also the way industries change over time. The role of manufacturing as a share of total exports in Colombia has grown markedly in recent decades—rising from 25 percent in 1990 to 39 percent in 2002—a 50 percent increase. Of the seven most-populous Latin American countries, only Chile and Mexico showed faster growth than Colombia in manufactures' share of total merchandise exports since 1990 (Figure 3.1). Only Mexico and Brazil had higher shares of manufacture goods in total exports than Colombia by the end of the period, 2002.

Figure 3.1: Colombia—Growth of Manufacturing Exports Share of Total Exports (1990 = 100)



3.22 Nevertheless, the agricultural sector in Colombia has historically been an important generator of foreign currency. In 2002, the Colombian trade balance registered a deficit of US\$751 million, originated mainly in the manufacturing sector. The balance for agriculture was in the black by US\$1,203 million (see Garay and others 2004). As documented in Table 3.2, the agricultural sector generated 25 percent of total exports and 14 percent of imports. Thirty-nine percent of Colombian agricultural exports go to the United States, while 32 percent of agricultural imports come from the United States.

3.23 Moreover, it is important to stress that the agricultural sector in Colombia is notable also for other negative indicators related to poverty and illegal activities:

- The rural sector was the sector with the worst poverty index: 69 percent of the population lives in poverty (under the poverty line).
 - Colombia is the largest producer of coca leaves in the world. Illegal crops are estimated to represent 6.2 percent of agricultural income.
- In general, it is worth stressing that there are many products with the potential for increased export growth to the United States (see Garay and others 2004).

Table 3.2: Colombian Exports and Imports

	Origin or Destination				
	Rest of the World		United States		Total
	US\$m	%	US\$m	%	US\$m
Total Colombian exports	6,779	56.8	5,160	43.2	11,939
Total Colombian imports	8,670	68.3	4,020	31.7	12,690
Trade balance	-1,891		1,140		-751
Agricultural exports	1,782	60.5	1,161	39.5	2,943
Agricultural imports	1,175	67.5	565	32.5	1,740
Agricultural trade balance	607		596		1,203

Source: Garay (2004).

3.24 The United States is the largest producer and exporter of agricultural commodities in the world, and the dominant agent in the market for many products in international trade. It contributes 13.3 percent of the total value of world agricultural exports. It is the largest exporter of meats, cereals, nuts, vegetable oils, fruits, and vegetables. On the other side, Colombia is not the greatest producer or exporter of any agricultural product of any importance in world trade. For flowers it is the second-largest exporter, for coffee it is the second in value and third in volume, and for bananas it is the fourth.

3.25 The trade in agricultural products between Colombia and the United States is not very diversified and is concentrated in a few items, especially for exports from Colombia to the United States. Between 1996 and 2001, net Colombian exports to the United States were positive in only 164 subcategories, while net U.S. exports to Colombia were positive in 425 subcategories in at least three of the six years.

3.26 The six most-important products exported from Colombia to the United States (flowers, green coffee beans, bananas, shrimp, raw cane sugar, and coffee extracts) contribute 92.6 percent of the total value of exports, while the five largest Colombian

imports from the United States (corn, wheat, soy, soy beans, and cotton) account for only 65.5 percent of the total.

3.27 The agricultural sector in Colombia, as in most countries, is affected by many sectoral policies, such as tariffs, price bands, import quotas, and internal subsidies to specific products or to the sector. All these policies imply transfers from either consumers or taxpayers to producers. Internal subsidies are mainly directed to the coffee sector (72 percent), to cattle, and to the producers of cotton and corn. The products that received the largest transfers between 2000 and 2002 were milk (24 percent), chicken meat (22 percent), paddy rice (20 percent), sugar cane (9 percent), coffee (6 percent), yellow corn (6 percent), and beef (5 percent).

3.28 Currently, the largest effective protection is received by paddy rice, yellow corn, and soy. The other products enjoy effective protection rates lower than 44 percent. Among final products that enjoy most protection are vegetable oils, sausages, margarine, and cheese. The greatest rates of protection are for intermediate products: balanced foods for animals, wheat, and corn flour.

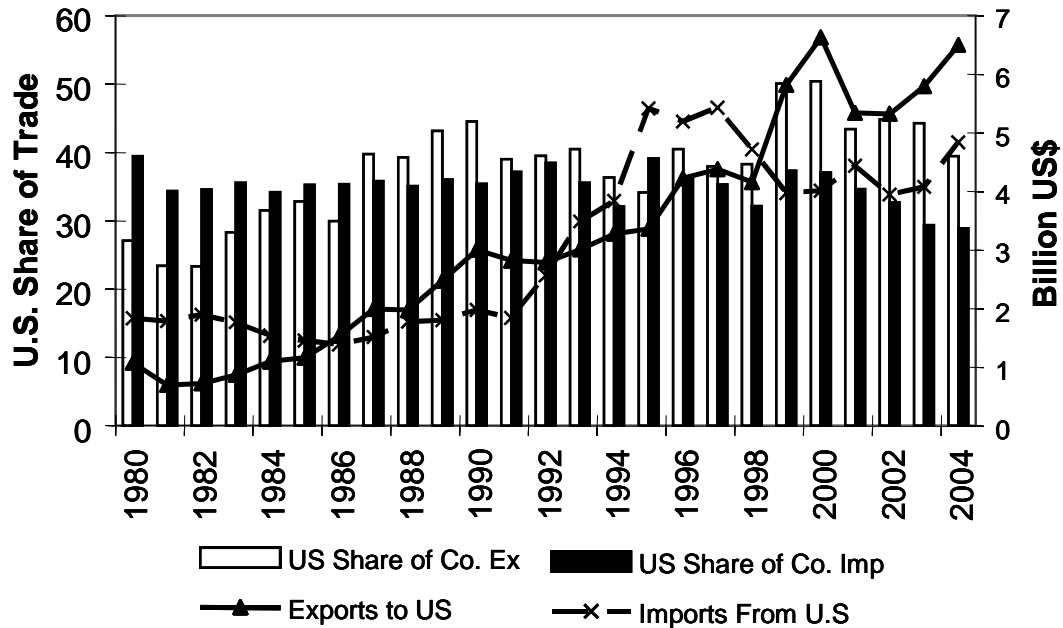
I.2.3 The Negotiation on Agriculture within the Free Trade Agreement

3.29 Colombia finds itself in an important phase in the transformation of agricultural production that started with the economic opening of 1991–92. The Free Trade Agreement can be seen as an important element in this context.⁷⁷ The negotiation of the FTA between Colombia and the United States is important from both an economic and a political point of view, for both countries. From a Colombian point of view, it may be costly not to have privileged access to the U.S. market after the ATPDEA expires in 2006. As Figure 3.2 indicates, the United States has become an increasingly important trading partner for Colombia. On the other hand, the five countries that form the Common Central American Market and the Dominican Republic have already negotiated the creation of an FTA with the United States. At the same time, Chile and Mexico already have an FTA. Colombia started negotiations in May 2004 simultaneously with Ecuador and Peru. Up to June 2005, there have been 10 rounds of negotiations with the United States in: (a) Cartagena, Colombia—May 2004; (b) Atlanta, Georgia, the United States—June 2004; (c) Lima, Peru—July 2004; (d) San Juan, Puerto Rico—September 2004; (e) Guayaquil, Ecuador—October 2004; and (f) Tucson, Arizona, the United States—November 2004; (g) Cartagena, Colombia—February 2005; (h) Washington, D.C., United States—March 2005; (i) Lima, Peru—April 2005; (j) Guayaquil, Ecuador—June 2005.⁷⁸

⁷⁷ Two recent references on the negotiation process and its effect on the economy are Clavijo (2004) and Rocha, Perilla, and López (2004).

⁷⁸ Agriculture was not discussed at this round.

Figure 3.2: Colombian Trade with the United States



3.30 The United States proposed that the negotiations with Colombia use as a guideline the treaties signed with Chile and the Central American countries. The key features of these treaties are very encompassing and typically include such issues as (see Box 3.1):

- Tariffs on goods and services and a timetable for reductions
- Rules of origin and enforcement mechanisms
- Intellectual property rights protection
- Government procurement
- Trade in services
- Investment
- Dispute settlement mechanisms
- Technical barriers to trade
- Safeguards, sanitary and phytosanitary measures

Box 3.1: Likely Components of a Colombia–U.S. Free Trade Agreement

1. Trade in Goods:
 - a. Reduce/eliminate tariffs and duties on goods.
 - b. Reduce/eliminate non-tariff barriers on goods including licensing barriers, quotas, and other non-tariff barriers.
 - c. Reduce/eliminate export subsidies (less in agriculture than in other areas).
2. Customs matters, rules of origin, and enforcement cooperation:
 - a. Rules requiring transparency, efficiency, and predictability of customs laws, regulations, and decisions.
 - b. Rules of origin stipulations exempting FTA preferences on the portion of value added that originates outside the FTA.
3. Sanitary and Phytosanitary Measures (SPM):
 - a. Rules to limit discriminatory SPM (that is, discriminatory health and safety regulations).
4. Electronic Commerce:
 - a. Rules prohibiting customs duties on digital products delivered electronically.
5. Intellectual Property Rights:
 - a. Establish standards to build on WTO agreements related to intellectual property rights protection.
 - b. Harmonize patent protection laws.
 - c. Establish enforcement standards to prevent pirating (including traditional and biological products).
6. Trade in Services:
 - a. Market access rules for telecommunications, transportation, financial services, insurance, energy, next-day delivery services, and other sectors.
 - b. Rules concerning regulatory procedures, specialized disciplines for financial services, and additional disciplines for telecommunications services.
7. Investment:
 - a. Reduce trade-distorting barriers to foreign investment.
 - b. Harmonize investment protection laws.
 - c. Equal legal treatment for foreign and domestic investors.
 - d. Procedures to resolve investment disputes.
8. Government Procurement:
 - a. Rules governing fair and transparent procedures for government procurement.
9. Trade Remedies:
 - a. Safeguard mechanisms during the transition period to allow temporary revocation of tariff preferences.
10. Labor and environment:
 - a. Set goals and cooperative mechanisms to support sustainable environmental policies.
 - b. Set goals and commitments to assure countries support and enforce their own labor laws.
11. State-to-State Dispute Settlement:
 - a. Encourage early identification and settlement of disputes through consultation.
 - b. Establish procedures to settle disputes arising under the agreement.

3.31 It should be stressed that because the Chilean and Central American economies are of very different size and have very different features from Colombia, the negotiation

has to be adjusted to account for the peculiarities of Colombia. Negotiations thus far have focused on the following issues: (a) the definition of a competition policy in the agricultural sector, and the establishment of negotiation guidelines; (b) the necessity of respecting, within the framework of the FTA, the principles established in other accords, such as the ATPDEA; and (c) the necessity of keeping some instruments of trade policy, such as agricultural subsidies and safeguards for some sensitive products, in the framework of the FTA. What constitutes “safeguards” for sensitive products (in Colombia) and the extent of agriculture subsidies (in the United States) remained key areas of contention in the negotiations.

3.32 According to the United States, internal subsidies and sanitary regulations (which are sometimes purely discriminatory) are not an item of the negotiation, so Colombia may try to find alternative mechanisms to gain access to these markets (such as subsidizing their own products—which would be a lose–lose situation for both countries) or negotiate for greater liberalization in other sectors. U.S. subsidies include exemptions from taxes and credit guarantees for exports, cash payments to producers, and promotion activities in foreign countries for products such as cotton, wheat, wheat flour, rice, barley, eggs, vegetable oil, milk powder, butter, cheese, and many fruits. The hypothetical scenario for the FTA used in this study assumes a reduction to zero of all tariffs for agricultural products. The essence of the negotiation is to give up part of the internal market in order to gain part of the external one.

1.3 Framework for Analyzing Welfare Impacts of the U.S.–Colombia FTA⁷⁹

3.33 The literature on trade reform identifies a number of channels through which trade reforms can impact people’s welfare, including through: (a) changes in the prices and availability of goods; (b) changes in factor prices, employment, and incomes; (c) changes in government tax revenues and transfers (which may be affected by changes in revenues from trade-related taxes); (d) improved incentives for investment and innovation, which strengthen prospects for long-run economic growth; (e) increased exposure to external shocks, in particular, through changes in the terms of trade; and (f) the costs of adjusting to changes in the economic environment.

3.34 Concerns about the impacts of the FTA have focused on the short-term price effects of liberalization and, in particular, on what they would mean for producers of sensitive agricultural crops in Colombia. For this reason, this section focuses largely on the effects of border price changes expected to occur from liberalizing agricultural commodities in Colombia—although other channels of impact, for example, related to growth and overall poverty prospects, are discussed later in the chapter. Specifically, the section lays out a framework for understanding the pathways through which border price changes are transmitted to households and how households manage relative price changes (or “shocks”).

⁷⁹ Much of the conceptual discussion in this section was taken directly from Andrew Mason, “Chapter V. Policy Approaches to Managing the Economic Transition: Ensuring that the Poor Can Benefit from the DR-CAFTA.” In “DR-CAFTA: Challenges and Opportunities for Central America,” World Bank Report No. 32288-LAC, May 2005.

3.35 A key message of applying this framework is that the effect on households of a price change on household welfare (such as the kind resulting from liberalizing agriculture) will be smaller—sometimes significantly smaller—than the change in the market price. This is due to the fact that households;

- Have diverse consumption bundles and often have multiple income sources;
- At least in rural areas, are often both consumers and producers of key goods (and that the consumption and production effects of price changes work in opposite directions);
- Adjust their consumption and production patterns in response to relative price changes; and
- Employ a number of *ex ante* and *ex post* strategies to manage price and income risks.

This section examines the first three of these factors. Strategies to manage income risks are described in Section III: Trade Assistance Policies.

I.3.1 Multiple Consumption Goods, Sources of Income

3.36 Households, whether rich or poor, consume a diverse bundle of goods. They also often have multiple sources of income. This multiplicity of consumption goods and income sources serves, among other things, to moderate the short-term effects on household well-being—both positive and negative—of good-specific price changes. Analysis of household consumption patterns using Colombia's *Encuesta de Calidad de Vida* (Quality of Life Survey, ECV) 1997, indicates, for example, that commodities such as cereals and fruits and vegetables make up between 2 and 6 percent of households' consumption bundles, on average, and between 6 and 11 percent of the consumption bundle of Colombia's rural households (Table 3.1). Together, the group of agricultural commodities make up about 21 percent of total household consumption for the economy as a whole, on average, and about 43 percent of total household consumption in the rural sector. Price declines for these goods will thus have a positive impact on households' ability to purchase these goods for consumption, with the largest effects being felt in the rural sector.

Table 3.3: Pre-reform Consumption as a Share of Total Consumption

Consumption Category	Total	Urban	Rural
Manufactured goods	0.29	0.31	0.12
Textiles	2.40	2.33	2.99
Services	10.05	10.24	8.31
Cereals	2.16	1.71	6.49
Vegetables and fruits	6.09	5.55	11.18
Other crops	1.06	0.80	3.50
Other animal products	0.76	0.71	1.28
Fish	0.60	0.57	0.97
Meat	3.59	3.09	8.36
Other meat products	0.38	0.38	0.38
Vegetable oils and fats	0.92	0.76	2.47
Dairy products	2.19	2.16	2.48
Sugar	0.82	0.68	2.23
Other food products	2.84	2.72	3.97
Total consumption of food categories	21.44	19.11	43.33
Total consumption all categories	34.17	31.99	54.75

3.37 The same data set shows that households also tend to have a diversified set of income sources (or income “portfolios”). As can be seen in Table 3.4, income from self-employed agricultural enterprises such as production of corn, fruits and vegetables—or chickens and cows in the case of smallholder farm households—makes up about 52 percent of income, on average, among of the poorest rural households in Colombia, and about 15 percent of income among rural households in the top income decile. In contrast to the case of consumption, declines in the prices of the sensitive agricultural commodities will reduce the incomes of households producing these goods. Nonetheless, the fact that households generally have multiple income sources means, however, that the negative income effect operates only on a portion of households’ total income portfolio, again serving to moderate the impact of the price change.

Table 3.4: Pre-reform Income Sources by Income Decile for Rural Households

Income Decile	Share of Salaries in Agriculture (percent)	Share of Salaries in other Sector (percent)	Share of Self-employment in Agriculture (percent)	Share of Self-employment in other Sectors (percent)	Share of Non-labor Income (percent)
1	11.25	1.61	52.18	22.22	23.47
2	14.48	2.02	52.09	22.82	9.53
3	47.36	7.87	26.89	18.73	3.96
4	49.31	13.42	18.51	15.17	5.39
5	48.39	15.44	18.59	14.87	5.77
6	45.28	22.61	15.37	14.80	6.61
7	39.73	20.67	17.01	15.86	7.93
8	31.86	35.29	11.68	14.73	8.01
9	29.07	35.13	10.08	15.64	10.49
10	8.01	15.19	14.63	26.94	19.48

I.3.2 Households as Both Consumers and Producers of Key Goods

3.38 The fact that households, particularly in rural areas, are often both consumers and producers of key goods softens the impact of a price change on family welfare. This is because the effect of a price change has the opposite effect on consumption and production. If, for example, a household were to consume exactly the same amount of a particular good—say corn—as it produces, then a decline in the price would have no net impact on household welfare, as the purchasing power benefits of consuming less-expensive corn would be exactly offset by the loss in income associated with lower producer prices for corn. If a household were to consume more corn than it produced, then a reduction in the price of corn would, on net, benefit the welfare of that household. However, the benefits would only equal the amount of the price decline multiplied by the excess of corn consumption over corn production (that is, the net amount of corn purchased from the market). In contrast, if a household were to produce more corn than it consumed, then it would experience a welfare loss as a result of a decline in the corn price. In this case, the loss would be the amount of the price changes multiplied by the excess of corn production over consumption (that is, the net amount of corn sold into the market). Similar, offsetting price effects would occur with any other sensitive commodities that households both consumed and produced.

3.39 The economics literature terms households that consume more of a good than they produce “net consumers” of that good, and households that produce more of a good than they consume “net producers” of that good (see Deaton 1997). Stated simply, net consumers of a good would be expected to benefit from a decrease in the price of that good (at least at the margin), while net producers would be expected to lose from a price decline. Conversely, a price increase for a particular good would be expected to benefit net producers of that good and negatively impact the welfare of net consumers.

3.40 The first step in examining the potential impact of trade reform therefore provides a rural/urban breakdown of the proportion of net consumers for the main consumption/production categories. Table 3.5, classifies households as net consumers of a given consumption category if the value of consumption of that commodity strictly exceeds the value of production. For instance, for cereals one can see that 77 percent of consumers in rural areas are net consumers and 3 percent are net producers (while the remainder are neither net consumers nor net producers of cereals—at least in the period of reference of the survey). Consequently, in terms of net production/consumption, a price decline in cereals would tend to increase the welfare of households in the rural area. It should be stressed once more, however, that this does not consider the indirect effect that would occur through changes in the wages of an employee working in a sector affected by the trade liberalization.

**Table 3.5: Proportion of Net Consumer/Producer Households,
by Rural/Urban Status**

	Net Consumers			Net Producers		
	Total	Urban	Rural	Total	Urban	Rural
Cereals	69	67	77	1	0	3
Vegetables and fruits	85	87	80	2	0	9
Other crops	63	64	61	6	1	19
Other animal prods	64	72	40	3	1	10
Fish	21	23	14	0	0	0
Meat	74	75	72	2	1	5
Other meat products	23	28	9	3	1	8
Veg. oils and fats	66	63	75	0	0	0
Dairy products	74	84	45	2	1	7
Sugar	67	65	74	1	0	2
Other food products	87	91	75	0	0	0

3.41 The data show that across the whole population, there is considerable variation in the proportion of net consumers for each of the different categories. Households are very likely to be net consumers of goods such as vegetables and fruits, for example, with the proportion of net consumers being greater for urban households in this case (87 percent compared to 80 percent for rural households). Overall, however, the main feature of Table 3.5 is that very few households are classified as net producers (as the effect on wages is ignored). Therefore, the results will be driven by the result on net consumption.

3.42 Even though certain categories may have a lower proportion of net consumers (a higher proportion of net producers) than others, any gain or loss that households experience may be small relative to household income if that particular category plays only a small role in total household consumption/production. Recall, that Table 3.3 showed the value of consumption for these agricultural sectors as a share of total household consumption. Overall, total consumption of these agricultural commodities accounted for less than 21 percent of consumption, on average, for all consumers and about 43 percent for households in the rural sector and 19 percent for households in the urban sector.

I.3.3 Adjustment to Relative Price Changes

3.43 It is important to highlight that households are not simply passive recipients of price changes. Rather, households often adjust their consumption and production practices in response to changes in relative prices to help make the most of their limited resources and mitigate adverse price and income shocks (Deaton 1997). On one hand, households adjust to take the best advantage of favorable changes in prices. For example, if the price of chicken goes down, households tend to increase their consumption of this protein-rich food, all prices being constant. On the other hand, households adjust their consumption and production patterns in ways to help mitigate the effects of negative price shocks. For example, when world coffee prices fell dramatically between 1997 and 2001, coffee farmers in Colombia reduced their production or abandoned coffee

production, shifting their work effort toward more remunerative economic activities within and outside of agriculture (sometimes into illicit crops such as coca).

3.44 It is worth noting that while there is extensive empirical evidence from developed and developing countries showing that households adjust to changing prices, such adaptations may be neither smooth nor instantaneous, especially with respect to production. In general, households' abilities to adjust their consumption will be greater in the short term than their ability to adjust their production patterns. The fact that households' consumption bundles tend to be more diverse than their production/income portfolios, and that at least some portion of household consumption can be purchased in markets, makes substituting one consumption good for another (at the margin) relatively easy. On the production side, however, households may face a variety of constraints to adjusting their income portfolio, at least in the short term. For example, for poor rural households that are relatively specialized in agricultural production, the agronomic potential of their farmland, seasonal or weather-related constraints on crop production, absence of irrigation or other production technologies, and/or limited availability of credit (or other forms of working capital) may serve to limit households' ability to adjust their income portfolios quickly. Such production-side constraints tend to loosen over the longer term, and can be reduced through strategic investments in education and training and in infrastructure and technology that reduces agronomic constraints, lowers transactions costs, and increases the profitability alternative of rural enterprises.

3.45 Table 3.6 provides predicted price changes following the trade liberalization reform in Colombia. These price changes, which were obtained from the CGE model as detailed in *Departamento Nacional de Planeación* (2003), will be used in calculating the welfare gain as discussed in Section 4.

Table 3.6: Predicted Consumer and Producer Price Responses

Sector	Percent Change in Prices	
	Consumers	Producers
Manufactured goods	-1.30	-3.73
Textiles	-4.00	-7.24
Services	0.60	-0.02
Cereals	-0.70	-6.84
Vegetables and fruits	1.11	-1.78
Other crops	-6.55	-1.22
Other animal products	1.26	-3.05
Fish	-2.37	-0.34
Meat	0.49	-7.12
Other meat products	0.54	-3.92
Vegetable oils and fats	-1.02	-1.78
Dairy products	0.22	0.20
Sugar	-0.78	-0.31
Other food products	-0.79	-1.56

Source: DNP (2003).

3.46 The table shows that while some goods, such as dairy products, are predicted to experience only very small changes in their prices (a 0.2 percent increase for both

consumers and producers), other goods—for example, textiles—are predicted to experience a much larger price change (a 4 percent reduction for consumers and a 7 percent reduction for producers). Basically, those domestic goods that are highly protected and the prices of which are high compared to foreign markets before the liberalization will tend to experience the largest price declines, while those domestic goods that are relatively inexpensive compared to foreign markets will tend to experience the largest price increases. In the CGE models, however, non-traded goods will also experience price changes, because the prices of factors of production (such as labor and capital) will change as well.

3.47 While interesting and informative, Tables 3.3–3.6 and the discussion above do not provide enough information concerning whether households will, on average, gain from the trade reform, and how this varies by rural or urban households. To undertake this exercise, it is necessary to know the relative values of production and consumption across households for each of the categories. The following section provides such an analysis.

I.4 The Average Welfare Changes of Trade Liberalization in the Agricultural Sector

3.48 Table 3.7 presents the proportion of households that gain from the agricultural trade reform and the average net gain across all households, together with conditional net gains which show how large any gains/losses are for those who actually gain/lose. The methodology for this analysis is shown in Annex 7. As before, an urban/rural breakdown of the results is presented. In performing this analysis, one finds that the means are influenced greatly by the presence of relatively few households with very large welfare gains and losses. Because these results should not be driven by these observations, the median gains/losses are presented.

3.49 Table 3.7 shows that across the entire population, more households gain from the trade reform (59 percent) than lose (39 percent). The median net gain was COP132 per month, while the median gain among those who benefited was over COP508 per month and the median loss among losers was equivalent to almost COP435 per month.

Table 3.7: Average Welfare Changes with Agricultural Price Changes

	Total	Urban	Rural
% no change	1.97	1.79	2.49
% gainers	59.06	60.13	56.00
% losers	38.77	38.09	41.51
<i>Pesos per month</i>			
Median net gain	132	136	112
Median conditional gain	508	477	608
Median conditional loss	-435	-379	-723

3.50 If a breakdown by urban and rural status is performed, one finds that there is a greater proportion of gainers in urban areas than in rural areas, and that the average net gain is smaller in rural areas. The average gain to gainers is slightly higher in rural areas, and the average loss to losers is larger.

3.51 The welfare gains used in constructing Table 3.7 were calculated using the framework discussed in Annex 7. For small changes in prices, this welfare gain depends only on the proportional price changes (as in the neighborhood of a utility maximum, a small change in price will not affect quantities supplied and demanded). Even if price changes are not small, the calculated gain may continue to provide a good approximation of the immediate change in welfare if quantities are slow to adjust for some reason (for example, binding contracts).

1.5 The Distributional Impact of Agricultural Trade Reform

3.52 Table 3.7 masks considerable variation in the welfare gains across households. Since gains are the product of price declines time consumption for each product in a consumption basket, gains for a given household will depend on the share of products with falling prices in the consumption basket of that household. Welfare gains can (and do) vary by both the level of pre-reform income (the vertical impact) and across households with the same level of pre-reform income (the horizontal impact). Table 3.8 seeks to advance the understanding of these vertical and horizontal impacts of trade reform, by showing how the distribution of welfare gains varies with pre-reform income. To start, all households are placed into decile groups on the basis of their pre-reform per capita household income. The first decile group contains the poorest 10 percent of the population; the second decile group contains the next poorest 10 percent, and so on. Within each of these decile groups, the net welfare gain is examined at the 10th, 25th, 50th, 75th, and 90th percentile points of the distribution (the gain at the 50th percentile point is the median gain). All welfare gains are expressed as a percentage of pre-reform income, while the analysis in Table 3.8 is also performed separately for urban and rural areas.

3.53 The table demonstrates that the vertical impact (seen by the gain at the median, or 50th percentile point) varies with income (per capita and pre-reform) in an almost monotonic manner. Specifically, as per capita income increases, average proportional welfare gains at the national level are decreasing in income. However, in any case, average gains are very small relative to household income.

3.54 If this same analysis is performed, but separately for rural and urban households, one can find an extremely similar pattern for those individuals living in urban households. However, for rural households one obtains a non-monotonic pattern, with the gains in the first decile group relatively low (they are of comparable magnitude to the proportional gains in the 8th and 9th decile groups). Furthermore, in each of their respective income distributions, it is found that with the exception of the poorest decile group, average gains are higher for rural households.

3.55 As has been discussed, the horizontal impact refers to the extent to which gains vary with a given level of pre-reform income. This can be seen in Table 3.8 by the gains at the various percentile points within each decile group. A key feature to be taken from the table in this respect is that gains are much more dispersed the lower is pre-reform income, with this being particularly true in rural areas. Furthermore, the distribution is not symmetric—the distribution is more heavily skewed toward positive net gains in urban areas, and slightly skewed toward negative net gains (that is, losses) in rural areas.

Table 3.8: Distributional Impact of Trade Reform, Price Change Only

Decile group	Proportional Welfare Gain (%)				
	Percentile Point				
	10 th	25 th	50 th	75 th	90 th
National					
Poorest	-4.80	-0.51	0.35	1.70	4.58
2	-0.99	-0.17	0.19	0.57	1.07
3	-0.44	-0.09	0.13	0.39	0.64
4	-0.33	-0.06	0.11	0.33	0.63
5	-0.30	-0.08	0.04	0.20	0.40
6	-0.16	-0.05	0.05	0.18	0.37
7	-0.18	-0.06	0.01	0.11	0.24
8	-0.12	-0.04	0.02	0.09	0.20
9	-0.10	-0.04	0.00	0.05	0.11
Richest	-0.08	-0.02	0.00	0.02	0.07
Urban					
Poorest	-0.94	-0.09	0.30	1.16	4.01
2	-0.21	-0.04	0.14	0.38	0.61
3	-0.23	-0.05	0.10	0.29	0.59
4	-0.21	-0.07	0.05	0.19	0.37
5	-0.15	-0.04	0.05	0.16	0.35
6	-0.16	-0.06	0.02	0.11	0.24
7	-0.11	-0.05	0.01	0.09	0.18
8	-0.09	-0.04	0.01	0.07	0.15
9	-0.08	-0.03	0.00	0.04	0.10
Richest	-0.06	-0.02	0.00	0.02	0.06
Rural					
Poorest	-11.24	-3.51	0.04	2.53	8.22
2	-4.47	-0.83	0.25	1.23	2.21
3	-1.87	-0.58	0.10	0.77	1.22
4	-1.85	-0.29	0.16	0.52	1.06
5	-1.25	-0.32	0.12	0.41	0.87
6	-0.85	-0.20	0.15	0.44	0.76
7	-0.95	-0.15	0.13	0.40	0.72
8	-1.01	-0.12	0.05	0.25	0.59
9	-0.88	-0.13	0.03	0.20	0.47
Richest	-1.13	-0.18	0.00	0.07	0.25

I.7 The Impact on Poverty and Inequality

3.56 While the static effects of freer trade are likely to increase the overall income of the country, the effects on poverty, at least in the short term, are unclear. If most of the gainers are in the upper tiers of the income distribution, while most of the losers are in the lower tiers of the income distribution, the immediate impact of more open markets may be to increase poverty. An increase in poverty, however, does not appear to be likely.

3.57 Using pre-reform per capita income, one obtains a mean logarithmic deviation (MLD) of 65.8 percent.⁸⁰ The same data produce a Gini coefficient of 57.0 percent, similar to other estimates; for example, using data from 1999, the World Bank estimated a Gini coefficient for Colombia of 57.6 percent (World Bank 2004). The analysis suggests that the effect of the trade liberalization is to reduce inequality very slightly, with the MLD inequality measure falling from 65.8 percent to 65.7 percent. If one decomposes this small change using the methodology as detailed above, it is found that the effect of the vertical component was to raise inequality slightly, by 0.1 percent. This change, however, is more than offset by the horizontal component, which decreases inequality (a change of -0.2 percent).

1.8 Conclusions

3.58 In this section, the possible distributional effects of agricultural trade liberalization in the FTA currently being negotiated between Colombia and the United States are discussed. For such a purpose, the price changes in a number of commodities predicted by a CGE model of the Colombian economy in case the negotiated FTA goes ahead are taken as inputs. These price changes and data on consumption and production of the same commodities from a household-level data set are then used to compute a first-order approximation of the implied welfare change for each household. The distribution of these changes is then studied. The main result that comes out of this analysis is that the implied changes are small, especially when focusing on median changes. This is true even when one considers the impact by levels of pre-reform income: the median percentage welfare change is less than 1 percent (and often much lower) for all deciles of income. However, the small median changes hide a considerable amount of variation, especially in the tails of the distribution, and this dispersion is large particularly at low levels of income and especially in rural areas (where the distribution is more skewed toward negative changes).

3.59 The main reason for the small effects of the reform on average is that, for the products discussed, there are a substantial number of consumers that are neither net producers nor net consumers. Moreover, and more important, relatively small changes in prices are applied to commodities that represent a relatively small fraction of household consumption. For instance, from Table 3.6 one can see that the largest predicted price changes are for meat and cereals (and even for these, they do not exceed 10 percent). Both of these products represent less than 3 percent of total consumption before the reform. It is therefore not surprising that the overall average effect is small.

⁸⁰ In calculating the MLD, it is necessary to drop households with zero reported income. The richest 1 percent of households was also dropped. See Annex 7 for a description of the methodology used.

II. THE IMPACT OF THE U.S.–COLOMBIAN FTA ON ECONOMIC GROWTH AND POVERTY⁸¹

3.60 This section investigates the likely impact on Colombia's economic growth rate and poverty of the proposed FTA with the United States. Much controversy has recently developed about whether free trade policies have any measurable impact on economic growth. In a paper that has received much attention, Rodriguez and Rodrik (2001) identified serious conceptual and estimation errors in several of the most well-known and distinguished analytical efforts to capture the growth impacts of trade openness, particularly the possible endogeneity in the choice to liberalize and the high correlation between trade liberalization and other economic reforms. This section carries out (a) a conventional estimation of a fixed-effects cross-country growth model, (b) a generalized methods of moments (GMM) estimation to correct for the presence of country-specific effects and their possible endogeneity to growth, and (c) a Heckman-type estimation to correct selection biases linked to the choice of entering into an FTA. Based on the parameters obtained, it is found that the U.S. FTA with Colombia is likely to increase growth in the range of 0.6 to 0.8 percentage points a year and decrease the overall level of poverty by about 1.7 to 2.3 percent in the first 5 years after the FTA is in force, and 3.4 to 4.6 percent after 10 years.

Trade, Growth, and the Role of Domestic Institutions

3.61 Economic theory supports the idea that trade leads to economic growth, either in the short to medium term as a transition from a lower level of income to a higher one, or in the longer term as an increasing rate of growth due to greater access to technology leading to more innovation and acceleration in growth. The one-off jump that appears in traditional theories of international trade occurs in the short to medium term as countries experience a one-time increase in output as factors of production are reallocated to reflect a country's comparative advantage. Over the longer run, the persistent and dynamic contribution of technology to growth (increasingly possible because trade facilitates access to and the demand for technology) results not in a one-off event, but in an ongoing virtuous cycle whereby technology reduces the cost of innovation, which, in turn increases growth and the stock of technology.

3.62 Despite the potential contributions that an FTA might make to trade and thus to economic growth and poverty reduction, the highest benefits from the FTA will likely accrue only if it is accompanied by broad-based efforts to make the economy more efficient. The ability of a country to take full advantage of international commerce depends heavily on the fundamental efficiency of the economy—such as the legal framework for resolving international disputes, international property rights for attracting foreign investment, and the quality of laws and regulations compared to international standards for an efficient domestic business environment. Moreover, the development of

⁸¹ Primary contributors to this section include David Gould (LCSPE) and William Gruben (Federal Reserve Bank of Dallas). The contributors wish to thank Ricardo Jarque (consultant), Jevgenijs Steinbuks (consultant), and Ricardo Tejada (LCC2C) for valuable research assistance. The section also benefited tremendously from informal discussions with Carlos Felipe Jaramillo (LCC2C), Daniel Lederman (LCRCE) and Andrew Mason (LCSHS).

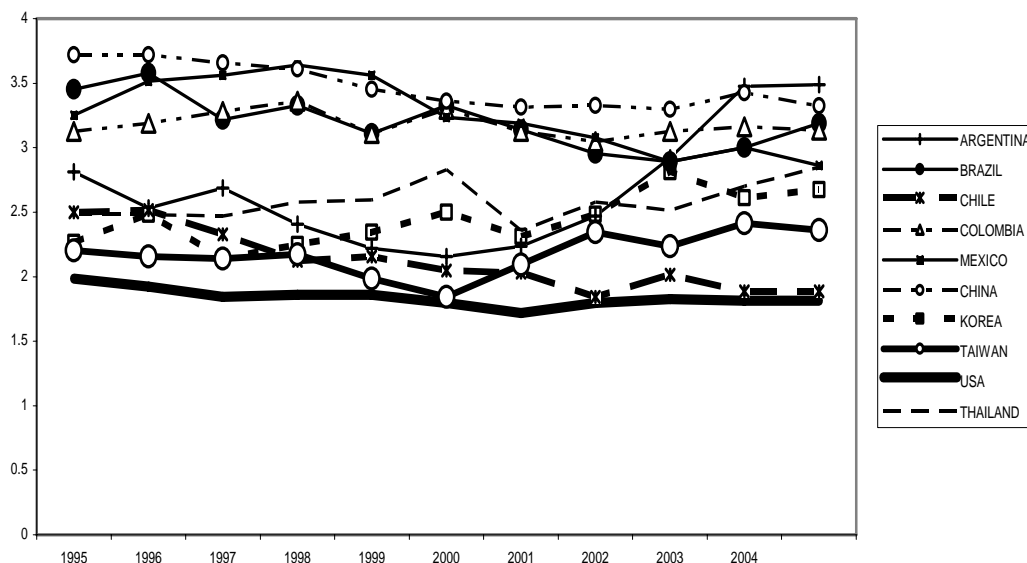
infrastructure, such as roads and ports, not only facilitates the functioning of international markets, but reduces the costs of producing nontradable goods that are crucial inputs to tradable products.

3.63 Given the importance of domestic institutions, infrastructure, and legal frameworks to trade, how does Colombia stack up to other countries internationally? A comparison of the components of the Heritage Foundation's Index of Economic Freedom sheds some light on this issue (Figure 3.3).

3.64 The Heritage Foundation's indexes include trade openness, openness to foreign investment, and eight measures of domestic policies that reflect market orientation. These eight domestic measures are overall government intervention in the economy (including the role of government-owned enterprises), government regulations, protection of property rights, regulations affecting the flexibility of wages and prices, monetary policy, restrictions on banking, fiscal burden imposed by the government, and the predominance of an informal sector—which reflects the strengths of domestic institutions, labor market flexibility, and the burden of taxes and regulations imposed on businesses.

3.65 Comparing the Heritage Foundation's measure of trade openness for Colombia with that of other large Latin American countries, few turn out to be more open than Colombia even prior to its accord with the United States. Among the seven most-populous countries in Latin America—Brazil, Mexico, Colombia, Argentina, Peru, Venezuela, and Chile—only Chile and Mexico rate as more open to trade than Colombia. Using the eight measures of domestic market orientation, Chile, Mexico, and Peru are more market oriented than Colombia, but Brazil, Argentina, and Venezuela are less market oriented. Colombia, then, while relatively open to trade relative to other Latin American countries, rates about average in the same group in terms of domestic market competitiveness.

Figure 3.3: Colombian National Domestic Policies Not Very Market Oriented
(smaller values = greater domestic market orientation)



Source: Heritage Foundation Index of Economic Freedom.

3.66 However, when one narrows the eight domestic policy market orientations to four that may seem particularly significant—government intervention, government regulation, flexibility of wages and prices, and property rights—Argentina, Brazil, Chile, and Mexico all offer more economic freedom than Colombia. By this narrow definition, only Peru and Venezuela offer less domestic market orientation.

3.67 Although the Heritage Foundation rating shows the United States as more open to trade than Colombia, the United States still has much to improve upon. According to the Economist Intelligence Unit, some of the more direct U.S. trade impediments (in contrast to subsidies) include not only tariffs on agricultural products, but such so-called *administrative protectionism* as licensing requirements and offsetting tariffs to forestall “too much” competition, including antidumping, countervailing duties, and safeguards. Indeed, according to the U.S. International Trade Data Service’s own discussion of antidumping and countervailing duties, “if goods should come under these orders, the amount of customs duties could be very great” (updated 04/23/2004).

Empirical Results

3.68 This section examines whether the U.S.–Colombian FTA is likely to have an impact on economic growth. As discussed in Annex 8, trade liberalization may or may not make a contribution to growth (Rodriguez and Rodrik 2001; Yanikkaya 2003). Ascribing more growth to trade apertures than they are due can result in subsequent suspicions, political reactions, and criticism that make subsequent market-opening efforts more difficult. In the empirical section that follows, alternative versions of a growth and trade model are presented and various steps are taken to correct for model biases that give undue credit to the impact of trade on growth. The primary measure of trade policy is the

choice to enter into a regional FTA, and the focus of the analysis is the proposed FTA between the United States and Colombia.

3.69 While the empirical results will be indicative, they are not expected to produce precise point estimates of the impact of the FTA on economic growth. Rather, the results should provide the average growth impact of FTAs after controlling for a wide variety of country-specific factors. Because countries and institutions differ in a myriad of ways, both measurable and immeasurable, one would ideally like to have country-specific empirical results that capture the idiosyncratic circumstances of each country. However, due to obvious data limitations, and the fact that Colombia has only a few prior regional FTAs, statistical analysis based only on Colombia's past experience is not feasible. Consequently, the empirical analysis undertaken is a cross-sectional time-series panel data analysis that uses the experience of 132 countries over a 30-year period. The 30 years of data are divided into six five-year growth periods, and the countries included encompass both developed and developing countries with some 151 country episodes of regional trade agreements. A full description of the data can be found in Tables A9.5a – A9.5CA-1C in Annex 9.

3.70 As a starting point for the empirical analysis, a fixed-effects growth model is estimated that includes episodes of regional FTAs to determine whether they have any power in explaining economic growth. A variety of important economic and political variables are included to control for external and internal factors that may also influence economic growth to confirm the robustness of the results. Following this, the growth model is estimated using alternative regression techniques that address econometric problems that arise when estimating panel growth models using fixed-effects ordinary least squares (OLS) regression techniques. First, the Arellano–Bond (1991) first-differenced GMM estimator is used to address the issue of country-specific effects and their possible endogeneity to growth, and also corrects for the dynamic nature of the model. Second, possible selectivity bias (that is, the choice of entering into an FTA may be endogenously determined by the state of the economy) is accounted for by explicitly taking into consideration a country's choice to enter into an FTA.

3.71 The results of the empirical investigation suggest that regional FTAs do have a positive effect on economic growth, in the range of 0.6 to 0.8 percentage points a year. Moreover, these effects may be larger during the first five years after entering an FTA. Unlike previous studies that have investigated the growth effects of regional FTAs, no additional growth effects are found that would arise from FTAs that included a mix of developed and developing countries.

Fixed-effects OLS Regressions

3.72 **Benchmark model.** The analysis begins with standard panel data analysis using a fixed-effects regression model and five-year growth periods. The benchmark model is the Solow growth model with measures for both physical and human capital investment. The benchmark estimation model takes the following form:

$$\hat{Y}_t = \sum_{i=1}^n \alpha_i \text{CountryDUM}_i + \lambda_1 \ln(Y_{t-1}) + \lambda_2 \ln(K) + \lambda_3 \ln(H) + \mu \quad (1)$$

where, \hat{Y}_t is real GDP per capital growth during period t , CountryDUM_i is a country-specific dummy variable, Y_{t-1} is initial level of real GDP per capita, K is physical capital investment, H is human capital investment, and μ is the error term.

3.73 As Table A9.1, column 1 indicates, the standard benchmark Solow model generally behaves as expected—conditional convergence in growth rates is found as indicated by the negative and statistically significant coefficient on the initial value of log real GDP per capita, and physical capital investment is found to have a positive and statistically significant impact on growth. The proxy for human capital investment (log of secondary school enrollment as a percentage of total population in that age group that corresponds to secondary school age), however, is negative and not statistically significant. Despite using alternative measures of human capital investment, such as primary and tertiary school enrollment rates as proxies for human capital investment, measures of human capital investment did not become significant. The results would indicate that investment in education, as least for the five-year growth periods investigated, does not appear to have a significant impact on growth. This may suggest that for investment in human capital to have a positive impact on economic growth, the growth period measured needs to be greater than five years, or the model simply lacks a good proxy for human capital investment.

3.74 **Regional trade agreements.** Regression 2 in Table A9.1 (column 2) includes a measure for the number of regional free trade agreements in force. To account for the possibility that regional FTAs may be signed in the middle of a five-year growth period, the value of the variable is the portion of the period it is in force. For example, if the country signs its first regional FTA in 1971, then the value of the variable is zero prior to 1970, is equal to 0.8 during the five-year growth period between 1970 and 1975, and is equal to 1 thereafter (or until another regional FTA is signed). As regression 2 indicates, regional FTAs appear to have a positive and significant impact on growth. The coefficient on the variable is 0.008, which suggests that a regional FTA would add about 0.8 percentage points to annual growth, all else held constant.⁸²

⁸² Berthelon (2003), in a similar analysis, estimates the effects of regional FTAs on growth using a dummy variable for the period a country enters a regional FTA weighted by the size of the share of world GDP represented by the FTA trading partners. He also creates another variable that takes the value of this variable but measures it relative to the size of the country's own share of world GDP. While he finds a significant positive value for this variable, significant results using a similarly weighted variable are not found, nor are the effects of regional FTAs significantly stronger between countries in the North (developed) and countries in the South (developing) or for any other types of regional FTA partners (South–South or North–North). While growth effects are found to be larger for North–South FTAs, they are not significantly different than South–South or North–North. The inability to replicate Berthelon's results may be due to the fact that the data sets are not identical in time periods or countries, and that there are different control variables in the regression (including world growth and other variables). Nonetheless, the results suggest that the overall growth effects are significant and positive regardless of the market size of the regional FTA.

3.75 Regressions 3 to 7 add various control variables to the benchmark growth model with regional FTA effects. These variables include:

(1) The contemporaneous world real GDP growth rate. This variable is designed to capture global growth spillover effects that might be contemporaneously correlated to FTA initiatives. Quite a few FTAs were signed during the 1990s, which was also a period in which global growth experienced a strong and unprecedented expansion.

(2) Trade (exports plus imports) as a share of GDP. This variable attempts to control for countries that are already relatively well integrated into the global economy and are also experiencing higher growth. Trade as a share of GDP is an endogenous variable and is not a good independent measure of trade policy, but it may be that countries with currently large trading positions may have low (or weaker) protectionist interests.

(3) Black market premium. This variable attempts to capture existing market and macroeconomic distortions that may have a negative impact on growth. Many other studies have included the black market premium as a proxy for trade policy openness, but, as explained by the Rodriguez and Rodrik (2000) critique of the empirical trade and growth literature, the black market premium is not only a measure of the inherent trade distortions, it is also an endogenous variable (like trade as a share of GDP) and may reflect macroeconomic policy instability and other policy distortions in an economy rather than just trade policy. While it is unlikely to be a good proxy for trade policy distortions, it should capture underlying distortions in the economy that would be expected to impact economic growth.

(4) Government share of domestic consumption. This variable attempts to capture the extent of government involvement in the domestic economy. Many cross-country empirical growth studies have found a negative correlation between government consumption as a share of total consumption to be negatively correlated to economic growth.

(5) Fiscal balance as a share of GDP. This fiscal balance as a share of GDP is expected to control for cyclical growth factors, although over a five-year time horizon these should not be that strong, and prudent fiscal policies are expected to have a positive impact on economic growth.

(6) Political freedom index. This variable measures the degree to which civic and political rights are provided in the country. This variable is meant to control for political stability in the country and institutional factors that may impact growth, such as democracy and the rule of law.

(7) The choice to liberalize is a dummy variable that is equal to 1 during the liberalization period and zero otherwise. This variable measures whether there are any additional growth effects during the first period of trade liberalization that are not present in prior or subsequent years.

3.76 After including these control variables stepwise into the benchmark model with the regional trade agreements variable, it is found that the regional trade agreement variable maintains its statistical significance, while the size of its impact on growth falls marginally (from a 0.8 percentage point impact on annual growth to a 0.7 percentage point impact). As far as the other variables are concerned, world real GDP growth has significant and positive spillover effects on country growth (in the range of a 0.7 to 1.1 percentage point increase in domestic growth for each percentage point increase in world growth). Trade as a share of country GDP also has a positive and significant impact on country growth, but is much smaller than the spillover impact of world income growth (in the range of 0.04 to 0.02 percentage points). As expected, the black market premium has a negative and significant impact on growth, although the impact is rather small—only a -0.0004 to -0.0006 percent impact for each percentage point increase in the black market premium—and the significance level is lower (in the 95 percent to 85 percent range). Government consumption as a share of total consumption is negative as expected, but is not statistically significant. The fiscal balance as a share of GDP is positive, as expected, and is highly significant, suggesting that higher fiscal balances (due either to greater revenues that occur during an economic expansion, or to fiscal restraint due to greater tax collections or expenditure cuts) is associated with greater economic growth. A 1 percentage point increase in the fiscal balance as a share of GDP is associated with about a 0.1 percentage point increase in annual growth. Finally, the political and civic freedom index is positively related to economic growth, but is not statistically significant.

3.77 The choice to liberalize or, in other words, the first five-year period in which a regional FTA is implemented, is associated with additional higher real GDP growth—about the same effect as that of the number of liberalizations—0.8 percentage points of annual growth—but is not statistically significant due partly to multicollinearity (by definition, an increase in the number of liberalizations is always associated with the choice to liberalize). Taken together, the two growth effects combined (the initial impact and the longer-term effect) represent a 1.6 percent boost to growth during the first five years an FTA is in force.

3.78 Table A9.2 replicates the results of Table A9.1, but uses 10-year growth periods in the time-series dimension, rather than the five-year growth periods. This reduces the number of observations in the time-series dimension by nearly one-half, but the effects of the regional trade agreement variable is only slightly smaller (about 0.6 percentage points compared to 0.7 percentage points), and is still statistically significant at the 95 percent level or higher when including all the control variables. The signs of the control variables are broadly similar to the five-year regressions, but, in general, the significance of the control variables drops below the 90 percent level when including the fiscal balance as a share of GDP into the regression equation. The fiscal balance as a share of GDP is significant at the 99 percent level, and appears to dominate the impact of the other control variables that affect growth in the shorter time horizon shown in Table A9.1. Over a longer period, a more prudent fiscal policy may be a much stronger proxy for policies that effect economic growth (outside of investment and trade policies) than any of the other control variables by themselves.

Arellano–Bond Difference GMM Estimator

3.79 Table A9.3 presents the same exercise as Table A9.1, but uses the Arellano–Bond (AB 1991) difference generalized methods of moments (GMM) estimator. As noted by Caselli, Esquivel, and Lafor (1996) and others, estimating the panel growth equation above with ordinary least squares (OLS) poses several problems including the presence of country-specific effects and their possible endogeneity to growth, the dependant variable.

3.80 Arellano and Bond propose differencing the equation to eliminate the country-specific effects. However, by differencing the equation, another problem is created: the change in the initial logged value of GDP per capita on the right-hand side of the equation is related to the change in the dependant variable on the left-hand side of the equation (the dependant variable being the log difference between current GDP per capita and initial GDP per capita). In essence, there is a lagged dependent variable on the right side of the equation which, if ignored, introduces a bias because the lagged dependant variable is correlated to the model's error term. Under the assumption that the error term of the equation is not serially correlated, Arellano and Bond proposed a two-step GMM estimator to address the problem of correlation between the initial level of logged GDP and the error term.

3.81 In the first step, the error terms are assumed to be independent and homoskedastic across countries and time. For the second step, the residuals obtained in the first step are used to construct a consistent estimate of the covariance matrix, thus relaxing the assumptions of independence and homoskedasticity. Although asymptotically efficient, the two-step estimates of the standard errors tend to be severely biased downward in small samples. To compensate, the finite-sample correction to the two-step covariance matrix derived by Windmeijer (2000) is used.⁸³ Two specification tests are presented to address these issues. The first is the Hansen J test of over-identifying restrictions. The second test examines whether the error term is not serially correlated, which, in turn, would imply that the difference error does not present second-order serial correlation.

3.82 First the results of the specification tests (shown as p-values) are examined across the various regressions in Table A9.3. For all the regressions shown, the Hansen J statistic indicates that the null hypothesis (that is, all instruments used in the estimation are uncorrelated with the error term and are correlated with the instrumental variables) cannot be rejected, so that the over-identifying restrictions are justified. The auto-correlation tests suggest that there is a lack of second-order correlation in the differenced residuals, so there does not appear to be a significant misspecification of the models and the estimation results can form a basis for economic interpretation.

3.83 As regression 1 in Table A9.3 shows, the AB procedure increases the size of the coefficient on the initial level of logged real GDP per capita (in absolute value terms), from -0.017 to -0.059, which suggests that half-life of convergence is about three times faster (from 1.8 to 6.0 percent per year) than originally found under the previous fixed-effects analysis.

⁸³ The estimation was performed with the XTABOND2 module add-in in StataSE8.

3.84 Regarding the effects of the regional trade agreements on growth, the results are essentially unchanged in the regressions equations in terms of the impact on the size of growth, but in some regressions the significance level falls marginally below 95 percent. The other variables included in the equation also appear roughly similar to what were observed earlier in the fixed-equations analysis in Tables A9.1 and A9.2.

Selectivity Bias in the Choice to Liberalize

3.85 This section takes into consideration the possibility that regional trade agreements might be chosen during periods of above-normal growth, and, as a consequence, may be the result of, and not the cause of, higher growth. A problem with the empirical analyses above—and with that used in numerous other studies on trade and economic growth—is that they rest on the implicit assumption that the choice to enter into an FTA is exogenous and does not depend on the state of the economy or other factors that, in turn, may be related to growth. But this assumption may be too restrictive. Indeed, during periods of economic expansion, import-competing interests may be less apt to lobby *against* freer trade if they see the overall economic pie growing. Labor in the import sectors may find employment and wages rising and may also be less likely to actively oppose freer trade—even though their gains may not be as large as other sectors. In the literature on the political economy of protectionism, it has been observed that protectionist pressures are the highest during periods of economic contractions; the corollary to this is that protectionist pressures are the lowest during periods of expansion.

3.86 In other words, the choice to enter into an FTA may be endogenously determined by the economy and prospects for future growth. It may simply be the case that FTAs are signed during periods of higher-than-average economic growth and are not the cause of that growth. Those countries with prior economic reforms, international financial support, and better prospects for economic growth may be the most likely to pursue free trade negotiations due to the support of exporters and the lack of strong protectionist pressures from import-competing interests. In those countries experiencing weaker economic growth, contraction, and/or diminished prospects, internal political dynamics and protectionism may be much more difficult to overcome.

3.87 If the decision to enter into an FTA is endogenous, how will the correction for this potential endogeneity affect the estimated impact of regional FTAs on economic growth? To address this question a simple framework for analyzing growth and policy choice is presented, and then the econometric techniques used to estimate such a model are discussed.

3.88 ***Specification of the selectivity model.*** Equations (2) through (4) describe the benchmark growth model with the endogenous choice of entering into an FTA. The model assesses whether output growth differs significantly between those periods during which an FTA is signed. It departs from the previous analysis in that the choice to liberalize is modeled as endogenous, and selectivity bias is explicitly addressed. The model is specified as:

$$\hat{Y}_{it} = \alpha Y_{it-1} + \beta D_{it} + \gamma X_{it} + \delta n_i + \varepsilon_{it} \quad (2)$$

$$d_{is} = aZ_{is} + cn_i + \eta_{is} \quad (3)$$

$$D_i = 1 \text{ if } d_{is} > 0; D_i = 0 \text{ if } d_{is} < 0. \quad (4)$$

3.89 In equation (2), real GDP growth in each period is a function of initial GDP, a dummy variable indicating whether country i signed an FTA during the period, D_{it} , a vector of internal and external country environmental characteristics, X_{it} , such as world growth, fiscal balance, and black-market premium, a vector of country-specific dummy variables n_i (fixed effects) to account for country-unique trend growth differences, and an error term which includes unobservable country-specific growth factors (more discussion on this below) and random disturbances. Equations (3) and (4) specify the policy choice decision: a country signs a particular regional FTA in period s if the latent variable d_{is} rises above zero. This policy choice equation is based on the notion that the choice to enter into a regional FTA depends on the net benefit a country expects to receive from freer trade and the lobbying efforts of domestic interest groups. The latent variable is a function of a vector of characteristics, Z_{is} , which include lagged variables such as real GDP per capita growth, initial level of GDP per capita, world GDP growth per capita, trade share of GDP, political freedom index, dummy variables to account for unspecified “free trade trends” in the 1980s and 1990s, and a vector of country-specific dummy variables (fixed effects).

3.90 ***Econometric issues.*** The problem of policy endogeneity addressed in this model is very similar to the one often encountered in the labor literature where, for example, the effects of college attendance on earnings are estimated. The problem is that unobservable characteristics of individuals that may lead them to go to college (such as higher intelligence or the will to achieve) also may influence earnings ability. In other words, it may not be college attendance that leads to greater earnings, but rather the inherent characteristics of the individual. This problem has been referred to as selection bias, and in the context of the FTAs, may also lead to incorrect inferences about the effects of FTAs.⁸⁴ If unobservable characteristics of countries lead to the choice of entering an FTA (such as weak political opposition from import-competing interests), and these unobserved characteristics are also correlated to output growth, then OLS procedures will lead to inconsistent estimators. If the error term in the growth equation is correlated to these unobservables, and so is the error term in the choice to enter an FTA, then the two terms would be positively correlated. These conditions create the problem of signing the selectivity bias equivalent to an omitted-variable problem. In the case at hand, because one would expect the correlation between the omitted variable and growth to be positive, it is suspected that OLS is biased upward.

3.91 Heckman (1978) proposed a two-step estimator that controls for the correlation between the unobservables and their effects on the equation of interest. In the context of the current problem, this is done by estimating the conditional expectation of the free trade policy choice equation error and then including this estimate as a regressor in the growth equation. If the errors in the policy choice equation and growth equation are

⁸⁴ For a review of the issue of selection bias see Greene (2000).

jointly normally distributed, the estimated conditional expectation is proportional to the conditional expectation of the error in the policy choice equation. The two steps relevant for this problem are: (a) estimating the policy choice equation and calculating the conditional expectation of error, and (b) including this conditional expectation of error as a regressor in the economic growth equation.

3.92 Using the notation introduced above, the conditional expectation of error in the growth equation can be expressed as:

$$E(\varepsilon_{it} | Z_i, n, D_i) = \rho \sigma_\varepsilon \left[D_i \frac{\phi(aZ_i + cn_i)}{1 - \Phi(aZ_i + cn_i)} - (1 - D_i) \frac{\phi(aZ_i + cn_i)}{\Phi(aZ_i + cn_i)} \right] = rH_i \quad (5)$$

where Z_i is the vector of observed variables, n is a vector of country fixed effects, ρ is the correlation between the unobservables in the model, σ_ε^2 is the variance of the observables in the growth equation, and $\phi(\bullet)$ and $\Phi(\bullet)$ are the normal density and distribution functions. Therefore, the growth equation can be rewritten as:

$$\hat{Y}_{it} = \alpha Y_{it-1} + \beta D_i + \gamma X_{it} + \delta n_i + rH_i + v_{it}^* \quad (6)$$

where v_{it}^* is an orthogonal error by construction.⁸⁵ To estimate the effect of entering into a regional FTA on growth, β , one must first use the fitted output from a probit model of the policy choice equation to calculate the selectivity correction, H_i , for both periods when stabilization is chosen and not chosen, and then use this estimate, \hat{H}_i , as a regressor in the growth equation. The growth effect is then estimated by least squares.⁸⁶ Maddala (1983) derives the maximum likelihood estimators of this model, which are presented along with the two-step estimators in Table A9.4.

3.93 Table A9.4 shows the results of the model that explicitly takes into consideration the potential selectivity bias in the choice of trade liberalization. Maximum likelihood and two-step estimation techniques are shown, but the results are broadly similar. Basically, selectivity bias does not appear to be a significant problem. The estimated hazard variable (selectivity bias) in both equations (\hat{H}) is not estimated to be statistically significant. Despite prior years of slower-than-normal growth and higher-than-normal world growth being a good predictor of the signing of a regional FTA, in neither estimation procedure (the maximum likelihood or the two-step procedure) are the estimated coefficients, nor the significance of the regional trade agreements variables, diminished substantially. Consequently, the evidence suggests that endogeneity in the choice of liberalization does not appear to be a significant problem and does not change the finding that regional FTAs tend to boost economic growth.

⁸⁵ LaLonde (1986) estimates a similar equation for labor earnings.

⁸⁶ Since the estimated value of this conditional expectation is used as a regressor instead of the true value, the estimated standard errors associated with the least squares estimates are inconsistent and must be corrected. See Heckman (1978, 1979) and William Greene (2000). The estimated regressions use Newey and West's (1987) general covariance estimator to correct for this problem. The standard errors are consistent in the presence of both heteroskedasticity and autocorrelation of unknown form.

Likely Impact of the FTA on Economic Growth in Colombia

3.94 As discussed above, signing an FTA is likely to have a positive impact on economic growth. However, due to Colombia's own idiosyncratic structural factors, it may respond differently to FTAs than other countries do. This section investigates what type of impact on growth Colombia might experience after it enters into the FTA with the United States, given the empirical results shown above and Colombia's own average growth rate and current level of openness.

3.95 Using the parameter estimates from the growth equations estimated in the treatment effects models (Table 3.9), Colombia's average values are substituted for the right-hand variables to calculate what might be the estimated overall average real per capita growth rate with and without the FTA. Two calculations are done and are shown in Table 3.9. The first shows the estimated country-specific growth using the average values of the explanatory variables during the last five years of the sample (1996–2002), and the second uses the average values over a longer period (1960–2002).

Table 3.9: Colombia
Average Real Per Capita Growth

	Average Growth	Average Growth if FTA Was in Place*
1960–2002	1.109	1.809
1996–2002	-1.149	-0.549

*Predicted using values from the treatment effects model, Table A9.4 in Annex 9.

3.96 Growth in Colombia has averaged about 1.1 percent annually on a real per capita basis since 1960, but this has deteriorated in more recent times, close to a contraction of 1.2 percent since 1996. With an FTA, however, growth is expected to be about 0.6 to 0.8 percentage points higher—given the empirical estimates above—assuming that Colombia's experience is roughly similar to other countries that have joined a regional FTA. All else being equal, this would translate into an average annual per capita growth rate of about 1.8 percent over the long term if the baseline growth fundamentals for the country do not change. Consequently, while an FTA is likely to boost growth, unless the other fundamental determinants of growth improve as well, such as investment and other institutional factors, growth is likely to remain modest compared to countries such as China, which has experienced an average annual growth rate in excess of 7 percent since 1996.

Likely Impact of the FTA on Rural and Urban Poverty

3.97 Given the estimated growth effects of the FTA, what is the likely impact of the FTA on poverty? According to much of the economic literature, to the extent that trade increases growth (either in the transition to a higher level of income, or in the long term) the incidence of poverty falls. A well-known series of empirical papers by Dollar and Kraay (2002) finds that the mean income of the poor tends to move proportionally with overall mean income of the country. Despite the clear results of Dollar and Kraay (2002), the existence of large residual errors in Dollar and Kraay's empirical outcomes

may be seen as allowing for the possibility for some cases where increasing overall income was not accompanied by falling poverty. Other research confirmed the existence of such possibilities despite the general tendency in the opposite direction.

3.98 White and Anderson (2001) categorize growth histories into those that reduce poverty and those in which a measure of poverty either did not decline or actually increased. In only about a quarter of the cases that White and Anderson examine did the poor lose during a period of general income growth. The authors were unable empirically to determine what factors distinguished countries that had positive links between overall growth and poverty reduction and those that did not.

3.99 Dollar and Kraay (2004) show there is no systematic relation between increases in trade volumes and increases in household income inequality. They reiterate that while a one-to-one connection exists between income growth for the poor and overall per capita income growth, there is much variation around the average relationship. Addressing these issues in a policy context, Lopez (2004) finds that all pro-growth policies he considers lead to lower poverty in the long run, but sometimes increase it in the short run. In a survey of the literature on poverty and growth, Winters, McCulloch, and McKay (2004) argue that “there is no evidence to overturn the traditional conclusion that growth *on average* benefits the poor nor to suggest that growth generated by greater openness is any worse than other growth...” (p. 80). They add that growth has sometimes accompanied increases in the incidence of poverty, but that the causes for such patterns remain to be identified.

3.100 Table 3.10 shows the total number of poor and those in the urban and rural areas in 2004. These numbers were taken from the latest estimates from Colombia’s Ministry of Social Protection.⁸⁷ The World Bank’s “Colombia Poverty Report” (2002) provides estimates of the elasticity of poverty with respect to changes in growth, and based on these elasticities combined with the estimated growth effects, one is able to calculate the FTA’s impact on rural, urban, and total poverty. The sector effects are rough estimates, however, because they assume that growth due to the FTA is equally distributed between the urban and rural sectors.

⁸⁷The number of poor is calculated based on the income distribution and a multiple of the average minimal calorie requirements. For full details of the methodology of calculating the poverty levels for Colombia, see the Colombia Poverty Report, Vol. 1, Report number 24524-CO, November 1, 2002.

**Table 3.10: Colombia: Estimated Reduction in Poverty
Due to the Growth Effects of the FTA**

	Urban Poor	Rural Poor	Total Poor
Number of People in Poverty in 2004	15,063,891	8,064,016	23,126,813
Percent of Total Population	34%	18%	53%
Percent Reduction in Poverty due to FTA after 5 Years	-1.8% to -2.4%	-1.4% to -1.8%	-1.7% to -2.3%
Number of people	-274,423	-110,178	-384,602
	to	to	to
	-367,364	-147,493	-514,858
Percent Reduction in Poverty due to FTA after 10 Years	-3.7% to -5.0%	-2.8% to -3.7%	-3.4% to -4.6%
Number of People	-557,179	-223,702	-780,881
	to	to	to
	-749,660	-300,982	-1,050,642
Total Population in 2004: 45,076,091			

Notes: Elasticity of poverty to changes in growth is equal to -0.6 for urban poverty and -0.45 for rural poverty (World Bank mimeo [2005] by Mauricio Santamaria). Ranges in poverty reduction due to the FTA are based on the estimated annual per capita growth estimates in the alternative empirical growth equations (0.6 to 0.8 percentage points annually).

3.101 Based on the estimated effects of an FTA on annual per capita growth, which ranged from 0.6 to 0.8 percentage points a year, overall poverty is estimated to decrease by 1.7 to 2.3 percent in the first 5 years after the FTA is in force, and 3.4 to 4.6 percent after 10 years. This translates into an absolute reduction in the total number of poor in the range of about 500,000 after 5 years and 1 million after 10 years, which is quite substantial, but is within the magnitudes calculated by others using different methodologies.⁸⁸ Due to the elasticity of poverty with respect to growth being higher in the urban sector compared to the rural sector, the impact of an FTA would have a slightly higher effect on reducing the number of poor in the urban areas than in rural areas—in the range of a 1.8 to 2.4 percent decline after 5 years in the urban sector and a 1.4 to 1.8 percent reduction in the rural sector. These figures are consistent with household welfare impacts shown in the following section that indicate that median welfare gain to households in the poorest decile of the urban sector tends to be higher than the median gain to households in the poorest decile in the rural sector.

⁸⁸ See, for example, Cline (2004) and the World Bank's *Global Economic Prospects and the Developing Countries 2002: Making Trade Work for the World's Poor*.

III. TRADE ASSISTANCE POLICIES⁸⁹

Introduction

3.102 Trade liberalization affects some sectors and jobs adversely, because price incentives induce a more efficient resource allocation. Sectoral and job reallocations are tantamount to achieving the objectives of trade reform, and need to be managed to minimize the risk of reversal. Indeed, many incomplete implementations or reversals of trade policy reforms in developing countries, especially in Africa, are due to the inability of local governments to deal with the distributional issues (Dean, Desai, and Riedel 1994:50) that arise from resource reallocation.

3.103 Given these risks in the implementation and sustainability of trade policy reform, predictive analysis of the distributional effects is crucial, as are the identification of losers and ways to facilitate their adjustments. Recent mainstream literature on adjustment costs and compensation schemes justifies the unease of policymakers in accepting the standard argument that free trade's winners can more than fully compensate for the losers (Kletzer 2004 and references therein). There is also evidence that market-based instruments (such as private training systems) do not work with some trade-displaced workers, and that this failure justifies publicly funded assistance programs. Finally there are indications that acceptance of trade liberalization increases when it is linked to worker adjustment programs (Scheve and Slaughter 2001; Rosen 2002).

3.104 This section discusses issues related to implementing an assistance program for trade-displaced workers in Colombia. First, the section briefly presents a theoretical framework showing the reasons for public intervention, but also its difficulties; second, international experiences with public intervention programs is surveyed; third, the section describes the recent evolution of the Colombian labor markets and the current economic policy instruments that are linked to assist labor market adjustment to structural shocks. The section concludes with several recommendations.

Trade Assistance Policies: Theory and Difficulties

3.105 Labor market churning is part of economic progress: people look for better opportunities, quit old jobs, and enter new ones. However, even during periods of strong economic growth, some workers may lose their jobs involuntarily. These workers may have to bear a significant burden in terms of lost income during unemployment or reduced income if they find a new job at lower pay. Governments can intervene to redistribute this burden by promoting temporary income support, wage insurance, and incentives for job searches and rapid reemployment.

3.106 Although net job creation may be the final outcome of trade policy reform (or of any other structural adjustment/policy reform), the new jobs are often much different from the destroyed jobs, and are thus for workers with very different characteristics from

⁸⁹ The primary contributor to this section was Maurizio Bussolo (DECPG) and draws heavily on a forthcoming paper by Melendez and Paredes on trade assistance policies. The section greatly benefited from informal discussions with Dr. Melendez

those who lost their jobs. Job losses and the mismatch between lost jobs and new jobs raise three challenges:

- During any time period, individuals lose their jobs due to technological change, economic downturn, or other causes, and not necessarily because of increased trade. As a result, a system may need to be in place to identify those job losses that are due to the change in trade policy.
- Investment in additional (or different) human capital required to access these new jobs may not be easily or readily supplied by privately funded training programs, or displaced workers in need of support cannot afford to pay for these investments. Research in OECD countries (references in Kletzer 2004) has shown that workers with low education, older age, or facing complications of work and family (single parents, usually women) do not normally participate in the private training system. As a result, publicly funded training may be justified.
- Older workers with long job tenure in specific production-oriented jobs (blue collar) may face serious difficulty in retraining and skill-enhancing programs. Not only might entry into these programs require higher education levels than many of these workers have attained, but also completing the courses may be difficult. As a result, in these cases, other forms of assistance, such as allowances for job searches or wage insurance schemes might be better.

3.107 With regard to the first point above, governments need to decide whether they want to ease economic hardship for workers displaced by trade and by any other abrupt change. It may then be important to assess whether workers displaced from import-competing industries have characteristics different from workers who lose their jobs for other reasons. And, even more important, the following questions need to be answered: are earnings losses from trade-related displacement larger and more permanent than losses due to other causes? And what are the reemployment prospects of import-competing displaced workers? Gathering statistical information needed to answer these questions can be costly and quite difficult for many developing countries, and existing evidence for the United States, which faced increased import competition especially in manufacturing industries, may not be generalized to other countries.

3.108 Human capital theory can be helpful in recognizing workers who are more vulnerable to larger income losses due to displacement and who have lower probabilities of being reemployed. This theory states that human capital accumulation is higher at lower ages and decreases after a maximum, and that skill acquisition on the job is an important component of this accumulation. However, human capital obtained in this way is usually specific and not always usable in different occupations. This confirms that older, less formally educated workers with long tenure in specific jobs may be the most vulnerable category.

3.109 To select beneficiaries for trade displacement assistance, the human-capital-related criteria outlined above can be combined with others. Low income is also often taken into account. As Kletzer (2004) clearly puts it, it is not easy to identify workers whose job losses are associated with trade policy reform: “Trade-related job loss” is a familiar but ambiguously defined phrase. As commonly understood and implemented in

policy, trade-related job loss means job loss due to increasing imports, and a trade-displaced worker is a worker for whom increased imports have contributed to job loss. This definition may appear precise, but *many operational ambiguities* arise. In addition, within academic circles there are further complications that arise from the complexity of empirically capturing the causal nature of the “trade and employment change” problem. At a minimum, it is important to state the obvious: there is no way of knowing for certain whether a given worker is trade-displaced, nor is there any widely agreed-upon way of identifying the share of workers in a given industry who are trade-displaced. So normally the best one can do is to identify workers who, by the industry of the lost job, are “trade-displaced” workers in the sense of being displaced from industries facing increased import competition.

International Experience with Trade Adjustment Assistance Programs

3.110 Most countries implement policies to facilitate the adjustment to increasing import competition. The most used instrument probably is phasing out protection gradually. More direct forms of assistance can be classified as: (a) support to sectors, such as financial assistance, special loans, or fiscal exemptions, (b) support to geographic areas, or (c) direct support to displaced workers. Examples follow.

3.111 **North America.** The United States is the only North American Free Trade Agreement (NAFTA) country adopting specific assistance policies for trade-displaced and NAFTA-displaced workers. Hufbauer, Jones, and Schott (2003) find that, “since 1962, U.S. workers affected by increased imports have been eligible for supplemental unemployment insurance under the Trade Adjustment Assistance Act (TAA). Benefits are provided for a maximum of 52 additional weeks if the worker is enrolled in a training program. A similar program, the NAFTA Transitional Adjustment Assistance (NAFTA-TAA), was established under the North American Free Trade Agreement Implementation Act of 1993. The Department of Labor’s NAFTA-TAA program provided assistance to workers displaced by imports from Canada and Mexico or the shift of production to Canada and Mexico (for example, production for consumption in those countries or for export to third countries). Eligibility for NAFTA-TAA did not depend on a demonstrated link to NAFTA trade concessions. All that was required was a connection to trade or investment in Mexico or Canada. Workers under this program are entitled to federal training programs up to two years, income support while training (equivalent to their unemployment insurance), job search allowances, and relocation assistance.

3.112 **Europe: The French and Spanish Cases.** Motivated by the European Union integration, France and Spain have implemented various programs of support to production sectors and displaced workers. In France, particular emphasis has been on depressed and remote geographic areas with high levels of unemployment: the assistance normally takes the form of financial aid, especially for firms using manpower intensively. There are also instruments aiming at increasing labor mobility: temporarily increasing the subsidy for those workers finding new jobs at lower salaries, and financial aid to cover moving costs or anticipated retirement. In Spain, general protection against unemployment, aid for retraining, and fiscal exemptions for firms employing displaced workers have been the focus of attention.

3.113 *Latin America—Chile.* Few countries have adopted specific policies to assist individual displaced workers. Most policies have more general objectives such as employment creation, or supporting sectors in crisis; a significant exception may be represented by policies helping the migration of employees of the shrinking public sector into the private one. Among the various experiences considered are the Chilean and Mexican cases.

3.114 The first displaced workers program implemented in Chile (during 1997–99), known as *Reinserción Laboral*, was a pilot program aimed at a thousand workers displaced from the mining and textile sectors. The program was managed by a central administrative unit (*Unidad Coordinadora del Programa*, UCP) that was subcontracting the execution of the program to private sector agents, called Reemployment Agencies (*Agencias de Reinserción*, AR). The objective of the program was the rapid reemployment of displaced workers through retraining and aid to job searches. Additionally, a subsidy corresponding to the minimum wage was offered during the training period. Beneficiaries had to meet certain conditions: (a) they could not be too close to retirement age, (b) they had to be unemployed, (c) they had to have worked in specific types of occupations, neither having professional (higher education) titles nor being in managerial positions, and (d) they had to have a low level of income. To execute the program, the ARs received payments corresponding to the number of successfully reemployed workers, the speed of the reemployment, the salary, and the degree of formality of the new jobs.

3.115 Overall, the evaluation of the program is positive (Paredes and Ruiz Tagle 2000). Comparisons between beneficiaries and control groups show that: wage levels did not decrease because of the program; in the two years following implementation of the program, unemployment for displaced workers lasted on average 4.7 months, a positively short period; and beneficiaries perceived the program as very useful because it was tailored to their individual needs. The only reservation regarding the program is the self-selection of beneficiaries, which is partly due to the mechanism of payments to the ARs. To receive larger transfers, these private agencies were pre-selecting candidates, basing their decision more on the probability of rapid reemployment than on actual need of income support. In this way, some displaced workers who had lower possibilities of finding new jobs and were more vulnerable to income losses were excluded from the program.

3.116 Chile implemented another assistance program to support the coal sector. The rationale for this sectoral (rather than worker-specific) intervention was that coal mining is geographically concentrated in a small area, and a large share (two-fifths) of people employed in this area work for the mining industry. Besides, coal workers had very specific human capital and low propensities to migrate to new jobs and/or new geographic areas. The program consisted mainly of financial support for new investment projects through direct government loans, subsidies, or guarantees. The evaluation of the program is mixed: some argue that the various instruments used were not very effective, and the selection of beneficiaries was not transparent and generated uncertainties and inefficiencies; others believe that the program generated new investment and new jobs.

3.117 **Latin America—Mexico.** Since the late 1980s, Mexico has undergone significant structural reforms of its agricultural sector, among other sectors. As reported by Cord and Wodon (2001), “restrictions on sales and rentals of the ejido land⁹⁰ as well as on hiring of labor were lifted,” and “the government no longer provided widespread technical assistance, input and output subsidies, and government marketing channels....By 1993, while the *ejido* sector had more freedom to allocate its resources, it was in an institutional vacuum without much governmental support to facilitate the adjustment to a market economy with rapidly changing incentives.” The government response to this situation was the creation of Procampo, a temporary program expected to last 15 years (up to 2008), with the objective of assisting agricultural producers in their transition toward a market economy through income support that is de-linked from current production trends. This is key because the assistance aim was to ease the transition without distorting production incentives and the emergence of a rural market economy. According to government data, as described in Cord and Wodon (2001), Procampo covers 90 percent of Mexico’s total cultivated area, and in 1997 almost 3 million producers received support amounting to a total of COP7.5 billion (US\$984 million).

3.118 Through this program the Mexican government was relatively successful in supporting farmers’ incomes: across all income levels, Procampo transfers accounts for about 8 percent of household incomes, and for poor households the transfers account for almost 40 percent. The program is widely known and has a positive image in the *ejido* sector (Cord and Wodon 2001), even if some of the participants expressed concern over the clarity of the selection process’ requirements. The program’s crucial feature of being a temporary cash transfer de-linked from cultivating specific crops and just linked to being a farmer (that is, owning or having entitlement to work arable land) offers efficiency gains over the previous system of price support of specific crops, and has generated a rather strong reduction in rural poverty.

Colombia: Recent Labor Market Developments and Current (Displaced Labor Assistance) Policies

3.119 Colombia is one of the few countries that implemented an explicit labor market reform at the beginning of the 1990s, so that its current labor market legislation is rather flexible, especially if compared with the situation in the previous decade. However, an analysis of recent developments shows that the Colombian labor market is still affected by a high degree of rigidity, implying that a negative shock may cause large employment and income losses. Before discussing the possible sources of this rigidity and potential remedies, the recent evolution of the labor market in Colombia is briefly considered.

3.120 A key indicator of low labor mobility is given by the differentials in unemployment rates across economic sectors and geographic regions. Table 3.10 shows that after the crisis of the end of the 1990s, unemployment levels were quite different across the seven major cities, reflecting high heterogeneity in the geographic response to the crisis. Between 1995 and 2000 unemployment grew by an average yearly rate of 9.6

⁹⁰ An *ejido* is a community of producers. In 1990 they constituted three-quarters of agricultural producers in Mexico.

percent for Bucaramanga, and reached more than 20 percent for Manizales. Such large differences can only be observed in a segmented labor market, especially when the shock is common to the whole economy, as was the case for the end of the 1990s crisis (a crisis largely caused by external factors such as the propagation of the East Asia financial crisis). It should also be added that a large share of people who lost their jobs remained unemployed for an average of two years.

Table 3.11: Unemployment Rates by Metropolitan Area

	Total	Bogotá	Medellin	Cali	B/quilla	B/manga	Manizales	Pasto
Unemployment Levels %								
1990	10.6	10.8	12.4	8.7	9.5	10.6	8.2	11.9
1995	9.3	7.6	11.9	10.8	10.0	11.0	11.7	11.9
2000	19.8	20.3	20.0	21.0	15.2	16.8	21.1	21.3
Changes in unemployment (average yearly change, %)								
190-95	-2.6	-6.8	-0.8	4.4	1.2	0.7	7.4	0.0
1990-00	1.33	13.5	10.0	19.3	9.9	9.6	20.8	12.3

Sources: DANE and Melendez and Paredes (2005).

3.121 Further analysis of unemployment allows the identification of the most vulnerable groups of workers, and should then facilitate targeting compensatory policies. Table 3.12 allows one to roughly detect whether different levels of human capital (proxied by age) or gender are linked to higher unemployment risk. Perhaps not surprisingly, unemployment rates increased quite differently across the various age groups. Younger worker cohorts, although affected by structurally larger *levels* of unemployment, suffered smaller increases, whereas the crisis starkly raised the risk of job losses for older workers, and this is observed for both males and females. Interestingly, employment of female workers seemed more resilient to this crisis than employment of male workers: on average, the rate of unemployed females grew by 16 percent between 1990 and 2000, whereas for males it grew 20 percent (Table 3.12). Notice that this is quite different from what has been reported for the U.S. market, where the majority of displaced workers, (and in particular import-displaced workers), are women (see Kletzer 2004).

Table 3.12: Unemployment Rates by Age and Gender

	Age groups and Gender				
	Total	12 to17	18 to 24	25 to 55	>56
Males and Females					
Unemployment Levels %					
1991	9.8	23.8	18.4	7.0	3.9
1995	8.7	21.0	16.6	6.4	4.0
2000	20/5	44.7	34.8	16.0	14.1
Changes in unemployment (Average yearly change, %)					
1990-95	-2.9	-3.1	-2.5	-2.6	0.6
1990-00	18.7	16.3	16.0	20.5	28.7
Males					
Unemployment Levels %					
1991	7.4	22.3	15.0	5.0	4.1
1995	6.8	18.2	14.0	4.5	4.5
2000	16.9	39.8	30.2	12.5	14.4
Changes in unemployment (Average yearly change, %)					
1990-95	-2.1	-5.0	-1.7	-2.6	2.4
1990-00	20.0	16.9	16.6	22.7	26.2
Females					
Unemployment Levels %					
1991	13.1	25.6	21.9	9.8	2.9
1995	11.3	24.7	19.3	8.6	2.5
2000	24.5	51.9	39.1	19.8	13.4
Changes in unemployment (Average yearly change, %)					
1990-95	-3.6	-0.9	-3.1	-3.2	-3.6
1990-00	16.7	16.0	15.2	18.1	39.9

3.122 Finally, education and sectoral experience are the most important determinants of workers' human capital and their capacity to adapt to different shocks. Table 3.13 illustrates that sectors respond differently to positive and negative shocks. The agricultural sector, for instance, did not take advantage of the modest boom of 2002, whereas the commerce and construction sectors recorded positive growth. This is explained partly by the different skill composition of the sectoral employment, which is changing rather slowly. The 2000–02 contraction of the agricultural sector exclusively affected unskilled workers. Some of these displaced workers may have found occupation in the commerce sector, the only sector expanding occupation for the lower-skill category of workers. For most sectors, workers with more skills enjoy larger employment growth opportunities, confirming that general education helps prepare a mobile, adaptable labor force.

Table 3.13: Employment by Sector and Education Level

Occupation by Sector and Educational Levels (000s)										Education Structure (%)		Change in occupation (yearly average %)	
	1994	1995	1996	1997	1998	1999	2000	2001	2002	1994	2002	1995-00	2000-02
Agriculture	4,033	3,371	3,768	3,479	3,502	3,609	3,710	3,737	3,621	100	100	1.9	-1.2
Primary	2,886	2,960	3,058	3,007	3,020	3,020	3,075	2,877	2,878	72	79	0.8	-3.3
Secondary not completed	285	303	306	315	324	380	377	515	424	7	12	4.5	6.1
Secondary	84	79	94	110	117	148	186	223	232	2	6	18.7	11.7
Tertiary not completed	14	10	15	18	18	17	22	41	26	0	1	17.1	8.7
Tertiary	22	18	292	27	20	24	26	48	35	1	1	7.6	16.0
Not known	742	1	3	2	3	20	24	33	26	18	1	88.8	4.1
Construction	877	922	776	798	741	667	674	653	725	100	100	-6.1	3.7
Primary	487	492	438	451	374	339	352	308	331	56	46	-6.5	-3.0
Secondary not completed	237	267	203	191	206	169	181	195	204	27	28	-7.5	6.2
Secondary	80	88	78	88	90	96	89	92	139	9	19	0.2	25.0
Tertiary not completed	25	17	13	20	21	15	14	17	15	3	2	-3.8	3.5
Tertiary	46	54	38	47	47	43	31	39	32	5	4	-10.5	1.6
Not known	2	4	6	1	3	5	7	2	4	0	1	11.8	-24.4
Commerce	3,200	3,295	3,207	3,330	3,182	3,409	3,587	4,146	4,275	100	100	1.7	9.2
Primary	1,335	1,323	1,338	1,326	1,225	1,324	1,362	1,648	1,595	42	37	0.6	8.2
Secondary not completed	807	864	863	859	775	834	889	956	1,031	25	24	0.6	7.7
Secondary	747	801	729	821	849	901	933	1,099	1,190	23	28	3.1	12.9
Tertiary not completed	157	169	150	168	179	185	213	252	234	5	5	4.7	4.8
Tertiary	149	128	114	144	141	141	169	167	202	5	5	5.7	9.3
Not known	5	10	13	12	13	24	21	24	23	0	1	16.0	4.7
Services	3,389	3,452	3,558	3,803	4,142	3,935	4,402	3,826	4,555	100	100	5.0	1.7
Primary	1,255	1,217	1,201	1,242	1,474	1,261	1,401	1,140	1,191	37	26	2.9	-7.8
Secondary not completed	670	722	722	752	802	773	870	565	671	20	15	3.8	-12.2
Secondary	717	743	808	840	861	873	982	998	1,117	21	25	5.7	6.7
Tertiary not completed	257	267	296	345	318	342	384	396	456	8	10	7.5	9.0
Tertiary	482	493	520	613	671	674	746	706	1,098	14	24	8.6	21.3
Not known	8	10	11	11	16	12	19	21	22	0	0	13.7	7.6

3.123 A mobile, well-trained, young labor force is able to withstand demand shocks such as those originating from trade liberalization: workers can easily find new jobs in different areas of the country, acquire the new skills needed in expanding sectors, bear tolerable wage losses, or even experience income gains. Structural factors, such as demography and labor markets laws and institutions can determine labor market rigidity and, depending on their relative importance, different policies should be implemented to deal with displaced workers. Melendez and Paredes (2005) point out that Colombia has marked regional cultural differences, implying that workers perceive that migrating from one region to another has a high cost choice and, unless forced by violence or crime, would prefer not to relocate. In addition, levels of development are unequal across regions, which are isolated from one another and connected only by a very sparse and unsafe network of roads. Therefore, a primary means of increasing the flexibility of the Colombian labor market, and reducing the problems associated with displaced workers, should be increasing security and investments in transport services and infrastructure.

3.124 In summary, this brief analysis of recent labor market developments in Colombia showed that some groups may be more vulnerable to negative shocks than others, and that assistance policies should be designed according to their socioeconomic characteristics. For instance, the least-expensive form of assistance for older workers may be to facilitate early retirement, rather than funding retraining programs. Similarly, workers with a low level of mobility who are trapped in sectors or regions in crisis may be better served by decentralized programs run by local agencies, rather than by a central bureaucracy.

3.125 Colombia has implemented a number of structural reforms since the beginning of the 1990s, including trade liberalization. However, it has no programs to respond to the specific needs of import-displaced workers. The available instruments that can be used to influence labor markets include industrial development policies aimed at supporting specific sectors, retraining programs targeted to individuals, and a small unemployment program.

3.126 **Industrial Development Policies.** Within this first group of policies one finds fiscal exemptions, investment subsidies, special credit lines, and financial guarantees, and the creation of national committees to coordinate information and activities to support science and technology, and small enterprises. As reported by Melendez and Paredes (2000), no systematic evaluation of these policies is available for Colombia. Some scattered evidence shows the following: The programs aimed at micro- and small enterprises suffer a lack of coordination, and disbursements have been very low, and the private sector does not seem to be fully informed about these programs. A study by Melendez, Sanchez, and Velasco (2003) shows that Colombian small-sized firms tend to look for resources outside the formal financial sector because of lower transaction costs in the form of smaller collaterals and less paperwork. Medina, Melendez, and Seim (2003) find that fiscal exemptions may have stimulated investment and helped increase productivity for the manufacturing sectors; however, there are no studies looking at the effect on employment.

3.127 **Retraining Program.** The main retraining program in Colombia is run by the National Service of Apprenticeship (*Servicio Nacional de Aprendizaje*, SENA), which in 1999 organized short courses attended by about 900,000 workers, and longer courses attended by about 100,000 workers. The SENA is funded mainly through a tax on the payroll of formal employment, and its budget has been around 0.3 percent of GDP. While SENA might be considered the ideal agency to deal with retraining trade-displaced workers, it suffers several institutional deficiencies that are outlined in the Colombian Government's own report of the *Contraloría General de la República* for 2001 and 2002, as well as a World Bank Colombian Country Study in 2004.⁹¹ Reforms in SENA are ongoing and are being focused on greater use of the private providers, which is helping improve performance. Retraining programs should also be focused toward privately run programs with government financial support directed at the most economically vulnerable. The Chilean experience suggests that a successful scheme is that of a central coordination agency which subcontracts the execution of training and job searches to local private agents. These should receive payments according to their successful reemployment, with some control to avoid self-selection of the beneficiaries.

3.128 No systematic evaluation of SENA is available; however, perhaps one of the most important developments consists of a process of decentralization that began in 1993 when, after the opening of the economy, a large number of government employees needed to find new jobs in the private sector. SENA sponsored training and job searches,

⁹¹ "Public Training Reform Issues in Colombia: The Case of SENA," May 17, 2004, Colombia Country Study Report No. 27752, Human Development Sector Management Unit Colombia, and Mexico Country Management Unit, Latin America and the Caribbean Region.

but also coordinated the activity of 40 nongovernmental organizations (NGOs) that were in charge of assisting workers and firms in five of the most affected regions. Segura, Muñoz, and Foster (1998) report that this program was successful in terms of worker reemployment and the strengthening of local NGOs.

3.129 *Unemployment Insurance.* Unemployment insurance (UI) was one of the most important innovations of the 2002 reform, particularly so when realizing that unemployment has stabilized at a higher level. Its objective is to offer protection to the most vulnerable against the devastating effects of unemployment by offering 1.5 minimum wages in six monthly payments to household heads with children under 18 years of age who do not have other income and become unemployed. The UI is financed through an additional 1 percent payroll tax managed by the *Cajas de Compensación Familiar* (CCFs). They are in charge not only of managing the money, but also of administering the system and providing the benefit. Importantly, UI gives preference to individuals with previous affiliation to the CCFs (formal workers), and only a portion goes to people without such characteristic. Notwithstanding the importance of the instrument, there have been operational problems in its implementation. Since June 2004, however, execution picked up, and during October 2003–December 2004, 83,700 subsidies were given, totaling COP32,500 million (US\$13.6 million). This covers about 7 percent of the unemployed in the seven main cities and about 3.4 percent of the total. If the proportion is taken using unskilled workers, these figures increase to 18 percent and 9 percent, respectively. The problems have been related to an excessive number and difficulty of requirements for the unemployed to get the benefit. However, a deeper problem arises from design. The fact that preference is given to individuals with previous affiliation to the CCFs raises two conflicts: (a) demand has been substantially higher from individuals with no previous affiliation, as was expected—the number was twice that of those with previous affiliation. However, of the 83,700 subsidies, only 22,000 (26 percent) were given to them. Thus, there is a rationing affecting precisely the group that needs it most; and (b) the fact that most of the unemployed come from the informal sector (83 percent in 2004) poses a serious question about the appropriateness of this regulation.

3.130 Thus, the UI needs revamping to make it more effective. Its coverage is insufficient and thus it should be expanded, while interfering as little as possible with the labor market and maintaining the fiscal outlay constant. This means that: (a) the benefits need to be extended to the unemployed coming from informality; (b) a better use of the scarce resources is required, by means of an efficient risk pooling. Given the tight fiscal situation, it is impossible to think of new sources of funding, implying the continued use of the funding destined now to UI, plus a redirection of resources from other programs that have proven to be not as important or to not deliver good results (for example, some programs in SENA or the CCFs); (c) to minimize interference with the labor market and to be able to control that the individuals really are unemployed, the instrument needs to be focalized to the most vulnerable. It has been proven that auto-selection mechanisms work better. These include the requirement to register as unemployed, the obligation of proving that the individual is looking for a job, and the obligation to attend training (complemented with the *Sistema de Selección de Beneficiarios para Programas Sociales* [Selection System of Beneficiaries for Social Programs, SISBEN]); and (d) to analyze

whether the CCFs are the best alternative to manage the system. If measures such as the ones described are taken, the operation becomes more complicated and the responsibilities would lie outside of the CCF's expertise. A good complement for the UI would be a training program that uses the existing network of institutions, and is based on flexible arrangements that favor choice of institutions and programs by trainees. The reform of SENA needs to be given more importance. The instrument could be designed to respond to the cycle, for example, expanding when the unemployment rate goes beyond a certain level.

Conclusions and Recommendations

3.131 International experience shows that programs to assist displaced workers can be classified into two major groups: (a) programs targeted to increase mobility and rapid reemployment of individual workers, and (b) programs supporting employment initiatives at the sectoral level. Successful sectoral programs normally require larger financial resources and sophisticated institutional arrangements to gather sufficient statistical information for optimal targeting, and to prevent capture by lobbies and other interest groups. Countries at Colombia's level of development would not normally be successful in implementing such programs. Melendez and Paredes (2005) show that in certain cases (such as the rice sector), due to the very limited mobility of its workers and the concentration in specific geographic areas, supporting a specific sector may be the only viable option. However, even in these cases, the program should be implemented in the most transparent way, preferably through a system of auctions where participants reveal the maximum amount of information about their needs for assistance and their evaluation of the alternatives. In general, discriminatory fiscal exemptions cause perverse incentives and rent-seeking behavior, and their positive effects are at best limited.

3.132 Programs centered on individuals seem to be more promising. Colombia should consider using privately run programs with government support directed at individuals that are the most economically vulnerable. The Chilean experience shows that a successful scheme is that of a central coordination agency which subcontracts the execution of training and job searches to local private agents. These should receive payments according to their successful reemployment, with some control to avoid self-selection of the beneficiaries (clear and simple selection criteria help).

3.133 Another option would be to strengthen the relatively new system of unemployment insurance. This would include expanding benefits to those that are not in the formal sector, a better use of resources with a focus on those most vulnerable to falling into poverty, and implementing a system to register for unemployment benefits and a process to verify that those who are receiving benefits are seeking employment. A good complement for unemployment insurance would be a training program that uses the existing network of institutions, such as SENA, and is based on flexible arrangements that favor choice of institutions and programs by trainees.

3.134 Finally, training may not be appropriate for all displaced workers, especially those with long job tenure and low initial education attainment, and more innovative instruments, such as a scheme of wage insurance, should be considered.

ANNEX 1: ANALYSIS OF PRODUCTIVITY

1. Data

The subsequent sections detail the developments in the manufacturing sector, relate them to the indicators of the investment climate and provide international comparisons. This section briefly describes the main sources of data used for these purposes.

Our main sources of data include:

- The annual survey of manufacturing establishments (*Encuesta Anual Manufacturera*, EAM) provided by the *Departamento Administrativo Nacional de Estadísticas* (DANE);
- Plant-level information on quantities and values of inputs and products of the manufacturing establishments (EAM extension) provided by DANE;
- The Technology and Innovation module of the EAM provided by DANE;
- Some supplementary variables from the monthly survey of manufacturing establishments provided by DANE;
- Foreign trade data, at four-digit International Standard Industrial Classification (ISIC) level, provided by DANE;
- Department- and country-level national accounts, provided by DANE;
- Public expenditure data, by department, provided by DNP;
- Historical data from the opinion surveys and special survey modules from the *Asociación Nacional de Empresarios de Colombia* (ANDI);
- A small investment climate (IC) survey conducted by ANDI for the World Bank.

The EAM is a census of manufacturing establishments that meet the definition of at least small plant. Law 510 of 2002 defines small plants as those having 11 to 50 employees and/or total assets of 501 to 5,001 minimum salaries.⁹² Micro establishments (with both indicators below the lower threshold) are not included in the census. For the decade of 1993–2002, the period used in our plant-level analysis, the balanced panel consists of 50 percent of the total number of plants surveyed. We use all the observations, that is, an unbalanced panel, in order to account for the effects of firm creation and destruction.

Section 2 describes the methodology for calculating the real measures of output, value added, and inputs (materials, energy, labor, and capital) that are used in the analysis of productivity and technical efficiency. This methodology utilizes plant-specific price indexes for output and inputs, which represents an enormous advantage over the conventional methodologies that, being normally subject to the lack of plant-level price data, utilize industry wide price indexes, thus ignoring the possible significant within-industry price and cost variations.

⁹² Since information about total assets is not available from the EAM, we only use the employment criterion for the size classification.

Section 3 describes the methodology for computing labor productivity and for estimating the total factor productivity. It also presents the ways of assessing the relationships between investment climate and other indicators and the measures of productivity and efficiency. Section 4 presents the estimation results.

2. Calculation of the Core Variables for the Analysis of Productivity

The core variables used for the analysis of productivity and technical efficiency commonly includes output, value added, materials, energy, labor, and capital. The procedure to calculate the real values of these variables is described below.

Two types of outputs are considered: production and value added. The former is used in the KLEM-type specification of the production function (with production on the left and capital, labor, energy and materials on the right) and the latter is used in the “classical” specification (with value added on the left and capital and labor on the right).

The inputs include labor, capital, and when appropriate, materials and energy.

The first task is to construct deflators. The data allow us to construct plant-specific deflators for output and materials, practically as done in Eslava and others (2004) who used the same DANE EAM data, but for an earlier period. Specifically, price indexes of output and materials are constructed using Tornqvist plant-specific indexes by sequentially implementing the following five steps:

STEP 1: calculate the material- and product-specific price levels:

$$P_{hjt}^f = V_{hjt}^f / Q_{hjt}^f,$$

where V is the value,

Q is the quantity

P is the price index,

j is the firm's index,

f={production; materials},

h is the product or the material index (depending on f) of firm j.

STEP 2: compute the growth rates, at a material/product level, provided that the unit of measurement of the quantity is the same in both periods (t and t-1)⁹³:

$$PG_{hjt}^f = \log(P_{hjt}^f) - \log(P_{hjt-1}^f)$$

STEP 3: calculate firm-level Tornqvist price indexes:

$$PG_{jt}^f = \sum_{h=1}^{H_{jt}^f} s_{hjt}^f PG_{hjt}^f,$$

where

H= number of products or materials (depending on f) for which the growth rate of price is identified,

⁹³ Eslava and others (2004) use log-based approximation to growth. Yet, with inflation in certain years exceeding 10 percent this approximation may not work well.

$$s_{hjt}^f = \frac{s_{hjt}^f + s_{hjt-1}^f}{2},$$

s is the value share of product (or material) h in total production (or material use):

$$s_{hjt}^f = \frac{V_{hjt}^f}{\sum_{h'=1}^{H_{jt}^f} V_{h'jt}^f}$$

STEP 4: Remove outliers at a plant level:

For each t, set to missing PG_{yt}^f if it is below the first or above the 99th percentile of the distribution of PG_{jt}^f , $j=1 \dots y \dots N_t$ OR if it is less than -0.5 or greater than 1.

STEP 5: Compute the plant-level price indexes

Beginning from the second year, $t_0 + 1$, for each year forward:

(a) Fill the missing price growth rates in the current year with medians taken across the plants in the same two-digit industry and location for the current year t; fill the still missing values of price growth rates with medians⁹⁴ across the plants in the same two-digit industry for the current year; finally, fill the remaining missing values of price growth rates with the sample-wide median for the current year.

(b) Compute the price indexes for each plant for the current year t in the following way:

$$\log(P_{jt}^f) = \log(P_{jt-1}^f) + PG_{jt}^f, t > t_0, P_{jto}^f = 1 \text{ and}$$

where t_0 = base period = 1993.⁹⁵

Similarly, the price index for electricity consumed is constructed: $H=1$ for that purpose, and all the data come from Capitulo V of EAM. We will denote this price index as P_{jt}^e . With price indexes ready for use, we now proceed to constructing the (real) measures of production, materials, and value added.

Real production (1993 prices) is calculated as follows:

$$PROD_{jt} = PR_{jt} / P_{jt}^f, f = \text{production},$$

where PR is *valor de la producción fabricada*.

Real value of materials is calculated as follows

$$MATL_{jt} = MT_{jt} / P_{jt}^f, f = \text{materials},$$

where MT is “valor del consumo—de materias primas...”

⁹⁴ Switching to means makes overall PPI inflation a bit higher, but does not qualitatively alter any results.

⁹⁵ Plant linkages are most reliable for the period after 1992. Linkages for 1990–92 are likely to suffer from the methodological changes in the EAM.

Real value added is then constructed for each plant j as:

$$VADD_{jt} = PROD_{jt} - MATL_{jt} - EN_{jt} / P_{jt}^e,$$

where EN is *energía eléctrica consumida, valor*.

We now turn to constructing a measure of capital stock. We follow the methodology in Eslava et. al (2004):

$$K_{jt}^s = (1 - \delta^s) K_{jt-1}^s + \frac{I_{jt}^s}{D_t},$$

where

δ is the depreciation rate specific to a three-digit level and taken from Pombo (1999),

D_t is implicit deflator for gross capital formation from the National Accounts,

s is the indicator of the type of assets (machinery and equipment or buildings and structures);

For each s (index s omitted):

$$I_{jt} = K_{jt}^{NF} - K_{jt}^{NB} + d_{jt} - \pi_{jt},$$

K_{jt}^{NF} stock of firm's j machinery, equipment, buildings and structures at the end of t ,

K_{jt}^{BF} stock of firm's j machinery, equipment, buildings and structures at the beginning of

t , d is reported depreciation and π is inflation adjustment;

the initial capital stock in the first year of existence, T , is defined as:

$$K_{jT} = K_{jT}^{NB} / (0.5D_T + 0.5D_{T-1}),$$

where K_{iT}^{NB} is firm's j stock of machinery, equipment, buildings and structures at the beginning of T .

Summing up the two capital types, we obtain the real capital stock:

$$K_{jt} = K_{jt}^{s=mach\&eq} + K_{jt}^{s=buildings\&struct.}$$

Finally, we need measures of labor input(s). Two alternative measures are created: total employment of the plant ($L1$) and a proxy for hours worked during the year ($L2$). The latter measure is almost an exact copy of that in Eslava and others (2004): for each plant j ,

$$L2_{jt} = L1_{jt} h_{gt}, \text{ where}$$

h is the *index* of the average number of hours worked per employee,⁹⁶ at a three-digit industry level, g , $j \in g$ in period t .

Now we have measures for each of the following real indicators:

- Production (PROD)Gf
- Value added (VADD)

⁹⁶ We use index, based in 1994. Cross-industry variations in 1994 in hours worked per employee are negligible, as the working hours are not flexible.

- Materials (MATL)
- Energy (EN)
- Labor (L1, L2)
- Capital stock (K).

3. The Methodology for the Productivity Analysis

We begin with labor productivity (output and value added per employee or per hour worked). While such cross-firm differences in such factors as capital intensity and skills intensity undermine the meaning of labor productivity, this measure (as opposed to total factor productivity) is more easily comprehended by an average reader—and visualizing its trends is usually a good introductory step into the subsequent analysis.

For firm j in period t , labor productivity is defined as:

$$(A1.1) \quad LPR_{jt}^{ab} = \frac{VADD_{jt}}{L_{jt}^l}$$

Aggregating to an n -digit level ($n=2,3$), and across additional dimensions, such as size or export orientation (let's denote this segmentation as Ψ), we obtain a sector-level productivity index, equaling 100 in the base year $t_0=1993$:

$$(A1.2) \quad LPR_{\Psi t} = \text{median}_{j \in \Psi} (LPR_{jt}) / \text{median}_{j \in \Psi} (LPR_{j t_0}) * 100$$

Note, however, that this aggregation is different from the one often used (including by DNP), LPR' . LPR' , however, may serve as a good initial benchmark⁹⁷:

$$(A1.3) \quad LPR'_{\Psi t} = \frac{\sum_{j \in \Psi} VADD_{jt}}{\sum_{j \in \Psi} L_{jt}^l} / \left(\frac{\sum_{j \in \Psi} VADD_{j t_0}}{\sum_{j \in \Psi} L_{j t_0}^l} \right) * 100$$

Other differences with the DNP approach include the use of firm-specific, rather than sector-wide price indexes.

We now turn to computing the total factor productivity (TFP). Following Escribano and Guasch (2004) as well as Eslava and others (2004), we estimate TFP in levels. The functional forms will be those used in Eslava and others (2004). Specifically, we will estimate a version of the so-called KLEM (Capital-Labor-Energy-Materials) and the so-called value-added specification.

⁹⁷ By construction, LPR' is biased toward reflecting the characteristics of the larger companies, as they have larger value added and employment—and, hence, dominate in the sums. For example, if there were several small, but highly productive, firms and one large, but with a low productivity, LPR' would likely to be relatively low, while LPR is likely to be relatively high.

The value-added production function (which is the classical version of a production function) is defined as:

$$(A1.4) \text{ } VADD_{jt} = K_{jt}^{\alpha} [L1_{jt}]^{\beta} TFP_{jt}^{VA}$$

The KLEM production function of a Cobb-Douglas type is defined as:

$$(A1.5) \text{ } PROD_{jt} = K_{jt}^{\alpha} [L2_{jt}]^{\beta} E_{jt}^{\gamma} M_{jt}^{\phi} TFP_{jt}^{KLEM}, \text{ and}$$

where E is electricity consumption, in kWt/hr, and TFP is the total factor productivity.

The estimation is done in logs. As in Eslava and others (2004), we undertake an instrumental variable approach to correct for the biases in the estimation of the factor elasticities. The biases are likely to arise due to the endogeneity problem that is present since the choice of the factors depends on the productivity. The capital elasticity is likely to be biased downwards under a straight ordinary least squares (OLS) estimation.

A classical way to cope with the endogeneity problem is to instrument the factors with a vector of variables that correlate well with the factors, but are uncorrelated with the residual. Eslava and others (2004) use demand shifters, regional government expenditures (excluding investment), and energy and material price indexes as such instruments. The price indexes are readily available, as we just had them constructed. We substitute the incomplete data on government expenditures that we have with state-level GDPs in constant prices—an option that Eslava and others (2004) also mention. Finally, the demand shifters are obtained, at a two-digit level using the data on the level of orders available from the ANDI opinion surveys (instead of following the complex methodology exploited in Eslava and others 2004). As an additional option, we use 2nd-order polynomials of the lagged labor and capital to reflect the idea of adjustment costs.⁹⁸ We include labor (in addition to capital) to reflect the inflexibility of the labor market in Colombia. Our results are not qualitatively affected if a capital-only-based polynomial is used.

Once the TFP estimates are obtained from the instrumental variables procedure, they are related to certain investment climate (IC) variables—either through tabulations or in a simple OLS regression framework. The IC variables include:

- Export orientation
- Educational attainment (by department)
- Total public investment (federal, departmental, municipal—by department)
- Inventory turnover (as a proxy for the goodness of the logistics infrastructure)
- Measures of insecurity/ criminal activity (by region).

We also analyze the links between TFP and the ownership.

⁹⁸ The implicit assumption here is that the lagged capital and labor are uncorrelated with the current-period TFP.

Note that the factor elasticities ($\alpha, \beta, \gamma, \phi$ —or just α, β in the case of the VA-based specification) may not necessarily sum up to one, that is, the returns to scale may vary. Also, markets for many sub-sectors are likely to be far from perfectly competitive, with the markup of price over marginal cost greater than one. As Kee (2004) nicely demonstrates, (A1.5) can be rewritten (in log-form) to yield:

Figure A1.1: Log (capital)

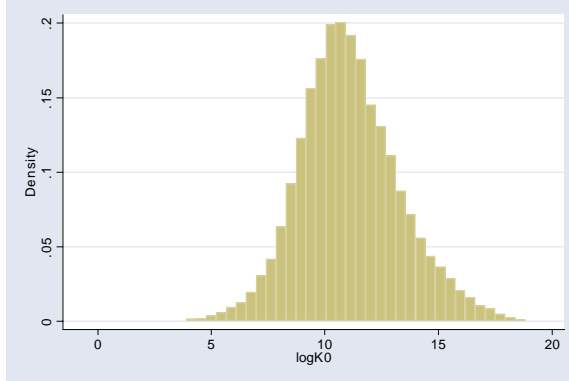


Figure A1.2: Log (employment)

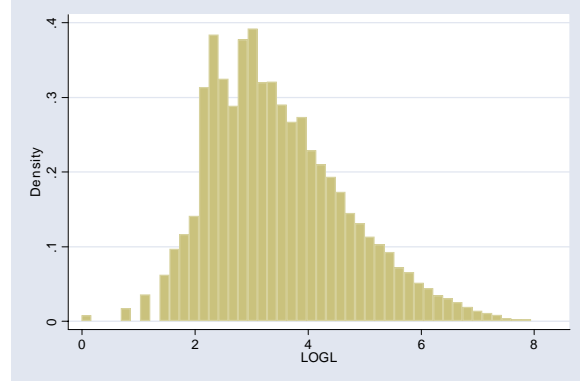


Figure A1.3: Log (labor hours)

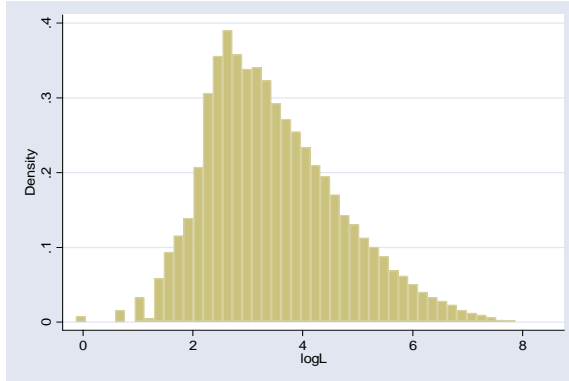


Figure A1.4: Log (materials)

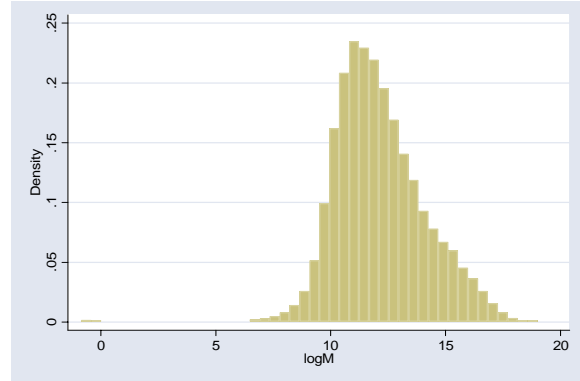


Figure A1.5: Log (Output)

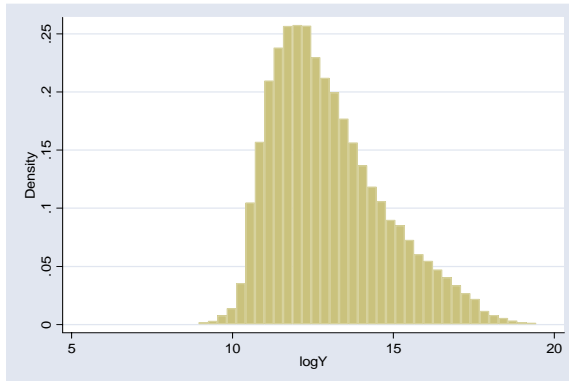
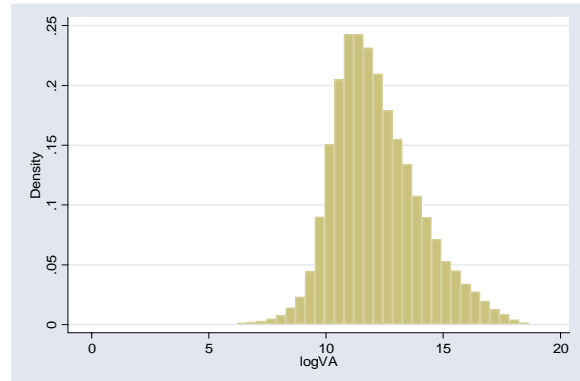


Figure A1.6: Log (Value Added)



$$(A1.6) \log(VADD_{jt} / K_{jt}) = C + \mu_{\Psi'} [\vartheta_{jt} \log(L_{jt})] + (S_{\Psi'} - 1) \log(K_{jt}^{tl}) + \varepsilon_{jt}^{VA},$$

where

Ψ' is a subperiod index, and J is a 3-digit industry index (we take medians of the labor cost shares across 3-digit industries to reduce the high plant-level noise),

$\mu\vartheta = \beta$ is a product of the price-cost markup and the share of labor cost in the nominal value added, and $S = \alpha + \beta$ is the returns to scale.

With ϑ calculated, μ and S can be estimated from (A1.6). We instrument labor and capital in (3.6) in the same way as just described. The approach in (A1.6) allows us to trace the developments in the degree of the monopolization in the market. We use four sub-periods: pre-crisis: 1993–94 and 1995–97,⁹⁹ crisis: 1998–99, and post crisis: 2000–02.

Figures A1.1–A1.4 show the descriptive statistics (1993–2002) for the main variables used in the TFP regressions, in the form of histograms.

4. Productivity Estimation and Analysis

The first two columns of Table A1.1 show the results for the simple pooled OLS regression estimation of (A1.4) and (A1.5). The second two columns show the results of the instrumental variables regressions without adjustment costs. Finally, the last two columns show the results of the instrumental variable regressions in which the 2nd order polynomials of the lags of capital and labor are included in the list of the instruments.

Table A1.1: Regression Results

Regression type		Simple OLS		IV, w/o adjustment costs		IV, with adjustment costs	
Dependent variable		Log(Output)	Log(VA)	Log(Output)	Log(VA)	Log(Output)	Log(VA)
R2 (adjusted)		0.92	0.73	0.69	0.72	0.88	0.73
N observations		69,703	67,802	69,703	67,802	63,813	61,838
Log(Capital)	Coef.	0.08	0.26	0.64	0.28	0.07	0.28
	t-stat.	41.12	87.53	8.19	13.05	21.85	97.68
Log(Labor) (Hours)	Coef.	0.34		0.47		0.38	
	t-stat.	69.10		8.52		60.36	
Log(Labor) (Employment)	Coef.		0.90		0.74		0.89
	t-stat.		171.44		19.71		172.09
log(Energy)	Coef.	0.13		-0.02		0.37	
	t-stat.	43.34		-0.52		43.51	
Log(Materials)	Coef.	0.51		0.11		0.24	
	t-stat.	81.12		5.98		25.04	
Constant	Coef.	3.19	6.16	3.16	6.57	3.75	6.03
	t-stat.	92.25	287.12	13.87	40.90	82.25	282.86

The instrumenting brings the desirable effect: the coefficient on capital increases, relative to that in the OLS regression. In the case of the KLEM regression (the one with output on the left) with adjustment costs among the instruments, the coefficient on energy, rather than the coefficient on capital, adjusts upwards. This effect most likely occurs due to the fact that capital and energy consumption are highly correlated.

⁹⁹ There was a political regime change in 1995.

Figures A1.1 and A4.2 show the dynamics of an aggregate TFP measure obtained from each of the six regressions in Table A1.1. We observe a sharp divergence, in terms of decade-long growth rate, between the measures obtained from the KLEM-type regressions and the VA-based regressions: while (at least between 1994 and 2002) the TFP derived from the KLEM regressions grew by slightly more than 15 percent, the TFP obtained from the VA-based regressions grew by more than 30 percent in the same period. These results are robust to the various changes in the specification, such as allowing the scale coefficients and the factor elasticities to vary across industries and even time, etc.

Although the KLEM specification is normally considered to be more flexible – as it does not impose restrictions on the elasticities of the materials and energy, the results of the VA-based (classical) regression seem to better reflect the reality. Specifically, as shown in the main text, the dynamics of the PPI-based real unit labor cost are very much consistent with the increases in the TFP in Figure A1.8, rather than with those in Figure A1.7. The results of the VA-based regressions also display a much higher cross-model robustness.

Figure A1.7: The Relatively Slow TFP Growth Implied by the KLEM Regressions

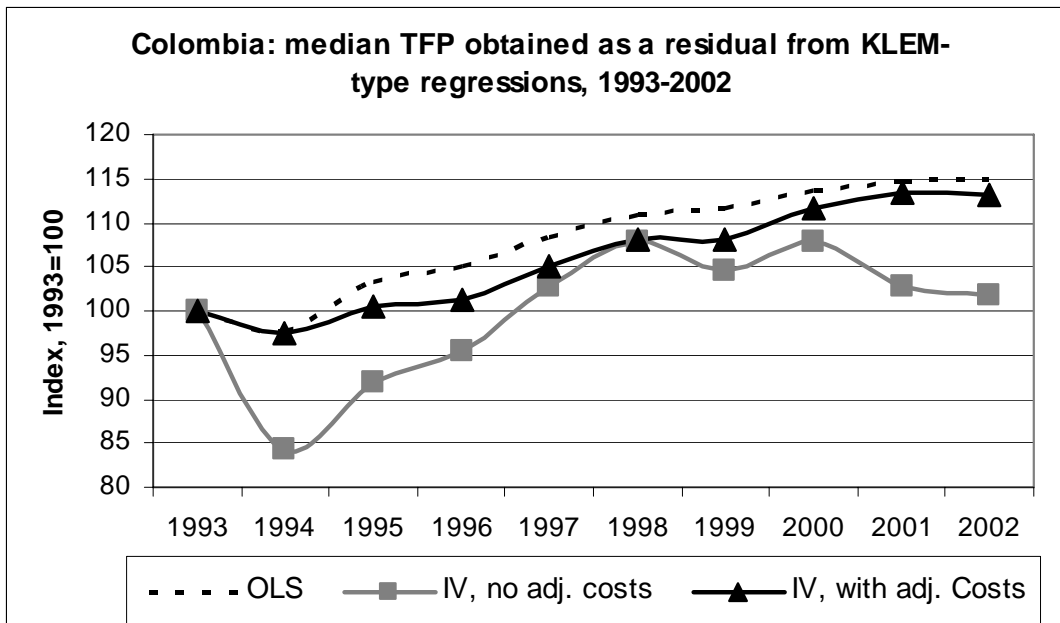
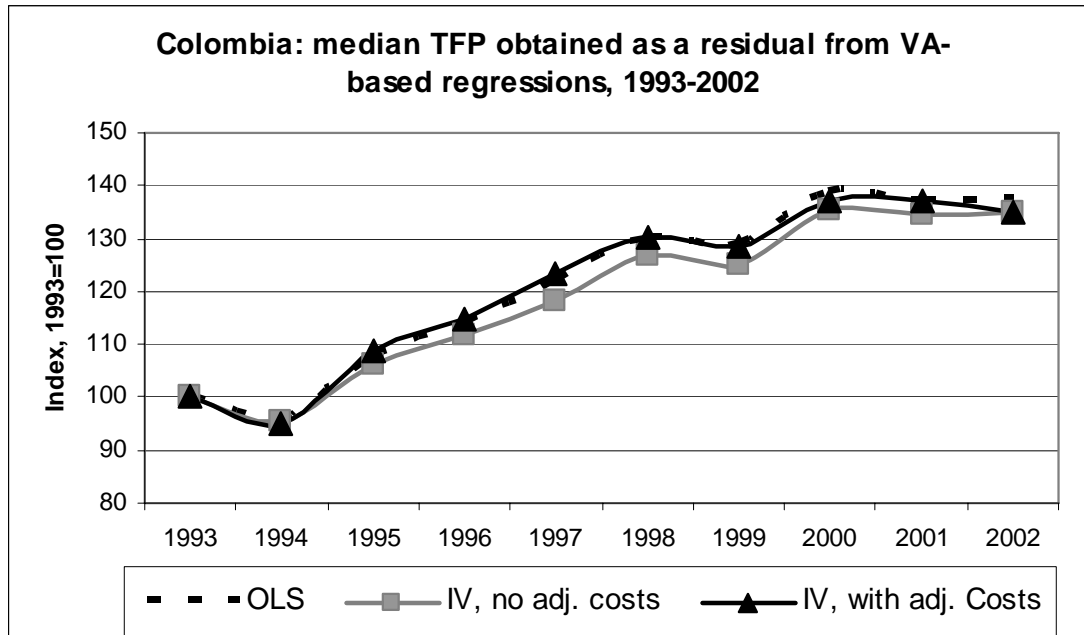


Figure A1.8: The Relatively Fast TFP Growth Implied by the VA-based Regressions



We now attempt to establish linkages between the TFP measures and some variables of interest. In particular: how does the TFP correlate with educational attainment, public investment, crime/security indicators, measures of the goodness of the infrastructure for logistics? Table A1.2 shows the results of a simple OLS regression of the TFP residuals from the instrumental variables regressions with adjustment costs on these indicators.¹⁰⁰

Better logistics (smaller number of days inventories¹⁰¹ held) and higher per-capita public investment are strongly positively associated with higher TFP in both cases. The impact of crime is negative in both regressions, as well—yet it is strongly significant in only one of the two. Finally, the evidence on educational attainment is mixed, with one of the regressions showing a negative and significant coefficient, while the coefficient is positive in the other one, but significant at only 10 percent.

¹⁰⁰ The results qualitatively hold for the other two approaches. Note that incorporating all of these indicators directly into the TFP regression would be impossible as the data for most of them are available for a much shorter period than 1993–2002. Specifically, the data for public expenditures (considering the lag) are available only from 1997. The data on losses due to security problems (from a 2002 ANDI survey) is available only for 2002 and is assumed the same for all the years. Same applies to the years of schooling that are only available for 2003—and are assumed to be the same for all the years. The regressions in Table A1.2 cover 1997–2002.

¹⁰¹ We use finished goods inventories in Table A1.2. Using raw materials inventories leads to the same conclusions. The reason for not using both is the fairly high correlation between the two. The days inventories held indicator is aggregated by three-digit industry and region to avoid causality problems. Plant-level data, though, give similar results.

Table A1.2: Correlations between TFP and Selected Variables

Dependent variable: log(TFP)		TFP regression:	
		KLEM	VA
Log(Schooling)	Coef.	0.05	-0.14
	<i>t-stat.</i>	1.89	-3.09
Log(Lagged Public Investment)	Coef.	0.13	0.09
	<i>t-stat.</i>	10.36	4.19
Losses due to crime/insecurity, % Sales	Coef.	-0.004	-0.02
	<i>t-stat.</i>	-1.61	-3.57
Log(Days finished goods inv. held)	Coef.	-0.05	-0.09
	<i>t-stat.</i>	-12.10	-12.15
Constant	Coef.	-0.56	0.27
	<i>t-stat.</i>	-12.10	-12.15
	N obs.	37,284	35,799
	R2	0.0094	0.0053

Another question is: does the productivity depend on the ownership, and how? As Table A.1.3 demonstrates,¹⁰² foreign-controlled companies have significantly higher TFP, *ceteris paribus*,¹⁰³ than the private ones owned by nationals. Interestingly, the coefficient on domestic public enterprises is also positive—yet, insignificant. There are very few public companies in the dataset, which does not provide enough power to analyze the effects of the public ownership. The regression also indicates that exporters have significantly higher productivity than non-exporters.

Table A1.3: Effects of the Ownership

Dependent variable: log(TFP)		TFP regression	
		KLEM	VA
<u>Ownership (relative to Domestic Private):</u>			
Domestic Public	Coef.	0.10	0.19
	<i>t-stat</i>	1.48	1.73
Foreign	Coef.	0.10	0.18
	<i>t-stat</i>	4.50	4.56
<u>Controls:</u>			
Exporter	Coef.	0.18	0.25
	<i>t-stat</i>	12.29	10.21
Other controls used: 2-digit industry, size			
	N obs	10,915	10,280
	R2	0.08	0.05

One more question we address is the market power of the producers and its dynamics. For that purpose, we estimate (A1.6) in order to understand the changes of the price-cost markup. While the labor cost share is estimated non-parametrically, the markup and the other estimated parameters may still suffer from a simultaneity bias. Table A1.4,

¹⁰² The ownership information is available only for 2001 and 2002, so the regressions in Table A1.3 only cover these two years.

¹⁰³ We control for export orientation, size, and industry, as foreign ownership is usually associated with larger companies as well as with more export-oriented companies and industries. The results do not qualitatively change if the controls are omitted.

therefore, shows the results of the estimation of A1.6 with and without instrumenting labor and capital.

Without the instruments, the markup increases significantly during and after the crisis, while in the instrumental variables regression the only statistically significant increase occurs in the period after the crisis. It brings the markup practically to unity (1.02) from slightly below one, while it reaches some 1.15 ($=0.97+0.18$) in the post-crisis period under the simple OLS approach. It is, therefore, safe to say that the markup has increased, at least after the crisis. Yet, the evidence is hardly sufficient to conclude that the overall increase in the market power has been significant.

Table A1.4: Estimation of the Dynamics of the Price–Cost Markup

Dependent variable: $\log(VA/Capital)$		Model:	
		No instruments	Instrumented
	R2	0.51	0.43
	Nobs	67,802	61,838
<u>Log(Labor/Capital)</u>	Coef.	0.97	0.94
	<i>t-stat.</i>	58.07	48.01
- marginal effect of 2nd subperiod	Coef.	0.07	-0.02
	<i>t-stat.</i>	3.55	-1.00
- marginal effect of 3rd subperiod	Coef.	0.14	0.04
	<i>t-stat.</i>	6.06	1.50
- marginal effect of 4th subperiod	Coef.	0.18	0.08
	<i>t-stat.</i>	7.18	2.98
<u>Log(Capital)</u>	Coef.	-0.11	-0.11
	<i>t-stat.</i>	-21.60	-18.69
- marginal effect of 2nd subperiod	Coef.	0.02	0.01
	<i>t-stat.</i>	3.18	0.88
- marginal effect of 3rd subperiod	Coef.	0.01	-0.01
	<i>t-stat.</i>	1.57	-0.59
- marginal effect of 4th subperiod	Coef.	0.01	-0.01
	<i>t-stat.</i>	1.18	-1.55
<u>Constant term</u>	Coef.	6.23	6.16
	<i>t-stat.</i>	115.68	103.89
- marginal effect of 2nd subperiod	Coef.	0.09	-0.26
	<i>t-stat.</i>	1.34	-3.40
- marginal effect of 3rd subperiod	Coef.	0.35	0.02
	<i>t-stat.</i>	4.57	0.28
- marginal effect of 4th subperiod	Coef.	0.30	0.12
	<i>t-stat.</i>	4.08	1.49

ANNEX 2: MAIN GOVERNMENT'S PROGRAMS ON COMPETITIVENESS

The capacity of the economy to compete with success in the global world is related with competitiveness understood as the framework in which productive activity takes place. In essence, competitiveness refers to the capacity of a country to create value added, and consequently enlarge the national wealth, keep and expand its participation in international markets, and elevate the standard of living of its population. Competitiveness needs a favorable environment for business activity: macroeconomic stability, adequate institutions, stability in the rules and the existence of basic resources: infrastructure, qualified labor, same as the capacity generate and appropriate technology by businesses.

The role of the state is an essential factor in the creation of a favorable environment for the competitive operation of businesses. This role materializes firstly, by means of the tax structure, and secondly by means of the regulatory regime related to the creation and the operation of businesses.

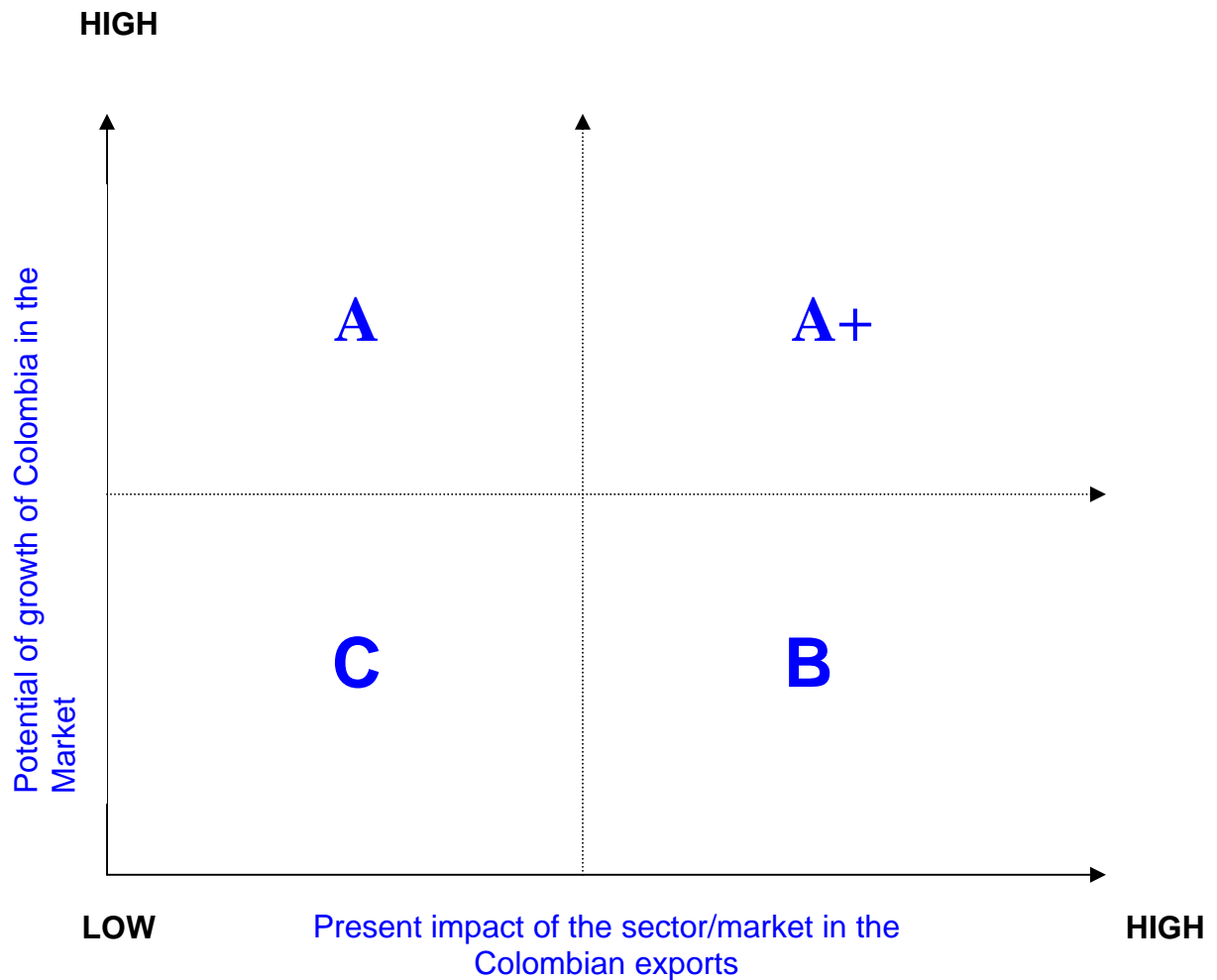
Currently, business activities regulated by the government (creation and registration of businesses, payments of taxes, surveillance and control, public procurement, and statistical recording) are hindered by excessive procedures and requirements, the lack of rationality in internal processes and procedures, and the transfer of functions and procedures within different public entities. These deficiencies have become an obstacle for the entry of new firms, an extra cost for the operation of the existing firms and a source of corruption.

The competitive policy of the current administration contains six fundamentals points: elimination of procedures (and, in general the rationalization of bureaucratic processes), strengthening of the general coordination role of the State, creation of a stable system of property rights, full access to information technologies within the framework of the *Connectivity Agenda*, development of integrated policies of biotechnology and tourism, and the protection and development of markets.

El Plan Nacional de Desarrollo, 2002–2006

Strategic Prioritization of Sectors
Pro-export 2004
Segmentation Exercise

Working as a team, the directors of commercial offices and managers of Macro sectors carry out this exercise to identify the importance and the priority that should be given to each sector in each one of the markets served by Proexport and vice versa. The variables that are used in this matrix will be the “potential of growth of Colombia in the market” and the “present impact of the sector/market in the Colombian exports.” This exercise will help to identify the strategy that Proexport should develop for each market and to balance the focus and employment of human resource in each market and sector. The exercise should be done by commercial office, but there should be a participation of the director of the commercial office and the manager of the Macro sector.



Logic: When this exercise is completed, each commercial office will be able to determine with precision in what sectors of their market must the office concentrate their efforts and resources in order to optimize its marketing time (which is limited already), avoiding additional loss of time in those sectors where, because their low level either of local demand or of Colombian supply, should not be attended.

Criteria for the Growth Potential Variable of Colombia in the Market

Statistics

- Volume of imports by market from the entire world, last year. (Are they bigger than US\$50 million?)
- Annual average growth of imports by market from the entire world, last four years. (Are they growing?)
- Annual average growth of imports by market from countries with similar or lower economic level than Colombia, last four years. (Are they growing?)
- Annual average growth of Colombian exports to countries of upper level to the analyzed market. (Are they growing?)
- Annual average growth of Colombian exports to the analyzed market. (Are they growing?)

To be considered that a sector represents potential of growth for the exports of Colombia toward the market analyzed, it should comply with at least two of the criteria above and with at least two of the following three.

The commercial office along with the Macro-sector should validate this information through their knowledge of market and Colombian supply.

Criteria for the Current Impact Variable of the Sector/Market in Colombian Exports:

Statistics

- Value of the imports by the market originating from Colombia, last year and its growth in the last four years
- In all cases, the difference of US\$1 million between high impact and low impact will be taken since it implies an approximate impact of 15 per thousand in non traditional exports and is close to the annual average exports per chapter of non traditional of the country.

It is considered that a sector, whose imports from Colombia are over US\$1 million, has high impact in the Colombian exports.

The commercial office along with the Macro-sector should validate this information through their knowledge of market and Colombian supply.

Justifications by Category

Importing Sector A+: Sectors with high current impact and high potential of growth. The job of the commercial office in these sectors should be that of marketing to create opportunities for business because the conditions for its creation are very favorable.

Importing Sector A: Sectors that currently have a low impact on exports but with high potential for growth. Marketing in these importing sectors should be concentrated on the function to create supply, having as selling point the unsurpassable value of the business of the existing Colombian supply on the domestic supply (quality, innovation, price, profit margin, more advanced technology, and so forth).

Importing Sector B: These sectors are those that have at present a high impact in the Colombian exports, but they do not have a growth potential in the market of analysis. The reason for this could be found lack of demand in the market or lack of adapted supply in Colombia. The work of the offices for the sectors B will be of reaction, concentrating on protecting Colombia's participation in the market.

Importing Sector C: The value of business that these sectors offer to the commercial office, Pro-export and to Colombia in general, is low or not valid, since there is neither current impact nor potential of growth for Colombian exports. Therefore, the work of marketing inside the commercial management should not be wasted in these sectors.

ANNEX 3: THE FTA AND SMALL AND MEDIUM ENTERPRISES IN COLOMBIA - POLICIES TO PROMOTE SME PRODUCTIVITY AND COMPETITIVENESS

INTRODUCTION

Small and Medium Enterprises make up the vast majority of firms and account for a substantial part of productive activity and employment in Colombia. Further trade liberalization, and in particular a Free Trade Agreement with the United States, will provide new opportunities as well as challenges for private sector firms in Colombia. Market access and cheaper intermediate inputs will provide export opportunities in some sectors, whereas others will face increased competition from cheaper imports or foreign firms establishing themselves in Colombia.

The analysis of trade liberalization tends to focus on the impact that different sectors of economic activity will experience. On the basis of these sector effects the impact on different regions and groups of people or firms can be estimated and policies can be formulated to take advantage of new opportunities in some areas and smooth adjustment in others. In effect, the sector specific tariff reductions and the time frame within which such reductions will take place as negotiated under an FTA is based on this kind of economic impact analysis.

SMEs are a very heterogeneous group and can be found in a wide array of business activities. Even though there may be some specific issues that have an impact on SMEs as a group, such as in the area of government procurement, the majority of issues in a FTA negotiation are discussed along the lines of sector oriented interests. Regional or income distribution concerns, due to a high concentration of specific sector related economic activities in a region or dependence of large groups of low income earners on a limited group of products or sectors, are likely to be taken into account in the FTA negotiation or may be addressed through regional or sector specific assistance and adjustment programs.

The impact of a FTA on SMEs per se is generally less of a policy concern. The heterogeneous nature of economic activities in which SMEs operate is one important reason for such a lack of policy concern. In addition, SMEs are often characterized by higher flexibility and ability to adjust to changing market conditions, including through higher levels of entry and exit. Finally, the justification for SME support programs on the basis of economic benefits, such as poverty reduction, employment generation, and growth, inherent to smallness is increasingly questioned (Biggs 2002). Nevertheless, the number of SMEs and their important share in employment and productive activity make that these firms in Colombia as in other parts of the world form the base for private sector-led growth (Hallberg 2000). Improvements in the overall business environment are probably as important for SMEs as for larger firms, even though SMEs may face, due to their size, different constraints and opportunities than large firms in developing their

business activities and growth. SME development policies aimed at overcoming these constraints should be focused on raising the level of productivity and competitiveness of this segment of the private sector in Colombia thereby increasing economic growth and employment opportunities.

Governments around the world have a wide variety of programs to support SMEs, some of which more successful than others. In particular, successful SME promotion strategies have moved from the direct and subsidized provision of services to a greater emphasis on developing markets for SME related services instead of substituting for them.

In the next section we will review the theoretical arguments upon which government support for SME development has been based as well as international trends and experiences in SME development programs. The subsequent section examines the characteristics of the SME sector in Colombia and some of the main constraints in enhancing their productivity and growth. The possible impact of a FTA on economic activity, particularly in the tradable goods and manufacturing industry, and its relation with the current firm-size based production patterns is examined next. A final section provides an overview of the main public sector enterprise development programs in Colombia and offers some policy recommendations on how to focus and improve the effectiveness of government supported SME programs.

Justification for Public Intervention

Government intervention in the promotion of SMEs is often based on several objectives, including perceived economic benefits of smaller firm in the area of poverty reduction, employment generation, increased competition and innovative activity. The theoretical backing for much of these claims of superior economic performance of smaller firms is however quite limited (Biggs 2002). There are nevertheless several other reasons that justify government involvement in supporting SMEs to overcome some of the constraints they face as a result of their smaller scale of production. These arguments are largely in the area of some market and institutional failures that may constitute a particular burden on smaller sized firms thereby limiting their development and growth prospects.

Market failures are largely related to issues related with “appropriation” problems and “asymmetric information.” Identifying and addressing situations of market failure effectively should allow for a more efficient allocation of resources and thus increase welfare. The public good attributes of technology means that enterprises engaging in research and development or in importing new production techniques and organizational structures have problems appropriating the full gains from their investments, as some of the benefits “spill over” to other firms free of charge. This inability to capture or appropriate the full benefits from such investments means that society’s benefits from technology transfer are generally greater than the returns to any individual firm that undertakes it. As a result, the private sector will invest too little in technology transfer relative to what is socially optimal.

Similarly, firms investing in worker or manager training have difficulties appropriating the full benefits of their investments because workers or managers may leave the firm

taking some of the benefits with them to other firms. Again, the inability to appropriate the full benefits from training may cause firms to under-invest in upgrading the skills of their employees.

Market failures in the areas of technology and training affect all firms. There is, however, a separate “size effect” in both these areas. The cost of searching for and acquiring new technologies, and training employees, per unit of sales, is much higher for small enterprises than for larger concerns. As a result, data in all countries indicate that small firms invest less in these areas as a percentage of revenue.

Correcting problems of under-investment in technology and training calls for appropriate subsidies to investors to raise investment up to more socially optimum levels. One way in which this takes place is through matching grant schemes, that is, partial public financing of investment costs. The liberalization of trade and investment flows through a FTA in itself also has the potential to lead to a more rapid adoption and incorporation of new technologies and product innovations in production processes in Colombia. An adequate framework for the protection of intellectual property rights may enhance further the transfer of technologies developed outside the country.

The cost and difficulty of obtaining information on borrowers in financial markets causes lenders to ration certain borrowers from the market rather than let interest rates perform their clearing function. Absent good information on potential borrowers, rising interest rates attract riskier borrowers into the market, reducing lender’s profits. Information-intensive, small enterprises are generally the first to be rationed from credit markets.

In the case of credit rationing, SMEs are the focus of attention as they are the first to be denied access to the market because of information and enforcement problems. Many types of programs have addressed credit-rationing problems over the years, ranging from subsidized loans to small firms and training program for bankers to development of borrower credit-cooperatives.

The failure of public institutions in many developing countries to properly enforce business contracts and property rights, and to provide adequate information on markets, raises the costs of governing market transactions, sometimes prohibitively. In such high transaction-cost environments, the extent of the market for individual firms is limited by the number of business transactions that can be governed by relational contracts. Firms often cannot take advantage of profitable opportunities outside their local networks of personal relations because of information and enforcement problems.

Large firms frequently provide private substitutes that fill the gaps in the general institutional structure of these economies. Large firms make their own arrangement to protect their property from external threats and invest in diverse ways enforcing their external transactions. Private institutional arrangements created are intimately tied to the large firm’s narrowly defined production and business activities. SMEs have analogous needs for private institutional structures, particularly in high transaction-cost environments. Their ability to deal with such problems is however limited largely due to

the high fixed cost element involved in creating its own private institutional arrangements.

The level of economic success of SMEs in all countries has depended on the degree to which they have been able to overcome institutional failure by developing or encountering existing substitute, private institutional support systems. In some cases, the substitute institutions have been provided by large firms to smaller ones, by way of various linkages, particularly through sub-contracting networks. In others, cooperative relations among firms, organized in business associations or local community structures (“clusters”), perform these functions. Sometimes these private institutional arrangements receive support from governments and NGOs.

Small and Medium Enterprises in Colombia

The design of SME support strategies as well as the evaluation of their effectiveness and economic and social impact not only requires a definition and delimitation of SMEs but also information on this business segment in Colombia and its relative importance in terms of employment and contribution to GDP. Data limitations, due to different objectives and the cost of data gathering as well as informality prevailing particularly among smaller firms and microenterprises, provide a severe constraint to a consistent and accurate diagnosis of SMEs in Colombia. Improving the quality and access to SME business information, without breaching the confidentiality constraints or putting too high of an administrative burden on firms, should be an objective of government policy. Data on SMEs is not only important for the design and evaluation of public sector support programs, but also for the development of private sector based business support services demanded by SMEs (OECD 2002; Rodriguez 2003). Despite these data limitations, this section presents a profile of the SME sector on the basis of data available from business registrations and survey statistics.

The law for the promotion of micro, small and medium enterprises in Colombia establishes the official criteria for the classification of firms by size.¹⁰⁴ Colombia classifies firms by size using a combination of number of employees and the total value of reported assets as observed in Table A3.1, with the value of assets being the determining factor if there is a discrepancy between the two indicators. The cutoff points adopted by Colombia, particularly with regards to the number of employees, are in line with international practice for countries of similar size and level of development.

Table A3.1: Colombia’s Classification of Firm Size

Firm Size	Value of Assets in Units of Current Legal Minimum Wages (SMMLV)	Number of employees
Micro	less than 500	less than 10
Small	501 thru 5,000	11 thru 50
Medium	5,001 thru 30,000	51 thru 200
Large	more than 30,000	more than 200

104 Law 509 published in 2000 and amended by law 905 published in 2004.

To operate in Colombia firms are required to register with a business association (*registro mercantil*) and the consolidated registry of these business associations probably provides the most accurate picture of the universe of firms in Colombia, in terms of the number of firms, business addresses, sector of activity and number of employees. The Confecamaras business registry reports 664,320 firms with an updated *registro mercantil* for 2003 (Table A3.2).

Table A3.2: Distribution of Firms According to Sector and Firm Size in Business Registry, 2003

Sector	Micro		Small		Medium		Large		Total
	Number of firms	Shares	Number of firms	Shares	Number of firms	Shares	Number of firms	Shares	
Agriculture	8,830	72.7%	2,306	19.0%	621	5.1%	386	3.2%	12,143
Industry	82,690	86.9%	8,700	9.1%	1,897	2.0%	1,818	1.9%	95,105
Commerce	285,686	94.4%	13,862	4.6%	1,984	0.7%	1,219	0.4%	302,751
Services	198,661	91.2%	14,814	6.8%	2,485	1.1%	1,947	0.9%	217,907
Others	36,005	98.9%	334	0.9%	43	0.1%	32	0.1%	36,414
Total	611,872	92.1%	40,016	6.0%	7,030	1.1%	5,402	0.8%	664,320

Source: Confecamaras (2003)

As one would expect the vast majority of firms are micro and smaller sized enterprises, though these firms tend to account for a much smaller share of economic activity in terms of output and employment. The number of firms does provide an indication of the challenge faced by specific microenterprise and SME support programs, particularly those directed at providing support at an individual firm level, though output and employment data by firm size provide a much better indication of the relevance of smaller sized firms in the economy.

In contrast to the huge proportion of firms belonging to the micro, small and medium enterprise segment of business, their contribution in terms of employment and value added is substantially lower. The contribution of MSMEs compared to large firms in Colombia is estimated at about 63 to 73 percent in terms of employment and 37 to 53 percent in terms of production or value added.¹⁰⁵ In terms of employment, the lower average number of employees per firm of smaller firms per definition sums up to a lower proportion of employment in MSMEs than the proportion observed by number of firms. In terms of contribution to GDP or value added, the relative contribution of MSMEs can be explained as a combination of employment and labor productivity, that is, value added per worker. As the latter tends to be lower in smaller sized firms, because of a concentration of more capital intensive production processes in larger firms or lower efficiency in smaller sized firms, the contribution of MSMEs in value added tends to be lower than their contribution in terms of employment.

Throughout this section we will refer to labor productivity as a measure of differences in technology (capital intensity) and efficiency of firms according to their size. To single out firm-size differences in efficiency the appropriate concept would be total factor productivity, taking into account both capital and labor as the relevant factors of production. Data limitations do not allow us to estimate total factor productivity though

¹⁰⁵ *Asociación Nacional de Instituciones Financieras (ANIF) and Ministerio de Industria, Comercio y Turismo.*

differences in labor productivity between firms grouped by size does provide a highly indicative of possible differences of efficiency among firms of different size.

As can be observed, microenterprises operate throughout the economy, though particularly in the commerce and service sectors due to relatively low entry barriers and capital requirements in these sectors. A lot of these firms are probably family businesses or self-employed persons operating in the semi-formal and informal sectors with limited chances of growing into large scale operations and becoming internationally competitive. Serving them often requires different institutions and instruments, such a group-based lending methodologies used by some microfinance institutions (Hallberg 2000).

The 2003 survey on micro enterprises confirms the very small size of operations and low labor productivity of this segment of economic activity in Colombia.¹⁰⁶ The average number of workers occupied in a micro firm in 2003 amounted to 2.1 persons with an average annual labor productivity of COP6.1 million (equivalent to US\$2,173), substantially below the levels of labor productivity observed by SMEs and larger firms in all sectors of economic activity.

The remaining 52,448 non-micro firms are more likely to operate in the formal sector of the economy with the ability to grow and stay or become competitive in domestic and international markets. Almost ninety percent of these firms are classified as small or medium-sized. The market and institutional failures that may inhibit the development, productivity growth and growth of these firms due to their current size of operation provide the opportunity to raise their competitiveness with a major positive impact for the economy as a whole as they constitute such a large share of business in Colombia.

In the subsequent sections we will review some firm size-based characteristics of the commerce, services and industry sectors of economic activity. These statistics are obtained from annual surveys integrated by DANE in order to estimate the evolution of economic activity in the country. We will concentrate on issues such as employment, value added and labor productivity generated by the different segment of businesses according to firm size.

Commerce

The Annual Survey of Commerce (2002)¹⁰⁷ shows an important contribution of SMEs to economic activity generated by this sector. From the business registry one already can observe a larger than average proportion of smaller-sized firms in commerce than the one in other sectors of the economy. According to the survey statistics SMEs account for 54 percent of employment and 56 percent of value added generated in commerce (Table A3.3).

¹⁰⁶ *Encuesta Nacional de Microestablecimientos de Comercio, Servicios e Industria* (2003).

¹⁰⁷ The stratified sample of the Annual Survey of Commerce from DANE is obtained from a list that combine information from Confecamaras, Bogota's Chamber of Commerce, and the Annual Survey of Services and Commerce 1994.

Table A3.3: The Commerce Sector by Firm Size, 2003

	Small	Medium	Large	Total
Value Added	23.9%	31.8%	44.3%	100.0%
Number of employees	25.3%	28.6%	46.2%	100.0%
Productivity	21.3	25.0	21.5	

Source: Annual Survey of Commerce, DANE

The firm-size statistics of the commerce sector are remarkable not just because of the high contribution of SMEs to employment and value added generated in the sector, but also because of a limited variation of labor productivity among the different subsectors of commerce and the absence of a clear correlation between firm-size and labor productivity. This suggests that the activities in the sector have low capital requirements and present limited economies of scale and scope.

The commerce sector, largely retail and wholesale activities, may require a strong local presence making it less accessible to international trade and external participation. Foreign direct investment may take place in some segments of the sector though even in those cases a mayor part of value added and employment will remain within the country.

Low capital requirements, limited economies of scale and a modest impact of trade (and investment) liberalization probably reduce the need for active SME promotion and support policies in the commerce sector other than those of a more general nature referring to the overall improvement of the business climate, training of the labor force and access to credit.

Even though there is very little variation in labor productivity according to firm size in the formal sector, one does observe a huge gap in labor productivity between these and micro enterprises. Average labor productivity of firms in the formal sector is more than three times the one observed by micro enterprise, which suggests that there is room for active policies directed at enhancing the productivity of this latter group.

Services

A characterization of the services sector according to firm size is much more difficult not only as a result of the heterogeneous nature of services but also because of scarce data on the sector. The annual survey of services¹⁰⁸ is limited to information on hotels, restaurants, travel agencies, postal services, informatics, advertising, employment agencies and private security guards. This leaves out important segments of service provision in the areas such as education, health, finance, communications and transport. Despite public sector involvement in the provision of some of these services, the private sector plays an important and increasing role in several of the sectors not covered in the survey of services. In addition, the survey only targets firms with 20 or more employees, leaving out a considerable segment of smaller firms.

¹⁰⁸ The stratified sample of the Annual Survey of Services from DANE is obtained from a list that combine information from Confecamaras, Bogotá's Chamber of Commerce, and the Annual Survey of Services and Commerce 1994.

Services included in the annual survey present a significant segmentation as regards to firm size. Whereas small and medium enterprises tend to have an important presence in hotels, restaurants, travel agencies, postal services, informatics and advertising, large firms dominate the employment agency and security guard business. In addition, these latter two segments present lower labor productivity as those particular services do not involve high capital investments.

In order to present a more adequate characterization of the service sector by firm size, we decided to eliminate employment agencies and security guard services due to their very distinct nature. In addition, data constraints also led us to group SMEs together. As can be observed from table A3.4, the service sector, like commerce, is characterized by an important presence of SMEs representing about half the employment and value added generated by the sector. Furthermore, there does not seem to be a major correlation between firm size and labor productivity. Once again, this points at low capital requirements, low entry barriers and limited economies of scale and scope.

Table A3.4: The Service Sector by Firm Size, 2002

	SMEs	Large	Total
Value Added	49.1%	50.9%	100.0%
Employees	50.4%	49.6%	100.0%
Productivity	19.1	20.2	19.6

Source: Annual Survey of Services, DANE

In terms of an impact of a free trade agreement on the services sector and SMEs in the sector in particular, one should take into account that trade in services, albeit growing, is only a fraction of trade in goods. A major distinctive characteristic of the sector is that a service is often produced at the same time and place of use or consumption. As a result, similar to commerce, the service sector may experience an impact from increased FDI rather than from trade in which case a major part of value added and employment will continue to be generated within the country and location where the service is produced and consumed.

While trade in services may be limited and as a result the impact of a free trade agreement is expected through FDI rather than trade, enhancing productivity in the provision of services is relevant as they are an input in the production process of tradable goods. SMEs in the tradable sectors are even more likely to rely on such inputs as outsourcing of parts of the business and production processes tends to make more sense in view of their smaller scale of production. Increased productivity in business support services, such as accounting, marketing, transport and logistics, is therefore highly relevant for the success of SMEs in other sectors of economic activity.

Manufacturing Industry

Even though SMEs can be found throughout the economy, with a strong presence in commerce and services in terms of both value added and employment, government support programs and studies on SMEs tend to emphasize manufacturing industry. Better data availability is one reason for this. The annual industrial survey by DANE has been

taking place since 1990, whereas similar surveys for the commerce and services sectors were initiated only as of 1996 and 2000 respectively. Technology and technological progress, linked to generally higher capital requirements as well as the (internationally) tradable nature of goods produced are probably other reasons for the focus on manufacturing industry when dealing with issues related to smaller firms.

As can be observed from Table A3.5, SMEs tend to make up an important, though slightly smaller part, of manufacturing industry in term of employment and, even more so, in terms of value added in comparison to commerce and services. The lower participation of SMEs in terms of value added compared to employment reflects the lower average labor productivity achieved by smaller firms in manufacturing industry. Total average labor productivity in manufacturing industry is about three times the one observed in the commerce and services sectors, suggesting higher capital requirements in the production processes in manufacturing industry. In addition there is a clearly positive correlation between firm size and labor productivity in manufacturing industry, a correlation that is not or hardly found in the commerce and services sectors.

Table A3.5: Industrial Sector by Firm Size, 2002

	Small	Medium	Large	Total
Value Added	8.3%	24.2%	67.5%	100.0%
Employees	15.0%	30.8%	54.2%	100.0%
Productivity	34.3	48.5	76.9	61.7

Source: Annual Industrial Survey, Dane

The correlation between firm size and labor productivity can be in part attributed to the presence of some highly capital intensive production processes and technologies in sectors such as petroleum, basic metal and vehicles, sectors in which SMEs represent a smaller share of production. In addition to such interindustry differences in capital intensity of production and labor productivity, one is able to find significant intra-industry correlations between labor productivity and firm size. This suggests the use of different production technologies that can be attributed to firm size constraints in the access to capital, technology and market information. Overcoming such constraints should allow for the growth of smaller firms, enhancing their productivity and competitiveness.

On a sector based division of manufacturing industry and in terms of gross production, SMEs show an above average participation in the furniture, machinery and paper industries. In the food, beverages and tobacco, textile, wearing apparel and leather, Wood, Chemicals, plastics, rubber and minerals and Electrical machinery and telecommunications equipment sectors SMEs have an about average participation in gross production. Whereas the Petroleum, Basic metals and Vehicles industries tend to be dominated by larger firms (Table A3.6).

Table A3.6: Gross Production Share by Firm Size and Industry (2001)

Industry	Small	Medium	Large	Total
Food, beverages, and tobacco	11.0%	28.2%	60.8%	100.0%
Textile, wearing apparel & leather	9.7%	23.9%	66.4%	100.0%
Wood products except furniture	4.2%	31.2%	64.6%	100.0%
Paper	10.0%	37.4%	52.6%	100.0%
Petroleum	3.6%	5.2%	91.2%	100.0%
Chemicals, plastics, rubber & minerals	8.2%	28.7%	63.0%	100.0%
Basic Metals & metal products	10.9%	18.2%	71.0%	100.0%
Machinery and equipment	17.2%	37.2%	45.6%	100.0%
Electrical machinery and telecommunications equipment	9.0%	22.6%	68.4%	100.0%
Vehicles & transport equipment	6.2%	14.9%	78.9%	100.0%
Furniture	18.2%	37.8%	44.0%	100.0%

Source: Annual Industrial Survey, Dane

Taking into account the sector contribution to total gross production of manufacturing industry one is able to find that more than two-thirds of gross production takes place in the food, beverages and tobacco, textile, wearing apparel and leather and chemicals, plastics, rubber and minerals industries and about a fourth of total industrial production takes place in SMEs in these three sectors (Table A3.7).

Table A3.7: Gross Production Share by Firm Size and Industry (2001)

Industry	Small	Medium	Large	Total
Food, beverages, and tobacco	3.8%	9.9%	21.3%	35.0%
Textile, wearing apparel & leather	1.0%	2.4%	6.8%	10.2%
Wood products except furniture	0.1%	0.8%	1.7%	2.7%
Paper	0.6%	2.2%	3.0%	5.8%
Petroleum	0.3%	0.5%	8.6%	9.4%
Chemicals, plastics, rubber & minerals	1.8%	6.3%	13.9%	22.0%
Basic Metals & metal products	0.3%	0.5%	2.1%	3.0%
Machinery and equipment	0.6%	1.4%	1.7%	3.7%
Electrical machinery and telecommunications equipment	0.2%	0.6%	1.7%	2.6%
Vehicles & transport equipment	0.3%	0.8%	4.0%	5.1%
Furniture	0.1%	0.2%	0.2%	0.6%
Total	9.3%	25.6%	65.1%	100.0%

Source: Annual Industrial Survey, Dane

Whereas some government promoted SME support programs are of a more general nature, such as diminishing the firm-size based bias in credit access, others may require more sector specific knowledge of production technologies, product design, markets, marketing and industry structure. In this regard, an analysis of industry information by firm size may serve as a guide to focus and target SME support programs in specific sectors taking into account their relevance in the current and potential production and

trade structures of Colombia. This is relevant for government programs oriented at overcoming firm size based market and institutional failures as well as private sector initiatives targeted at the provision of SME support services in a host of area such as information technology, business development, accounting, trade and logistics. The Annual Industrial Survey provides a rich database from which to elaborate this kind of in-depth analysis.

The FTA and SMEs in Colombia

Historically, the United States has been the main trade partner of Colombia. During 2003, exports to the United States accounted for nearly 44.3 percent of total exports; while imports from the United States represented nearly 29.4 percent of total imports. Colombian exports to the United States showed an annual average increase of 5.2 percent over the past decade, while imports from the U.S. economy decreased at an annual average rate of 1.2 percent over the same period. In addition to traditional products such as petroleum, coffee and coal, some of Colombia's main exports are produced by the chemicals, textiles, wearing apparel and leather, and food, beverages and tobacco sectors of manufacturing industry. At the same time, Colombia's imports are largely located in the machinery and equipment, chemicals, food, beverages and tobacco and textile, wearing apparel and leather industries.

Table A3.8: Merchandise and Sector Participation in Exports and Imports (2003)

Total exports	100.0	Total Imports	100.0
Traditional exports	46.0		
Petroleum and derivatives	25.8		
Coffee	6.2		
Coal	10.9		
Ferro-nickel	3.2		
Non-traditional exports	54.0		
Agriculture Sector	9.1	Agriculture Sector	6.2
Mining Sector	0.1	Mining Sector	0.7
Industrial Sector	43.8	Industrial Sector	92.9
Food, beverages, and tobacco	7.6	Food, beverages, and tobacco	5.8
Textile, wearing apparel & leather	7.8	Textile, wearing apparel & leather	5.3
Wood products except furniture	0.7	Wood products except furniture	0.4
Paper	3.0	Paper	3.3
Chemicals	10.5	Chemicals	27.1
Minerals	2.3	Minerals	1.0
Basic Metals	5.7	Basic Metals	4.9
Machinery and equipment	5.1	Machinery and equipment	44.4
Other industries	1.2	Other industries	0.9
Non classified	0.0	Non classified	0.1
Other Sectors	0.9	Other Sectors	0.2

During 1991, the U.S. Congress approved the Andean Trade Preference Act. The purpose of ATPA was to promote economic development and economic alternatives to coca cultivation and cocaine production by offering Andean products broader access to U.S. markets. The ATPA tariffs reductions and tariff eliminations were effective in 1992 for Colombia and Bolivia and later for Ecuador and Peru in 1993. According to USITC, during 2001, nearly 15 percent of Colombia exports were under the ATPA scheme. The ATPA expired on December 4, 2001 and was renewed retroactively on August 6, 2002 under the Andean Trade Promotion and Drug Eradication Act (ATPDEA), which also amended ATP to cover additional products.¹⁰⁹ During 2003, total U.S. imports from the ATPA region increased substantially. The eligibility of petroleum and derivatives was the main cause of the large increase in U.S. imports. Colombia was the largest supplier of petroleum derivatives under ATPA, accounting for 62 percent 110

Further trade liberalization, including the negotiation of a free trade agreement with the U.S. replacing the current unilateral trade benefits obtained under the ATPDEA, is expected not only to raise the level but also to change the composition of economic activity. Additional trade will generate new opportunities in some sectors and require adjustments in others. Overall, the impact of the FTA negotiated with the United States will be limited as existing tariffs facing Colombia are already low and tariff elimination on sensitive markets are likely to be gradual.

The analysis of trade liberalization generally focuses on estimating the potential trade gains in different sectors according to their revealed comparative advantage. A study by Martin (2002) thus identifies sectors in which Colombia has a comparative advantage as well as those in which current production and trade patterns indicate a comparative disadvantage in comparison to production in the rest of the world.¹¹¹ Identifying similarly the products and sectors in which the United States displays a comparative advantage and disadvantage respectively, one can construct a 2 by 2 matrix as shown in Table X.

Sectors in which both Colombia and the United States display a comparative advantage (or disadvantage) with respect to the rest of the world are unlikely to be strongly affected by a bilateral trade agreement. Additional trade is rather expected to occur in those sectors in which one country has a comparative advantage and the other country a

¹⁰⁹ ATPDEA included certain textiles and wearing apparel (tariff reduction), petroleum and derivatives (0 percent import tariff), footwear (tariff reduction) and leather wearing apparel, flowers (0 percent import tariff), watches and watch parts, and certain tuna in smaller foil or packages (0 percent import tariff), which were not previously included on the ATPA tariff preference.

¹¹⁰ Colombia petroleum exports accounted for 62percent, followed by Ecuador with 34 percent, and Peru with 4 percent.

¹¹¹ The determination of sectors with a competitive advantage or disadvantage respectively is based on estimates of the relative trade balance (RTB) measured the participation in the trade balance of each sector in total trade.

$$RTB_j = \frac{(E-M)_j^w}{(E+M)_j^w}$$

where RTB = relative trade balance of country *j*, E = exports of sector *i* to the rest of the world (*w*), and M = imports of sector *i* from the rest of the world (*w*).

comparative disadvantage and vice versa, that is, the sectors located in the upper-right and lower-left quadrants Table 3.9.

Table A3.9: Gross Production Share by Firm Size and Industry (2001): Colombia: Comparative Advantages and Disadvantages

		United States/Rest of the World	
		Comparative Advantage	Comparative Disadvantage
Colombia / Rest of the world	Comparative advantage	Precious metals Food products Some Textiles Petroleum derivatives and coal	Fishing Crude oil and natural gas sugar textiles and wearing apparel leather and footwear Cement, lime, and plaster Cocoa, chocolates, and candies Fruits and vegetables Jewelry and similar products clay, slab, and porcelain
	Comparative Disadvantage	Wood Products Food for animals Chemicals Machinery and equipment Textile spinning and fibers Metal products Rubber and plastics Oils and greases	Electricity Mineral extraction Textiles and some manufactures Paper Electrical equipment (radio, TV) Vehicles Beverages

Source: Martin (2002)

Thus, according to this methodology, Colombia should be able to expand its production and trade particularly in the fishing, oil and gas, sugar, textiles and wearing apparel, leather and footwear, cement, lime and plaster, cocoa, chocolates and candies, fruits and vegetables, jewelry, clay, slab, and porcelain industries. Whereas it will face increased competition particularly in the areas of wood products, animal feeding, chemicals, machinery and equipment, textile spinning and fibers, metal products, rubber and plastics and oils and greases. Comparing these groups of products to the current distribution of gross production according to firm size it can be observed that with the exception of the oil and gas and the machinery and equipment, there does not seem to be a specific firm-size bias with respect to the sectors that are likely to expand their production and those that will experience increased competition.

SME Support Policies in Colombia

Similar to many countries around the world, Colombia has many programs in place to promote the development and growth of private enterprise through a variety of support services in areas such as training, innovation and technology development, export promotion and access to finance. While the objectives, delivery mechanisms and scale of these programs may differ, they all seek to promote private sector growth, productivity and competitiveness. Some of these programs may target smaller firms and the specific size-based constraints they face, whereas others tend to address more generally perceived market failures in areas such as training and investment in new technologies.

The effectiveness of these programs in achieving their objectives remains often unknown. Evaluation of SME programs, in Colombia and elsewhere, is often limited to a qualitative assessment or easily quantifiable program indicators. Few go beyond that, measuring the impact of program participation by comparing performance of beneficiaries with that of a comparison group made up of similar enterprises that did not participate in the program. The need to implement a systematic evaluation of the different business development and SME support programs was recognized in a recent CONPES policy document.¹¹²

This section provides a selective overview of the main business development and SME support programs in Colombia to the extent that they address the main market and institutional failures: general business development services, training, innovation and technology development, market information and export promotion, and access to finance.

General Business Development Services

The law that promotes the development of micro, small and medium enterprises (MSMEs), adopted in 2000, includes the constitution of a trust fund (FOMIPYME) to finance technological development activities and non-financial business development services for MSMEs. The fund is managed by the Ministry of Commerce, Industry and Tourism in close consultation with MSME business associations. The fund co-finances generally up to 50 percent of the costs of activities in the areas of commercialization and marketing, production technology, forward and backward linkages, strengthening of management capacities, technical assistance and training.

Annual budget allocations of COP20 billion (about US\$7 million to US\$8 million) have been made from 2001 onward, and the fund has generally been able to disburse these resources to eligible program activities and firms. Funding of projects is awarded on the basis of a selection of proposals submitted through a periodic public invitation. Project proposals can be submitted by individual enterprises or organizations and institutions that support MSME development such as technology development centers, universities and other business development service oriented entities. The co-financing support is limited to an amount of US\$ 200 thousand per project.

¹¹² Documento CONPES 3280 Optimización de los Instrumentos de Desarrollo Empresarial, April 2004.

The modest amount of resources assigned annually to FOMIPYME has limited the number of projects and firms that have been able to access this support as well as favored the allocation of support toward microenterprises. During the first few years of operation of the fund, two-thirds of the resources available were directed toward microenterprise support programs. The firm specific nature of this support program and the large number of eligible firms (see Table A3.2) further limit the economy wide impact of the program.

Training

Labor legislation in Colombia includes a 2 percent payroll tax dedicated to the training of the labor force. The revenue generated by this tax is fully earmarked (*recurso parafiscal*) and transferred to the National Training Service (SENA) for this institution to supply vocational training through one of its 114 training centers throughout the country. While this structure may be useful to overcome some of the “appropriation” constraints to adequate levels of training of the labor force, the supply-driven nature in the provision of training has led to concerns on the relevance, flexibility and cost of SENA’s training programs. In addition, levying the cost of training fully on the input of labor in the production process on top of several other social security and income tax provisions increases the cost of labor causing an incentive for employment in the informal sector and reducing demand for labor in the formal sector.

Resources obtained by SENA are substantial and rather insulated from the annual budget allocation process due to the parafiscal nature of the resources. At about COP700 billion annually this is by far the largest public sector program aimed at improving the quality of an essential input, labor, in the private production process.

The close link between labor training and transfer of technology as well as the need to rationalize public expenditure led to an instruction to SENA through Law 344 of 1996 to dedicate 20 percent of the revenue obtained from the payroll tax to innovation, competitiveness and productive technology development programs. Part of these resources was initially used to subsidize ISO quality certifications of individual firms. Currently, a series of programs in the area of modernization of training centers and curricula, firm-based labor training, innovation and technology development and adaptation are implemented by the network of training centers operated by SENA and through agreements with technology development centers, universities and other private sector institutes.

More recently, according to law 789 of 2003, SENA is also dedicating part of its resources to the creation of new firms by providing seed capital for the implementation of innovative business ideas of some of its graduates.

The programs of SENA are not necessarily targeted toward firms based on their size, though smaller firms may benefit more from the training offered by SENA and in particular from its technology development and adaptations programs.

Innovation and Technology Upgrading

The Colombian Institute for the Development of Science and Technology (COLCIENCAS) is the government agency in charge of the implementation of public policies that favor the generation and application of scientific and technological knowledge in Colombian society and productive activities. In addition to scientific research, COLCIENCAS finances projects of technological development, adaptation and innovation.

A major limitation faced by COLCIENCAS is the amount of budget resources dedicated to its activities. Between 1998 and 2003 the budget allocated to COLCIENCAS has been reduced from about COP85 million to COP41 million, less than half that amount in current prices (Analdex 2003).

An important part of the innovation and technology upgrading activities in Colombia takes place through some 50 sector specific and regional technological development centers (*Centro de Desarrollo Tecnológico*, CDT). These not-for-profit institutes receive public and private sector support for the research, development and application of technological innovations in the sector specific production process and generally operate in close cooperation with local universities. CDTs are an important source of information and the provision of technological services to private enterprise. The participation of entrepreneurs in the management of CDTs has led to a number of success stories, for example, in the plastics industry. The major concern regarding the CDT model in the technology development and innovation policies in Colombia is the dispersion of limited resources into a great number of separate entities, particularly in view of the limited amount of public resources dedicated to the activity. Channeling some of the resources from SENA through CDTs, without committing the current governance structure of these centers, could be a practical solution to spur the agenda of technological development and innovation in Colombia.

Export Promotion

The Expopyme program, managed by the Colombian export development agency PROEXPORT, provides support in the design, preparation and implementation of an export plan for SMEs. The program is implemented through universities throughout the country. Firms assume about 50 percent of the cost of the initial investment (about US\$6,000) with the remainder subsidized by PROEXPORT. The program is divided in two phases: During the first part of the program, lasting for about six months, a diagnosis of the firm and its export potential is made and an export plan is designed. Firms with an export potential and willingness to continue are subsequently assisted in the further development and implementation of their export plan for about a year.

The program provided support to about 2,000 SMEs and operated successfully during the initial years of operation, 1999–2002, as more than 50 percent of the firms supported continue exporting. The temporary nature of the support as well as the cost sharing of the business (export) development services are probably important elements in the success of EXPOPYME.

Finance

Increasing the amount of credit and strengthening the capitalization of SMEs are important objectives of SME support policies of the current administration. Strengthening financial markets and facilitating credit recovery are important elements in this strategy. Access to credit for SMEs is often constrained due to higher credit origination, administration and recovery costs of smaller sized loans leading to the rationing of credit to larger sized borrowers.

Nevertheless, in view of the profitability of the business, banks have been seeking ways to improve their SME credit assessment skills to be in a better position to price the credit risks of SMEs and better assess their credits. In addition, Colombia has made a strong advance is the provision of credit to SMEs through the commercial banking sector as a result of an important strengthening of its SME loan guarantee scheme. This scheme allows for a percentage of the loan to be guaranteed by the state so that, in the event of default, the loss to the financial institution is only a proportion of the sum at risk. In return, the charge paid by the borrower on such loans is higher than under normal arrangements since an additional premium is paid to the state to cover expected losses.

A capitalization in 2000 of the *Fondo Nacional de Garantías* by US\$500 million as well as the adoption of new credit guarantee schemes and automatic approval mechanisms has greatly enhanced the use of SME loan guarantees by commercial banks. The FNG currently provides guarantees for up to 50 percent of loans by commercial banks to SMEs and increased the number of loans covered from 23,000 to 110,000 between 2000 and 2004. The total amount of credit covered by these guarantees increased from US\$71 million to US\$600 million over the same period. Limiting the guarantee coverage to 50 percent of the loan amount has kept the loan default rates down to about 2.2 percent for the past four years, allowing for the FNG to cover payment of loan losses fully from the guarantee charges.

Despite the success in increasing the number and amount of loans to smaller sized firms covered by a FNG loan guarantee, there is no information available on the total amount of finance provided by the banking sector to SMEs, as traditional bank finance statistics do not break down the information according to the size of the firm. In addition, the rapid growth of guarantees may soon face capital constraints on behalf of FNG requiring additional capital to keep up with the growth or changes in the coverage ratio of guaranteed loans.

The SME credit guarantee program has proven to be a successful alternative to the earlier direct provision of credit by government sponsored development banks, enhancing and complementing private sector initiative in the extension of credit and financial services to the SME business segment.

Concluding Remarks

This annex provided a brief overview of some of the main characteristics of the SMEs and SME business development policies and programs currently in place in Colombia in

the context of the currently ongoing negotiation on a FTA between Colombia and the United States and the possible impact of such an agreement on SMEs and their growth and development perspectives.

One of the most pressing issues in analyzing the SME segment of private business in Colombia is the lack of data and the deficiencies in business statistics in line with the official definitions of SMEs. The lack of data not only severely limits the ability to design, formulate and evaluate public sector support programs and policies oriented to this segment of private business, but also restricts the private sector itself in the design of its business strategies to provide inputs and support services demanded by SMEs. An example could be the financial sector interested in expanding its supply of credit to SMEs. Market information on the structure of industries and the size distribution of firms in an industry are critical elements in the design of adequate credit application evaluation programs. Improving the collection and integration of business statistics without putting an unnecessarily heavy administrative burden on smaller firms, and broad access to such information in a format that does not breach confidentiality, should be priorities for public sector action.

On the basis of putting together different sources of information it is estimated that micro, small and medium enterprises make up an estimated 63 to 73 percent of employment and 37 to 53 percent of value added generated by the private sector in Colombia. These firms thus constitute a significant part of the private sector in the country facing the constraints on their growth and development identified in the section on the business environment. In a number of cases the constraints identified in Colombia's business environment may weigh even heavier on smaller sized firms due to the relative high (per unit of sales) cost of developing substitute mechanism to existing institutional failures. Improving the overall business environment is generally considered by small and medium sized firm owners and managers to be the most important element in enhancing their growth perspectives. Access to and quality of firm size-based business development support programs are generally considered of a second order of importance (Rodriguez 2003).

The size distribution of firms in an economy may have an impact on its economic growth perspectives. Whereas smaller sized firms are generally believed to add flexibility and dynamism to an economy, larger sized operations tend to better exploit economies of scale and both flexibility and economies of scale are needed for long-term growth. Although there are considerable differences among countries in the size distribution of firms there is not necessarily a single, optimal structure (Hallberg 2000; Biggs 2002). Differences in the size distribution of firms among countries are related differences in consumption patterns, resource endowments, technology, and market institutions, among others. Free trade may thus alter the size distribution of firms in Colombia even though it is yet unclear in what direction. The size distribution of firms in Colombia, or changes therein, should not be a policy concern as the prevailing structure does not seem to be extremely skewed toward either smaller or larger firms.

Colombia has a series of policies and programs in place addressing some of market and institutional failures that may limit the growth of economic activity in general and of

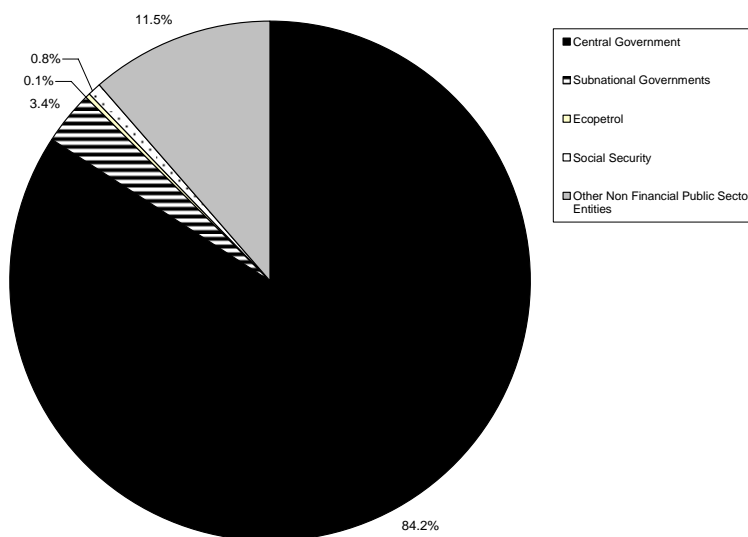
smaller sized firms in particular. General business (and export) development services, training, technology development and innovation, and access to finance are the main areas in which the Colombian government has business support programs in place focused particularly on smaller firms. A common denominator of these programs is the lack of more rigorous impact evaluations that could serve to orient program implementation and budget allocation among different programs. Based on limited program data, the impact of some of these programs tends to be limited due to an excessive dispersion of resources or a supply-driven orientation in the provision of services. Cost and risk sharing arrangements in several of the programs such as FOMIPYME, PROEXPORT, CDTs, and credit guarantees seem an effective instrument to enhance their impact and budgetary sustainability by providing for an important quality check on the service provided through the demand for these programs

ANNEX 4: DEBT SUSTAINABILITY ANALYSIS

A. Structure of Colombia's Public and External Debt

While about half of Colombia's public debt is external, the majority is in fixed rate instruments. Consequently, although the debt is subject to exchange rate risk, it is relatively insensitive to changes in international interest rates. The most recent figures show that Colombia's stock of non-financial public debt is about 51.2 percent of GDP (net of assets public debt was about 47.6 percent of GDP), of which 22.5 percent of GDP is external debt and 28.7 percent of GDP is domestic debt (See Figures A4.1 and A4.2).¹¹³ Of the external debt, about 99 percent of it has a maturity of greater than one year (medium and long term debt, which is about 22 percent of GDP), and 90 percent of this is dollar denominated (about 20 percent of GDP). Also, 38.9 percent of it is contracted with multilaterals (8.8 percent of GDP), while debt to official bilateral, commercial creditors and bonds accounts for 2.7 percent, 6.9 percent and 51.5 percent, respectively. About 50 percent of external debt is contracted under a fixed interest rate. Of the domestic debt, about 10.8 percent is contracted with commercial banks (about 2.8 percent of GDP).

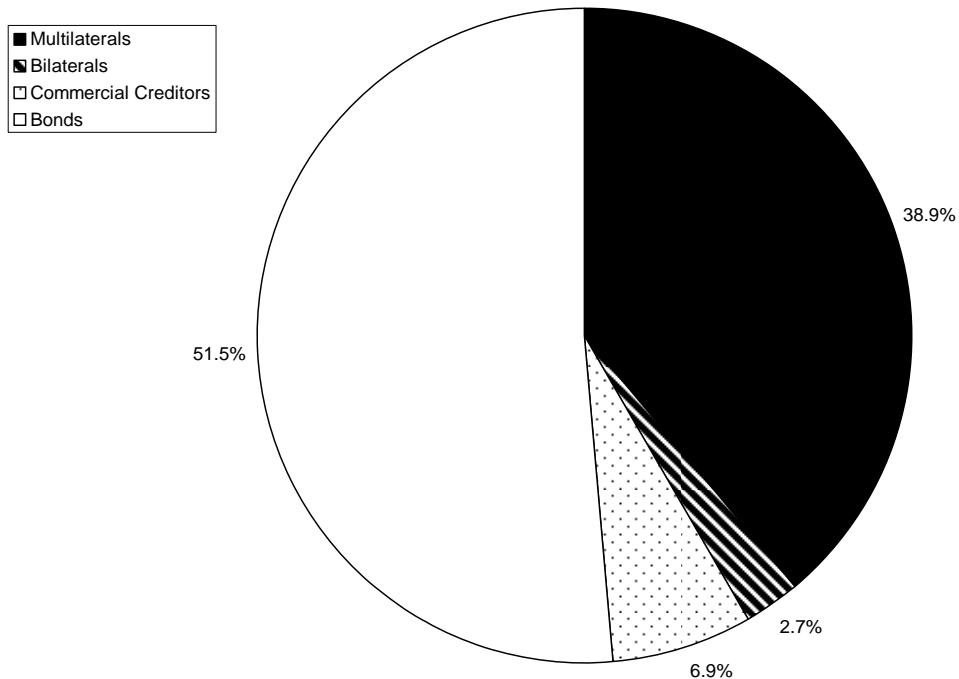
Figure A4.1: Composition of Non-Financial Public Sector Debt



Source: Ministry of Finance.

¹¹³ Latest data available is for the first quarter of 2005.

Figure A4.2: Composition of External Public Sector Debt



Source: Ministry of Finance.

Given the size of the total external debt and recent peso appreciation (some 30 percent above its long-term average), Colombia is most vulnerable to debt distress under potential shocks to the exchange rate. Colombia's total external debt is about 33.8 percent of GDP (about 22.5 percent of GDP is public external debt, and about 11.3 percent of GDP is private external debt). Also, its total external debt service as a share of exports of goods, services and income is close to 32 percent.

B. Key Risks to the External Environment

Worldwide, growth should moderate in 2005 and 2006, led by a slowing of the expansion among developed countries (see Table A4.2). Slowing growth in the G7 is likely to dampen external demand for Colombia's exports and slow growth (see Figure A4.3). In the United States, as the output gap closes, productivity growth is projected to slow and unit labor costs are expected to rise. U.S. growth is expected to slow from 4.3 percent in 2004 to slightly above 3 percent in 2005 and 2006. Rising domestic demand in addition to external inflationary pressures from commodity prices—particularly oil—will likely induce the Federal Reserve to continue to tighten interest rates. This, plus the maturation of the investment cycle, a tailing off of fiscal stimulus, and the impact of higher oil costs, will contribute to slowing growth. Similar factors explain the anticipated slowdown in Japan, where output is expected to increase at about trend rates.

In contrast, because of the later start to this recovery and the fact that investment is only now beginning to recover, Europe's growth is expected to continue gaining momentum through 2005 and into 2006, notwithstanding fiscal tightening and a slowdown in the rate of growth of world demand. Nonetheless, overall estimates suggest that the hike in oil prices already observed can be expected to dampen output in 2005 by over 0.5 percent of GDP.

Although a substantial rise in oil prices is not the most likely scenario, given new sources of supply and reduced oil intensities in the world economy, there remains considerable scope for higher oil prices, particularly given the current sensitivity of oil markets to localized disruptions in production (See FigureA4.2). Indeed, OPEC excess capacity is estimated to have fallen from 4.6 million barrels per day in 2001 to only 1.4 million barrels per day currently. Moreover, oil prices remain well below past peaks. Corrected for inflation and expressed in 2003 dollars, oil prices averaged more than US\$72/barrel in 1980, and actually reached more than US\$100/barrel in November of the previous year. Viewed from this perspective, further hikes would not be unprecedented.

Stable or higher oil prices will help support Colombia's exports and fiscal balances in the near-term, both directly because of higher oil exports, and indirectly through stronger demand from Venezuela, Colombia's second largest export market. During 2004, the U.S. and Venezuela absorbed nearly half of Colombia's total exports, 40 percent of the country's exports have been sold in the United States and nine percent in Venezuela.

Nonetheless, exports of petroleum products is a vulnerability and accounts for some 27 percent of Colombia's total export revenue. This is a source of external vulnerability in the near term if oil prices decline and in medium term because oil production is declining in Colombia and the country is expected to become a net importer of oil by 2007–08.¹¹⁴

Capital inflows to Colombia have risen substantially due to sharply increased foreign direct investment, but are not expected to be as robust in 2005. FDI surged last year as substantial resources were channeled to the mining and oil sectors. During 2004, FDI rose to US\$3 billion, or 67 percent higher than in 2003. The mining and petroleum sectors absorbed 42 percent and 35 percent of FDI, respectively. Net equity investment was about US\$2.4 billion 2004, but is expected to fall to about US\$1.5 billion in 2005 as investment in the oil sector moderates.¹¹⁵

The most significant external risks to Colombia (though not necessarily likely) are a rapid fall in the U.S. dollar and a rise in U.S. interest rates (due to higher than expected inflation and a possible current account correction) and the possibility a sharp correction in the flow of capital to emerging markets after last year's jump.

¹¹⁴ Colombia has not increased investment in oil exploration in the last few years, and oil reserves have started to decline. If this trend continues, it is very likely that Colombia will become a net importer by 2007-2008.

¹¹⁵ Investment in the oil sector will decline because oil prices are expected to decline in 2005.

Capital flows to emerging markets rose to a seven year high in 2004, a 32 percent increase from 2003. A sharp correction in market sentiment toward emerging markets, and/or a jump in G7 interest rates could significantly cut capital inflows, raise the cost of capital for Colombia, and put pressure on public debt financing as 2007 approaches and a large share of external debt becomes due.

C. Public Sector Debt Sustainability Analysis: Baseline Scenario

In our debt sustainability analysis the following simple budget constraint for a single period was assumed:

$$b_t^{Ext} + b_t^{Int} = i_t - x_t - \sigma_t + \frac{1}{1+z_t} b_{t-1}^{Int} + \frac{\bar{s}_t}{s_{t-1}(1+z_t)} b_{t-1}^{Ext} \quad (1)$$

where $z_t = (1 + g_g)(1 + \pi_t) - 1$, b_t^{ext} is external debt as a share of GDP, b_t^{int} is internal debt as a share of GDP, i_t are interest payments as a share of GDP, x_t is the primary balance as a share of GDP, σ_t is seigniorage revenue as a share of GDP, \bar{s}_t is years average exchange rate, s_t is the end of the period exchange rate, g_t is the real economic growth rate, and π_t is the inflation.

Colombia's public debt appears to be sustainable under the most likely baseline scenario. It is expected that Colombia's net public debt will decline from 46.6 percent of GDP in 2004 to about 36.2 percent of GDP in 2015, which is below the target in the government's medium term fiscal framework (See Figure A4.5 and Table A4.3).

Key assumptions behind the baseline scenario are:

- Historical average real GDP growth of 3.2 percent, which is below growth in 2004 of about 4 percent.
- A primary balance of 2.1 percent. In 2004 it was 3.4 percent, but this includes a 1.1 percentage point surplus from subnational governments and public entities, which is not readily available to service the debt
- A 30 percent real exchange rate depreciation to its historical average for 1980-2004 over a five year period beginning this year.
- An average implicit real interest rate on domestic and external debt of 6.3 percent, the historical average 1998-2004.

Why do we expect this baseline scenario to be the most likely? Given recent improvements to the security situation, feasible maintenance of the primary balance, likely depreciation in the exchange rate to historical norms, and possible deterioration in the external environment and growth, Colombia's macroeconomic

performance can still support debt reduction. While uncertainties remain, the most likely trajectory shows an expected reduction in the debt to GDP ratio as long as the government continues to maintain its current level of fiscal restraint.

Security. Colombia's security situation deteriorated substantially since the late 1990s, but with the current government's emphasis on addressing the problem, security has improved significantly since 2002. Although there is likely to be an increase in violence in the run-up to elections next year, our baseline scenario does not anticipate a complete reversal of recent trends. From a high of more than 3000 kidnappings a year during the period 1998 to 2002, kidnapping fell to 1441 in 2004. Attacks on the general population declined from about 150 per year during 1998-2002, to 35 in 2003 and 19 in 2004. Terrorist attacks and murders also declined, although less dramatically. Attacks on transport and communications infrastructure have fallen dramatically from 2003 to 2004, with direct and indirect effects on the returns to investment. The improvement in the security situation has been a large contributor to growth through higher investment. While we do not expect the security situation to improve over the near term, neither we do expect it to deteriorate substantially. Given the current security situation, most analysts, including the IMF, expect real GDP growth to be around 4 percent in 2005; however, we assume a more conservative growth rate of 3.2 percent, which is the historical average. But due to the potential risk in the security situation and potential deterioration in the external environment and commodities prices, in the stress tests that follow we show a scenario where real GDP growth rate only reaches 2 percent in 2005.

Primary balance as a share of GDP. Under Colombia's agreement with the IMF, the country is committed to maintain its primary balance of 2.7 percent of GDP in 2005, down from 3.4 percent in 2004. However, most of the surplus last year was due to subnational governments and state owned enterprises. Therefore, the central government cannot count upon these resources if fiscal pressures increased. As a result, we use a more conservative estimate of 2.1 percent. In the stress tests we assume a 2 standard deviation shock in the primary balance as a share of GDP, which is a deficit of -2.7 percent.

The real exchange rate. The real exchange rate is about 30 percent appreciated relative to its historical average (see Figure A4.6). Consequently, given past trends, it is most likely that in the next five years there will be at least a partial, if not complete, reversal of this recent sharp appreciation. Colombia's exchange rate is floating, which suggests that the correction is more likely to be gradual rather than abrupt. Abrupt devaluations oftentimes have occurred under fixed exchange rate regimes when the authorities have attempted to keep the exchange rate stable when fundamentals have deteriorated. Eventually international reserves are exhausted and a balance of payments crisis ensues. Under floating exchange rate regimes, abrupt devaluations can occur, but oftentimes the adjustment is less dramatic and occurs over a longer period of time. Given the current favorable external environment, it is likely that a gradual devaluation will take place in Colombia. For purposes of the baseline debt scenario, we assume that a 30 percent devaluation will take over the course of five years. A discrete 30 percent devaluation in one year is assumed in our sensitivity analysis.

Interest rates. The positive external environment has had a positive impact on reducing credit spreads and keeping domestic and international interest rates at historically low levels. The EMBI spreads are currently at their lowest levels since the series was initiated in 1997 (see Figure A4.7). Moreover, over the last year, Colombia has performed better than Latin America EMBI subindex, reflecting the country's improving security situation, fiscal balance, and the strong prices for its primary export commodities, oil and coffee. If there is, as we expect, a correction in the exchange rate and a less favorable external environment, including higher interest rates in the G7, it is likely that interest rates will experience a modest increase during the next two years. In the baseline scenario, we assume a modest increase of about 40 basis points in real interest rates. In our alternative scenarios, we include a much sharper hike in rates of 200 bps.

Inflation. Inflation has been declining over the last 8 years and now is at 5.5 percent, a level not seen since the end of the 1960s (see Figure A4.8). As part of the baseline scenario, we assume that Colombia will be able to follow its objective of reducing inflation to 3 percent by 2007. Nonetheless, an alternative assumption is made in our sensitivity analysis that would include an up tick in inflation to 8 percent this year, and then a gradual reduction thereafter.

International Reserves. Reserves excluding gold are about US\$13 billion and they are expected to increase to US\$14.2 billion by the end of 2005. It is expected that under the baseline scenario reserves will remain at least at this level.

E. Public Sector Debt Sustainability Analysis: Stress Tests

This section gauges the robustness of baseline analysis by applying various extreme shocks to the model inputs and observing the likely path debt. Even under a combination of economic shocks, however, public debt to GDP is not explosive but it is possible to reach slightly more than 60 percent of GDP, a value close to what we would consider enough to trigger a financing crisis. While a crisis is expected to be avoided, the shocks would nonetheless entail a significant economic and fiscal adjustment.

The shocks are introduced into the baseline model one-by-one and include key macroeconomic variables: GDP growth, interest rates, and the exchange rates (details of the shocks included are shown in Table A4.3). The magnitudes of the shocks are 2 standard deviations from their historical norms and represent the extreme bounds of 95 percent of historical movements in these macroeconomic variables. An additional test illustrates the effect of the combination of all these potential shocks happening together.

The stress tests on overall public debt reveal that Colombia is particularly vulnerable to low growth, and a real devaluation. Colombia is not particularly vulnerable to a near-term hike in interest rates given that a great part of its debt is contracted under fixed rates until 2007 (Figure A4.3).

If these shocks came and policy responded to keep primary balances unchanged at 2.1 percent, then the government would not achieve its target of reducing the debt ratio, but after an initial jump the debt ratio would decline. With each of the individual shocks, the debt ratio would be below 45 percent by 2015. With the combination of all three shocks, the ratio would peak at just over 60 percent of GDP in 2007, then slowly fall to about 56 percent in 2015 (see Figure A4.5, Combo shocks I).

During 1998-2001 Colombia had one of its worst fiscal crises. By considering the same external and domestic conditions, as well as the same government response, we constructed another scenario called combo shocks II. Under this scenario, net public debt to GDP will reach close to 60 percent of GDP and then decline to 55 percent of GDP in 2015 (See Figure A4.5).

It is critical for Colombia to continue its fiscal discipline. The analysis shows that if Colombia maintains a primary balance of less than 1 percent of GDP under the baseline scenario for the forecast period (the next 10 years) Colombia's debt path becomes explosive. While we do not foresee this as a likely scenario, it highlights the need for the government to continue efforts to cut current expenditures through pension and budget reform, and the importance of addressing central government transfers to the regions.

On the other hand, under a more optimistic scenario Colombia could exceed its fiscal target in 2015. If remittances continue to flow strongly into the country, the real exchange rate might not depreciate as much as the 30 percent anticipated in the baseline scenario. In the optimistic scenario, we assume a constant real exchange rate and all of the rest of the variables remain the same as the ones described in our baseline scenario, and the net public debt to GDP ratio declines to about 31 percent of GDP by 2015.

F. Total External Debt Sustainability

Colombia's total external debt profile (public and private) appears to be sustainable. Total external debt is expected to decline to 27.9 percent of GDP under our baseline scenario. This scenario assumes a 3.2 percent growth from 2005–2010.

The primary risk associated with external debt sustainability is exchange rate risk (Table A4.4). Various shocks are included in the external debt sustainability analysis, including GDP growth and capital inflows; however the largest impact on total external debt comes from potential exchange rate depreciation. A depreciation of the real exchange rate in excess of 30 percent within one year would increase the total external debt to GDP ratio from about 32 percent currently, to about 42 percent, generating a significant risk of market closer in the near term.

A two-standard deviation drop in international capital inflows from the historical average would generate an increase in the external debt to GDP ratio to about 41 percent, but this is unlikely to generate a debt crisis. Total external debt reached nearly 48 percent in 2001 without a crisis in an economic environment that was less favorable than today. A transitory peak of about 40 percent total external debt would put pressure on financing, but is likely to be manageable.

Table A4.1: Composition of Colombia's Debt

(as a share of GDP)	1996	1997	1998	1999	2000	2001	2002	2003	2004
Net of Assets Non-Financial Public Sector Debt	21.7%	25.8%	28.5%	36.8%	41.8%	44.4%	54.1%	51.5%	46.6%
Net Public Sector Debt	25.8%	29.7%	32.3%	39.8%	44.5%	49.1%	57.2%	53.8%	52.2%
Net Public Financial Sector Debt	2.9%	2.9%	3.0%	1.1%	0.1%	0.6%	0.6%	-0.5%	2.6%
Net Non-Financial Public Sector Debt	22.9%	26.8%	29.3%	38.8%	44.3%	48.5%	56.6%	54.3%	49.6%
Gross Non-Financial Public Sector Debt	29.7%	34.6%	39.5%	50.1%	57.6%	62.7%	71.1%	68.1%	62.2%
o/w Central Government Debt	14.4%	17.9%	22.2%	31.6%	40.4%	47.0%	55.6%	55.4%	52.7%
Total external public sector debt	16.2%	17.8%	20.6%	25.0%	26.3%	32.1%	30.3%	30.1%	23.4%
Total net domestic public sector debt	9.6%	11.8%	11.7%	14.9%	18.2%	17.0%	26.9%	23.7%	28.8%
Net Public Sector Debt	25.8%	29.7%	32.3%	39.8%	44.5%	49.1%	57.2%	53.8%	52.2%

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
(as a share of GDP)															
External debt	38.4%	35.0%	30.1%	29.1%	27.8%	28.5%	31.4%	34.4%	38.8%	44.2%	44.8%	51.2%	48.1%	47.2%	36.2%
o/w public and publicly guaranteed			30.1%	29.1%	18.0%	16.8%	16.2%	17.8%	20.6%	25.0%	26.3%	32.1%	30.3%	30.1%	23.4%
o/w private			0.0%	0.0%	9.8%	11.7%	15.2%	16.5%	18.2%	19.2%	18.5%	19.1%	17.8%	17.1%	12.8%
Short term debt	4.9%	3.8%	4.4%	5.6%	5.4%	6.0%	4.6%	4.1%	4.0%	3.4%	3.0%	3.8%	4.3%	4.2%	5.3%
Debt Service	8.1%	7.4%	7.2%	5.7%	6.2%	5.3%	5.7%	6.7%	7.2%	8.8%	10.0%	9.7%	11.7%	11.5%	7.8%
(as a share of exports goods, services and income)															
External debt	252.9%	229.8%	217.3%	211.4%	229.2%	218.4%	237.2%	233.5%	257.9%	249.4%	218.3%	246.4%	251.6%	241.6%	200.0%
Debt Service	50.5%	45.9%	51.4%	46.7%	50.2%	45.7%	46.4%	50.7%	55.5%	39.5%	47.6%	49.4%	60.4%	57.4%	37.1%

Sources: Ministry of Finance, IMF and IIF.

Table A4.2: Main Macroeconomic Variables Forecast

(yearly percent change except for interest rates and oil price in \$/bbl) a/

	1980-90	1990-00	2001	2002	2003	2004	2005	2006
Growth of Real Output								
1. World	3.0	2.7	1.4	1.7	2.5	3.8	3.1	3.2
2. o/w OECD	3.1	2.5	1.1	1.3	1.8	3.0	2.3	2.5
3. United States	3.2	3.3	0.8	1.6	2.7	4.2	4.0	3.5
4. Japan	3.9	1.4	0.2	-0.3	1.4	2.6	1.7	1.8
5. Euro Area	2.4	2.1	1.9	1.0	0.7	1.7	1.0	1.6
Growth of Trade Volume c/								
6. World Trade Volume	2.8	6.6	-0.5	4.0	6.9	9.0	5.3	6.0
7. o/w G-7 Import volume	4.7	6.7	-0.7	1.9	3.6	7.8	5.3	6.3
8. o/w North America	6.3	9.2	-3.6	3.3	4.5	10.5	7.2	5.2
9. o/w Japan	5.8	5.6	0.5	0.3	6.1	6.5	3.4	8.0
10. o/w European Union (15)	3.8	5.3	1.2	0.7	3.1	6.7	4.3	6.0
Price Indicators, in U.S. dollars								
11. G-5 MUV index in U.S. dollars d/e/	2.4	-0.3	-2.9	-1.3	7.5	6.9	3.2	3.4
12. Oil price \$/bbl (current dollars) f/	25.3	19.1	24.4	24.9	28.9	37.7	53.6	56.0
12a. Oil price (current dollars) f/ Ch%	-4.7	2.1	-13.7	2.4	15.9	30.6	42.1	4.5
13. Non-oil commodity price index (current dollars) g/	-2.2	-1.4	-9.1	5.3	10.2	17.5	11.9	-5.9
Exchange Rates h/ euro for Ffr and DM								
14. Euro (dollar per euro, period average)	-2.5	-2.6	-3.0	4.9	19.7	10.6	1.9	5.5
15. Japanese yen (dollar per yen, period average)	4.6	3.0	-11.3	-3.4	7.8	8.1	1.0	9.8
LIBOR (in percent per year) h/								
16. EURIBOR	6.7	5.4	4.2	3.4	2.3	2.1	2.2	2.3
17. Japanese yen	6.3	2.1	0.1	0.1	0.1	0.1	0.1	0.2
18. U.S. dollar	10.4	5.6	3.8	1.9	1.2	1.7	3.6	4.8
Real LIBOR (in percent per year) i/								
19. EURIBOR	3.9	3.0	2.2	2.0	1.3	0.3	0.4	0.8
20. Japanese yen	3.9	1.6	0.8	1.1	0.3	0.1	0.3	0.1
21. U.S. dollar	4.6	2.6	0.9	0.3	-1.1	-0.9	0.6	2.2
Memorandum Item								
22. G-7 inflation (CPI) in local currency	4.4	2.4	1.6	1.0	1.5	1.7	1.8	1.7
23. Long-term nominal interest rates in the U.S. j/	10.4	6.6	5.0	4.6	4.0	4.3	4.3	5.2

Notes:

- a) Growth rates for any multiyear period are computed as compound averages. Base year is "t-1", e.g. growth over 2001-2010 uses 2000 as start point.
b) The G-7 countries are: Canada, France, Germany, Italy, Japan, United Kingdom, and United States. Weights are 1995 U.S. dollar measures for current period.
c) Merchandise exports/imports.
d) The G-5 countries are France, Germany, Japan, United Kingdom, and United States.
e) For history, the G-5 MUV index uses moving weights proportional to exports of manufactures of respective countries to the developing countries, during the preceding three years. These weights for 1988-90 are: France .093, Germany (western land) .177, Japan .341, U.K. .082, and U.S. .307.
f) For history, average of OPEC crude-oil prices. From 1996 onwards, average of Brent, Dubai, and WTI, equally weighted.
g) The World Bank index of 33 non-oil commodity prices, weighted by 1987-89 developing countries exports.
h) Euro for Ffr and DM beginning January 1999.
i) Nominal LIBOR, adjusted for actual inflation using the consumer prices in the respective country.
j) Nominal yields on 10-year government bonds, period average.

Sources:

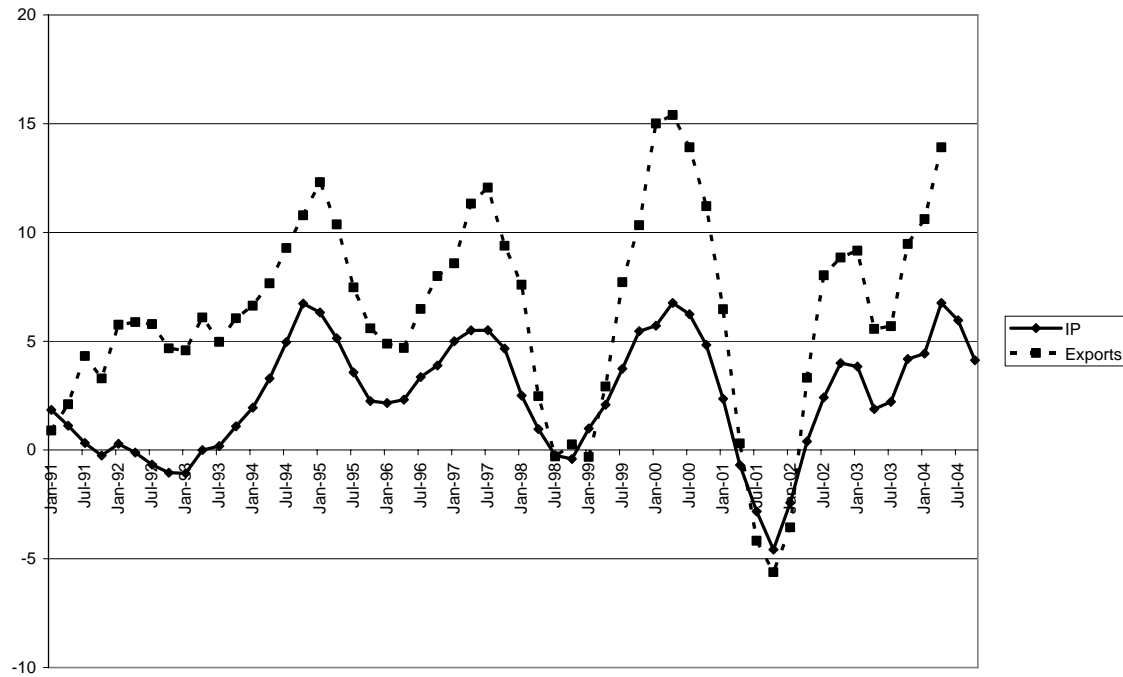
History:

IMF, International Financial Statistics and 'Current Economic Indicators' (various issues): CPI, exchange rates, interest rates, trade volumes.
OECD, Economic Outlook (various issues): GDP/GNP (G-7 countries).
OECD, International Trade and Competitiveness Indicators; MUV indices for individual G-5 countries.
World Bank: GDP, world trade, and oil and non-oil commodity prices.

Forecasts: World Bank, DECPG Global Forecast-- GDF-2004, April 2004, with updates.

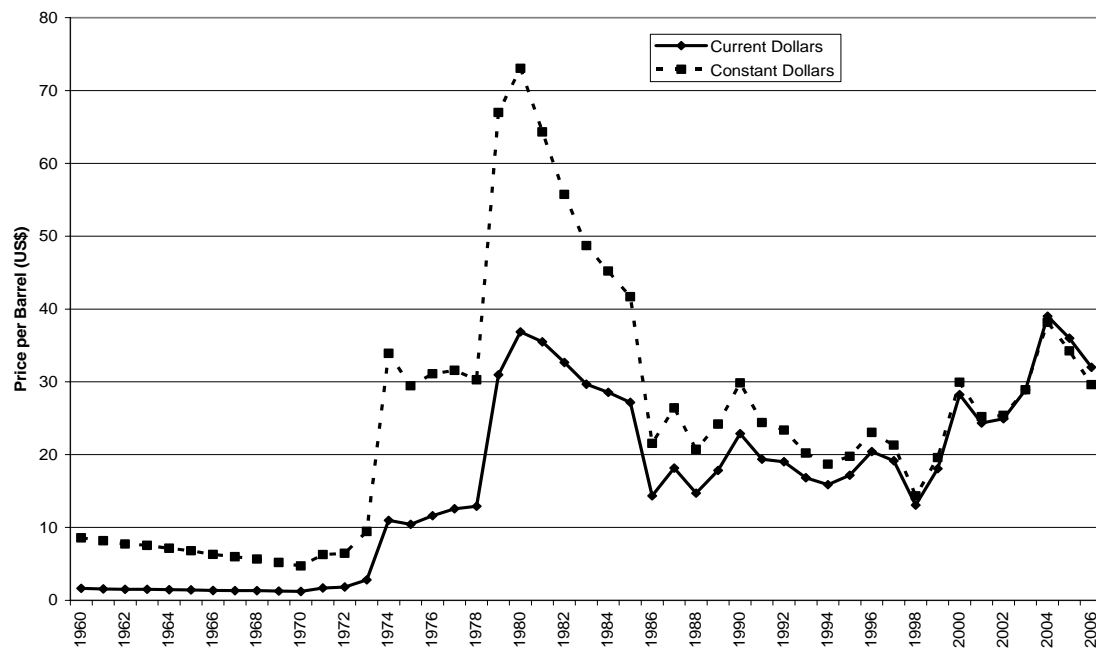
Commodity prices: Forecast of August 12, 2004.

Figure A4.3: World Industrial Production and Merchandise Export Volumes, Annual Percent Rate



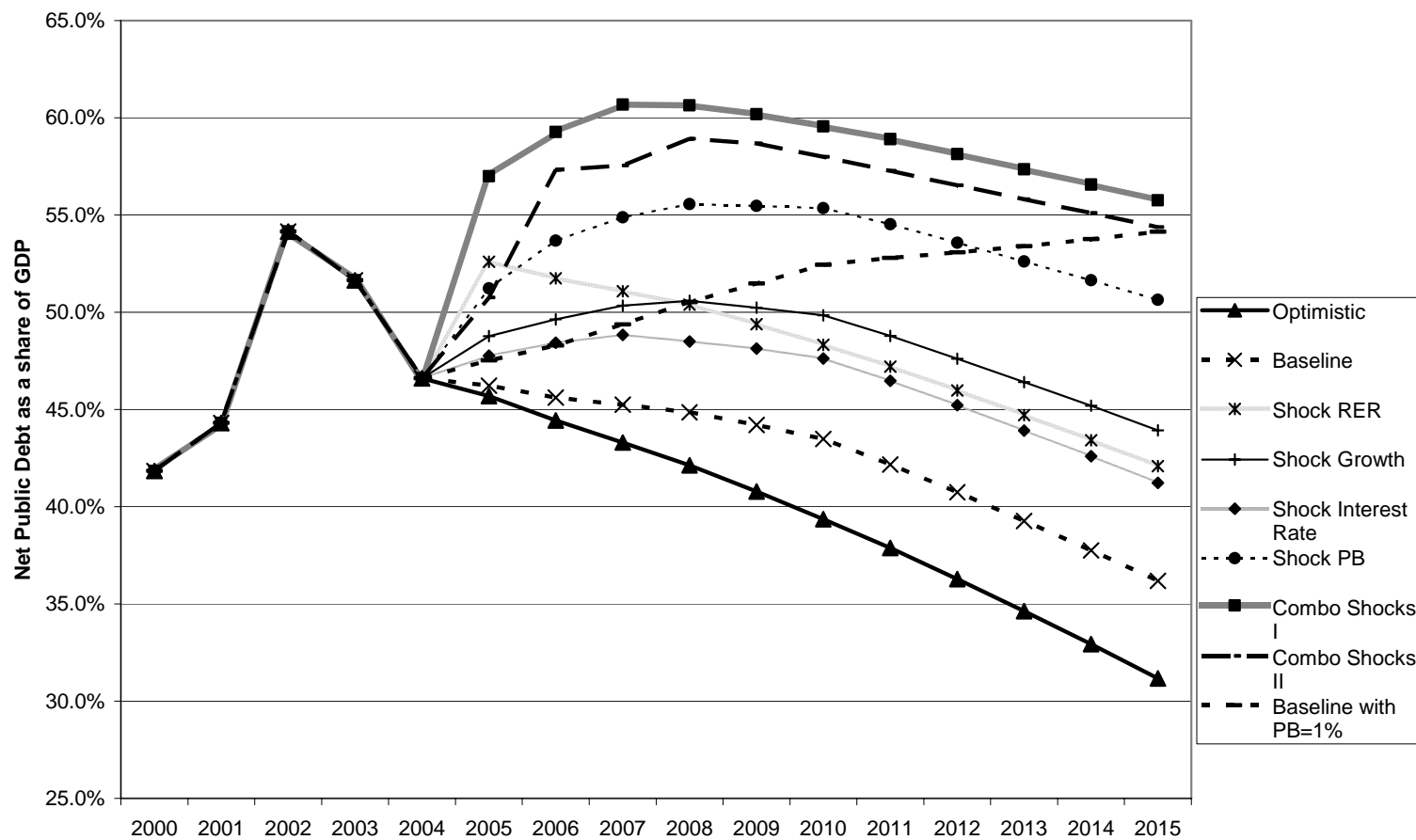
Source: DECPG.

Figure A4.4: Crude Oil Prices



Source: DECPG.

Figure A4.5: Non Financial Public Sector Debt Sustainability Analysis



See Table A4.3 for description of the shocks.

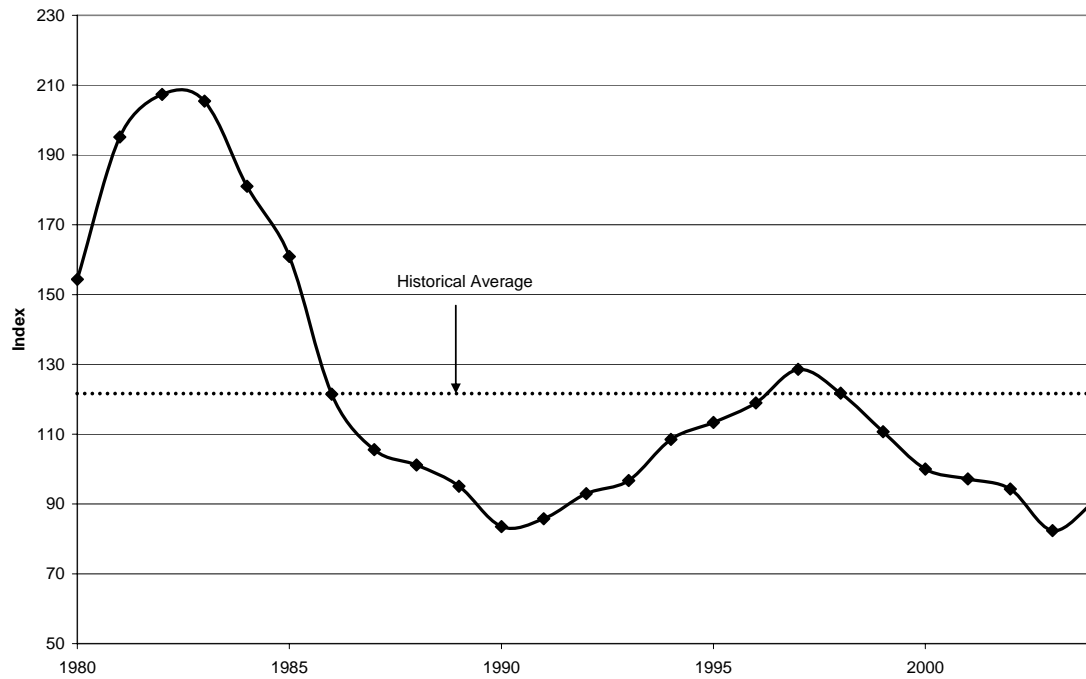
Table A4.3: Assumptions in the Different Scenarios

Scenario	Growth	Inflation	Real Interest Rate	Real Exchange Rate	Primary Balance
<i>Baseline</i>	<i>Historical growth average of 3.2 percent</i>	<i>In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.</i>	<i>Assume an average implicit real interest rate of 6.3 percent.</i>	<i>Adjustment to historical real exchange rate over a five year period (In 2004, the real exchange rate is about 30 percent below its historical average)</i>	<i>2.1 percent of GDP. This figure is below the IMF target of 2.7 percent. It is assume a more conservative estimate given that a great part of the surplus is done by subnational governments and other decentralized entities, and it is not easily available for the national government to finance debt.</i>
Optimistic	Historical growth average of 3.2 percent	In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.	Assume an average implicit real interest rate of 6.3 percent.	<i>Constant real exchange rate</i>	2.1 percent of GDP. This figure is below the IMF target of 2.7 percent. It is assume a more conservative estimate given that a great part of the surplus is done by subnational governments and other decentralized entities, and it is not easily available for the national government to finance debt.
Shock to growth	<i>In 2005, historical growth average minus two standard deviations (implies a growth rate of -2.1 percent). In 2006, historical average minus one standard deviation (implies a growth rate of 0.5 percent). In 2007, it is assume a growth rate of 1.5 percent</i>	In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.	Assume an average implicit real interest rate of 6.3 percent.	Adjustment to historical real exchange rate over a five year period (In 2004, the real exchange rate is about 30 percent below its historical average)	2.1 percent of GDP. This figure is below the IMF target of 2.7 percent. It is assume a more conservative estimate given that a great part of the surplus is done by subnational governments and other decentralized entities, and it is not easily available for the national government to finance debt.

Scenario	Growth	Inflation	Real Interest Rate	Real Exchange Rate	Primary Balance
	<i>and in 2008 of 2.5 percent. Afterwards, it assumes the historical growth rate.</i>				
Shock to the Real Exchange Rate	Historical growth average of 3.2 percent	In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.	Assume an average implicit real interest rate of 6.3 percent.	<i>Adjustment to historical real exchange rate in 2005 (In 2004, the real exchange rate is about 30 percent below its historical average).</i>	2.1 percent of GDP. This figure is below the IMF target of 2.7 percent. It is assume a more conservative estimate given that a great part of the surplus is done by subnational governments and other decentralized entities, and it is not easily available for the national government to finance debt.
Shock to real interest rate	Historical growth average of 3.2 percent	In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.	<i>In 2005, we assume a real implicit interest rate of about 8.6 percent. Afterwards, it gradually declines to 6.3 percent.</i>	Adjustment to historical real exchange rate over a five year period (In 2004, the real exchange rate is about 30 percent below its historical average)	2.1 percent of GDP. This figure is below the IMF target of 2.7 percent. It is assume a more conservative estimate given that a great part of the surplus is done by subnational governments and other decentralized entities, and it is not easily available for the national government to finance debt.
Shock to the Primary Balance	Historical growth average of 3.2 percent	In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.	Assume an average implicit real interest rate of 6.3 percent.	Adjustment to historical real exchange rate over a five year period (In 2004, the real exchange rate is about 30 percent below its historical average)	<i>In 2005, historical average minus two standard deviations (results in a PB of -2.7 percent of GDP). In 2006, historical average minus one standard deviation (results in a PB of -0.5 percent of GDP). In 2007, it is assume a primary balance of 1.2 percent of GDP and in 2008 of 1.8 percent of GDP. Afterwards, the primary balance is assumed to be 2.3 percent of GDP.</i>

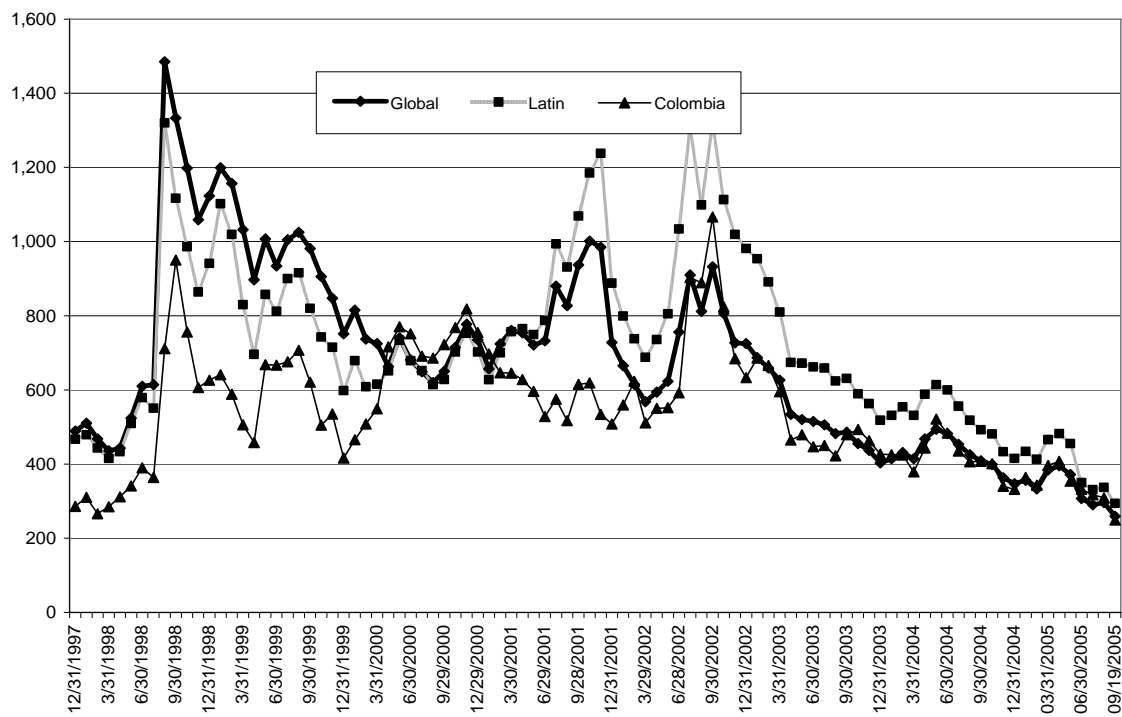
Scenario	Growth	Inflation	Real Interest Rate	Real Exchange Rate	Primary Balance
Combo Shocks I	<i>In 2005, historical growth average minus two standard deviations (implies a growth rate of 2.1 percent). In 2006, historical average minus one standard deviation (implies a growth rate of 0.5 percent). In 2007, it is assume a growth rate of 1.5 percent and in 2008 of 2.5 percent. Afterwards, it assumes the historical growth rate.</i>	In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.	<i>In 2005, we assume a real implicit interest rate of about 8 percent. Afterwards, it gradually declines to 6.3 percent.</i>	<i>Adjustment to historical real exchange rate in 2005 (In 2004, the real exchange rate is about 30 percent below its historical average).</i>	<i>2.1 percent of GDP. This figure is below the IMF target of 2.7 percent. It is assume a more conservative estimate given that a great part of the surplus is done by subnational governments and other decentralized entities, and it is not easily available for the national government to finance debt.</i>
Combo Shocks II	<i>In 2005, we have a growth of 0.6 percent, in 2006, -4.2 percent, in 2007, 2.9 percent, and in 2008, 1.5 percent. Afterwards, it assumes the historical growth rate.</i>	In 2005, it is assume to be 4.5 percent, in 2006, 3.5 percent, and 3 percent afterwards. These figures are consistent with the IMF program.	<i>In 2005, we assume a real implicit interest rate of about 8.6 percent We assumed that the implicit real interest rate more than double as it was the case in 1998. Afterwards, it gradually declines to 6.3 percent.</i>	<i>We assume an appreciation of the real exchange rate during the 2005-2007 period similar to the one in 1998-2000. In other words, an appreciation of 5 percent in 2005, 10 percent in 2006, and 7 percent in 2007. Afterwards, we assume that the real exchange rate remains constant.</i>	<i>In 2005, we assume -0.5 percent of GDP, in 2006, -2.5 percent of GDP, in 2007, 0.8 percent of GDP, and in 2008, 1.5 percent of GDP. Afterwards, the primary balance is assumed to be 2.3 percent of GDP. In other words, we assumed the same primary balances during the 1998-2001 period.</i>

Figure A4.6: Real Effective Exchange Rate



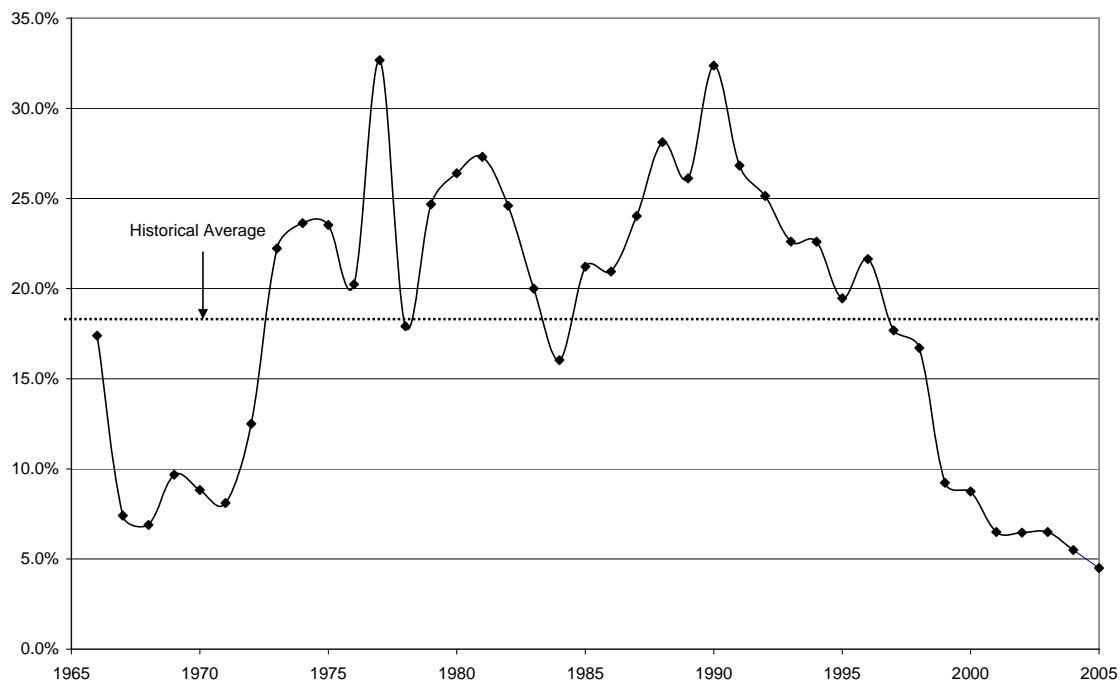
Source: IIF.

Figure A4.7: EMBI



Source: Bloomberg.

Figure A4.8: Inflation



Source: Banco de la República.

**Table A4.4: Colombia External Debt Sustainability Framework,
(in percent of GDP, unless otherwise indicated)**

	Actual					Projections					
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
External debt (nominal) 1/	43.1	47.7	45.8	48.1	40.4	32.0	29.3	30.6	29.4	28.6	27.9
o/w public and publicly guaranteed (PPG)	24.6	28.6	27.9	31.0	26.4	21.0	19.9	21.5	20.8	20.4	19.8
o/w private	18.5	19.1	17.8	17.1	14.0	10.9	9.4	9.1	8.5	8.3	8.1
Change in external debt	0.5	4.6	-1.9	2.3	-7.1	-8.5	-2.7	1.3	-1.2	-0.7	-0.7
Identified net debt-creating flows	-8.7	-5.7	-5.1	-5.5	-5.9	-4.6	-2.1	-1.8	-2.1	-2.0	-1.9
Non-interest current account deficit	-4.0	-1.8	-1.4	-1.5	-1.5	-1.2	0.3	0.4	0.1	0.3	0.4
Deficit in balance of goods and services	-1.6	1.0	1.5	1.4	0.4	0.9	1.9	2.3	2.3	2.5	3.3
Exports	18.8	18.3	17.4	19.7	19.9	19.2	18.0	18.2	18.6	18.8	18.5
Imports	17.2	19.4	18.9	21.0	20.4	20.1	19.9	20.5	20.9	21.3	21.8
Net current transfers (negative = inflow)	-2.0	-2.9	-3.2	-4.1	-3.7	-3.1	-3.0	-3.1	-3.1	-3.0	-3.0
o/w official	-0.3	-0.7	-0.5	-0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1
Other current account flows (negative = net inflow)	-0.4	0.0	0.3	1.2	1.8	1.1	1.3	1.2	0.9	0.8	0.1
Net FDI (negative = inflow)	-2.9	-3.1	-2.6	-2.2	-2.9	-2.7	-2.2	-2.2	-2.3	-2.3	-2.4
Endogenous debt dynamics 2/	-1.8	-0.8	-1.2	-1.7	-1.5	-0.7	-0.2	0.0	0.1	0.0	0.1
Denominator: 1+g+r+gr	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Contribution from nominal interest rate	2.7	2.8	2.8	2.7	2.9	2.6	2.4	2.5	2.6	2.5	2.5
Contribution from real GDP growth	-1.1	-0.6	-0.8	-1.6	-1.7	-1.2	-1.1	-1.1	-1.2	-1.1	-1.1
Contribution from price and exchange rate changes	-3.4	-3.1	-3.1	-2.8	-2.5	-1.8	-1.3	-1.1	-1.1	-1.1	-1.1
Residual (3-4) 3/	9.2	10.3	3.2	7.7	-2.0	-2.7	1.6	1.8	0.3	0.1	0.2
o/w exceptional financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Key macroeconomic assumptions											
Real GDP growth (in percent)	2.9	1.5	1.9	3.8	3.8	3.2	3.2	3.2	3.2	3.2	3.2
GDP deflator in US dollar terms (change in percent)	8.8	7.7	7.0	6.5	5.5	4.5	3.5	3.0	3.0	3.0	3.0
Growth of exports of G&S (US dollar terms, in percent)	12.8	-4.6	-5.7	9.8	21.9	19.1	4.8	1.9	8.6	5.7	3.4
Growth of imports of G&S (US dollar terms, in percent)	7.6	10.2	-3.0	8.1	17.3	22.1	10.9	3.6	8.2	6.6	7.4

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - n(1+g)] / (1+g+r+gr)$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = growth rate of GDP deflator in U.S. dollar terms.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

II. Stress Tests for External Debt Ratio

	2000	2001	2002	2003	2004	Projections					
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
A. Bound Tests											
A1. Real GDP growth at historical average minus two standard deviation in 2005 and minus one standard deviation in 2006	43.1	47.7	45.8	48.1	40.4	33.0	30.9	33.4	32.4	31.9	31.3
A4. Net non-debt creating flows at historical average minus two standard deviation in 2005-06 1/	43.1	47.7	45.8	48.1	40.4	36.8	39.1	40.3	38.8	37.9	36.9
A6. One-time 30 percent real depreciation relative to the baseline in 2005	43.1	47.7	45.8	48.1	40.4	41.6	37.6	39.6	38.0	37.1	36.2

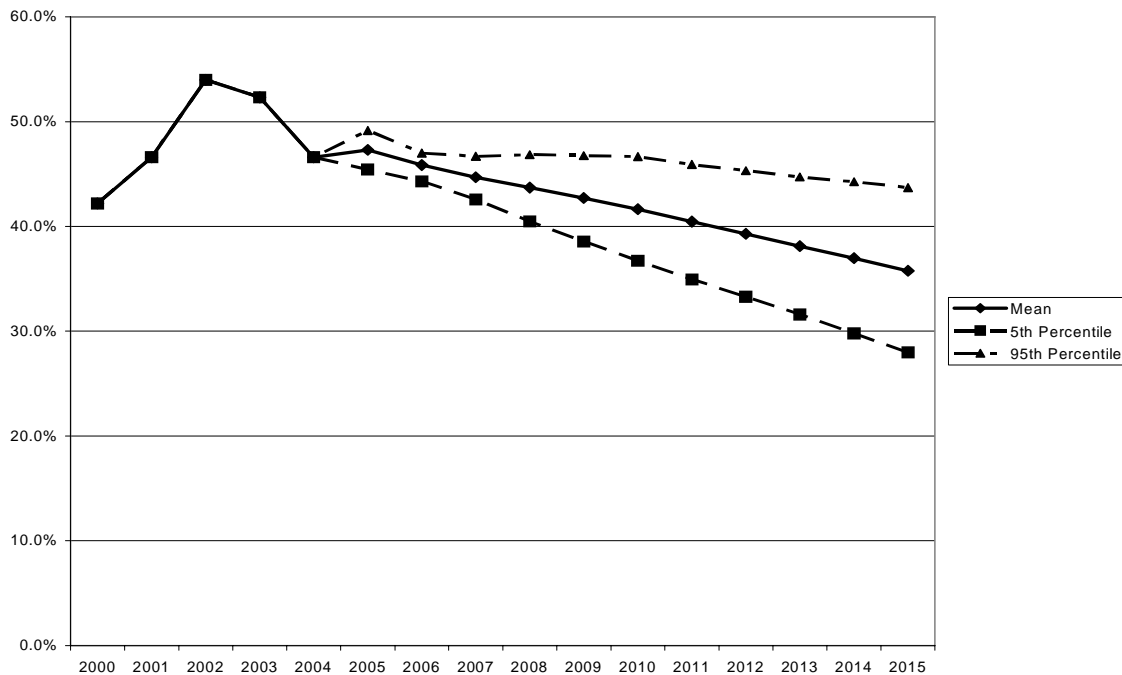
Source: Staff projections and simulations.

1/ Includes official and private transfers and FDI.

Monte Carlo Simulations of Public Sector Debt

The Monte Carlo simulation of the public sector debt gave us the same results that we obtained in the previous section, in other words, Colombia's public sector debt is sustainable. Figure A.4.9 illustrates the result of using equation 1 to simulate 1,000 debt paths that assume an initial 46.6 percent of GDP debt ratio. The simulated paths for debt depend on simulated values of growth drawn from a random number generator. The simulations assume that the shocks to the growth rate are independent and identically distributed and normal, with mean zero and standard deviation of 0.57. The simulations generate the growth rates by adding the historical mean of the growth rate (3.2 percent) and add the shock times the historical standard deviation of the growth rate (2.4 percent). We estimated with historical data the elasticities between growth and the real effective exchange rate, primary balance, interest rates and seigniorage revenue. With these values and the generated growth rates we predicted the values of the primary balance, exchange rate, interest rates and seigniorage revenue of the different paths.

Figure A4.9: Monte Carlo Simulation of the Public Sector Debt



ANNEX 5: PROFILE OF SECTORAL INFRASTRUCTURE INVESTMENT: PRIVATE AND PUBLIC

Investment in infrastructure, from both public and private sources, peaked at 4.4 percent% of GDP in 1997, but has fallen back to 2.6 percent% of GDP by 2003 due to the combination of macroeconomic weakness, security problems, as well as the loss of investment-grade rating on international bonds in 1997. Total investment in infrastructure averaged almost 3 percent% of GDP during the 1990s. Public investment declined by 34 percent% from its peak of 2.4 percent% in 1997, while private investment dropped by 50 percent% from its peak of 2.0 percent% in the same year. Investment in the energy sector peaked at 2.3 percent% of GDP in 1996, while investment in the telecommunications sector peaked at 1.6 percent% of GDP in 1998. Investment in the transport sector has been more volatile, cycling between 0.5 percent% and 1.3 percent% of GDP, while water sector investment has generally been below 0.5 percent% of GDP.

Table A5.1: Colombian Infrastructure Investment by Sector

% GDP	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	2.6	3.6	4.3	4.4	4.2	3.5	2.7	3.6	3.0	2.6
Public	2.2	2.4	2.6	2.4	2.5	2.4	1.7	2.2	1.8	1.6
Private	0.4	1.2	1.7	2.0	1.7	1.1	1.0	1.5	1.2	0.9
Total	2.6	3.6	4.3	4.4	4.2	3.5	2.7	3.6	3.0	2.6
Telecom	0.6	1.0	0.7	1.2	1.6	1.5	1.0	1.2	1.1	1.0
Transport	0.8	1.2	1.0	0.9	1.1	0.6	0.5	1.3	0.8	0.8
Energy	1.1	1.3	2.3	2.0	1.3	1.0	0.8	0.8	0.6	0.5
Water	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.3	0.5	0.3

Source: DNP, 2004

Notes: Transport includes roads, railways, ports, and airports, while energy includes both electricity and gas, excludes mining and oil.

Source: DNP (2004).

a. Public investment in Infrastructure

The water and, especially transport, sectors continue to have a major reliance on routine fiscal transfers to finance investment programs. However, in the energy and telecommunication sectors, public investment is largely self-financed through user charges. Although fiscal liabilities for the bailout of failing state enterprises continue to arise on an occasional, but repeating, basis.

Public investment in infrastructure is not always efficient, but tries to be equitable. Colombia has developed rigorous procedures for evaluating and screening public investment projects, although these are sometimes circumvented for political reasons. About 80 percent% of public investment in infrastructure is channeled through the major national and municipal enterprises, while of the remaining 20 percent% a growing share is being executed by sub-national governments. The efficiency of public investment is therefore often compromised by the inefficiency of the state-owned enterprises that are

largely responsible for delivering it, particularly in the case of electricity distribution and smaller water utilities. Wherever possible, the state makes conscious efforts to improve the equity with which public investment resources are distributed across regions and socioeconomic groups. However, this does not prevent investments from being highly concentrated in the larger urban areas, because of their much greater capacity for generating tariff revenues.

The instability of public finance is a major concern, prompting the search for more reliable budgetary mechanisms. Budgetary allocations for infrastructure (particularly transport) tend to be unpredictable; moreover inefficiencies in public contracting processes can lead to huge gaps between initial budgetary appropriations and ultimately executed investments. In order to circumvent these problems there has been growing use of “future appropriations” and “earmarked sector funds,” with the former currently absorbing about 40 percent% of the available fiscal space for infrastructure spending. These mechanisms succeed in providing greater budgetary stability, although at the cost of reduced flexibility.

Substantial contingent liabilities incurred in early private sector experiences, have prompted the development of a sophisticated accounting framework. In order to attract the first wave of private investors, Colombia provided guarantees resulting in payments of up to US\$4 billion over the period 1993–9/4. In retrospect, these guarantees appear poorly designed and perhaps overly generous. Following the establishment of a regulatory framework, significant private investment took place with substantially reduced guarantees. Moreover, a prudent fiscal accounting and budgeting framework has now been established, which should serve to limit their future accumulation.

(1) Electricity. The fiscal burden associated with the electricity sector has fallen substantially, but dysfunctional public enterprises continue to make significant demands. As of 1990, the electricity sector accounted for one third of Colombia’s public debt stock, a figure which has fallen to less than 5 percent% of the public debt stock today. Indeed, the only regular fiscal transfer to the electricity sector is the payment to cover the deficit of the cross-subsidy system currently amounting to US\$732 million per year. Nevertheless, there is a substantial volume of occasional expenditures associated with particular liabilities and financial crises, amounting to almost US\$500 million per year on average. Over the last decade, these have included bailout operations to bankrupt public enterprises (US\$250 million per year), payments to support various privately funded hydro and thermal generation projects (US\$200 million per year), and “loans” to allow loss-making distribution utilities to cover their obligations to the wholesale market (US\$32 million per year).

(2) Natural gas. There are no fiscal transfers to the natural gas sector, but major public investments are undertaken by the state-owned enterprises Ecopetrol and Ecogas. An implicit subsidy of US\$155 million exists to the BOMT contracts used to develop the gas transportation system.

(3) Telecommunications. Public enterprises finance a falling, but still significant share of investment in the telecommunications sector, and have generated significant liabilities

for the state. While there are no fiscal transfers to the telecom sector, public enterprises continue to invest US\$360 million per year, primarily in fixed line telephony. The share of public investment in the sector total, has fallen from 99 percent% in 1992 to 36 percent% in 2002, still more than double the regional average of 15 percent%. However, the state also bears major liabilities associated with the recent bailout of the national telecommunications incumbent, Telecom. In addition, there are major claims of uncertain magnitude against guarantees provided under a number of joint venture contracts with the public sector.

(4) Water. Transfers from central government to municipalities remain the main source of investment financing in the water sector, amounting to US\$278 million in recent years. Rules governing the determination of fiscal transfers ensure that poorer municipalities receive three times as much per capita as the larger wealthier municipalities. In spite of this advantage, depressed tariffs and deficient management in the smaller water utilities, means that these still only manage to invest about one third as much per capita as do their larger counterparts. Furthermore, diseconomies of scale in the smaller utilities mean that they achieve more limited results from a given volume of investment resources.

(5) Transport. Public resources devoted to the transport sector have fallen by 50 percent% in real terms from a peak of US\$1,590 million in 1996. About 80 percent% of these resources are absorbed by the roads sector, most of which is undertaken at the central government level. Almost half of the budget of the national roads agency is absorbed by emergency works and payment of traffic guarantees under first generation toll road contracts, leaving US\$24,000 per kilometer for maintenance plus rehabilitation of the national road network. At the sub-national level, there is huge variation (of ten 10 to one1) in the amount devoted to road maintenance across different departments. However, the average value of US\$2,000 per kilometer per year is well below the prudent benchmark of US\$10,000 per year for preventive maintenance of paved and unpaved roads, storing-up major liabilities for rehabilitation.

b. Private Finance in Infrastructure

Colombia has succeeded in attracting US\$14.5 billion of private investment in infrastructure; half of it from international investors. Green field projects and concessions have played a more important role than conventional asset sales. However, as mentioned earlier, private capital flows have declined substantially following the loss of investment grade in 1998. Investors express serious concerns about regulatory and judicial uncertainty, as well as the conflicts of interest inherent in the state's double role as regulator and service provider. They remain nevertheless optimistic about the future, and see a growing role for bonds (as opposed to bank debt) as a means of financing infrastructure projects.

In the process, the country has accumulated a diverse range of experiences with private participation across the infrastructure sectors. Private participation has been most intense in the energy sectors, and conspicuously absent in the telecommunications sector.

The government intends to regenerate private financing of infrastructure, although international investors will probably require some degree of credit enhancement. A list of US\$6.5 billion of green field projects identified as suitable for private participation was recently published. In addition, the government announced its new policy of zero tolerance towards failing public enterprises, and its intention to divest from a number of major public enterprises. Given Colombia's loss of investment grade rating, it seems likely that some degree of credit enhancement will be required to attract (particularly international) investors back into infrastructure projects. However, this does not imply a return to the generous guarantees of the early 1990s. A wide range of more sophisticated financial instruments is now available for targeting such enhancements towards the most critical elements of risk.

However, the exponential growth of pension deposits during the last decade offers a possible new source of long-term domestic financing for infrastructure projects. Colombian pension deposits reached US\$9 billion in 2003, and are will grow at a rate of US\$100 million per year into the medium term. However, harnessing such financing in a responsible manner will entail a number of significant reforms in the pension industry, including the offering of multiple funds with a range of risk—reward ratios, the establishment of specific limits for infrastructure investments, and the establishment of a more sophisticated risk-rating capability. The infrastructure sectors themselves will also need to take measures to make their offerings more appealing to retirement investors, including financial repackaging of securities to separate out the safer post-construction income stream, and to pool together securities across infrastructure sectors.

The overall balance between funding sources and investment needs varies enormously across and within the infrastructure sectors. While the telecommunications sector shows a substantial surplus of resources relative to investment requirements, the water and energy sectors present modest but manageable deficits, and the transport sector is woefully under-funded. Even for those utility sectors that are in overall balance, important differences exist across different market segments or groups of enterprises. In particular, generators affected by early 1990s Power Purchase Agreements, electricity distribution utilities outside the major urban areas, and some of the larger water utilities, present serious and persistent deficits preventing them from financing the investments that they need. In natural gas and mobile telephony, where investments are generally funded under a market paradigm, a significant step-up in capital expenditure will be required if plans to export natural gas and develop new mobile telephony networks are to be fulfilled. Moreover, the situation in the water and telecommunications sectors could rapidly deteriorate towards a deficit position, once the large and under-funded pension liabilities of public enterprises in both sectors, start to result in significant retirement claims.

(a) Electricity. Private participation in infrastructure has been concentrated in the energy sectors, where the bulk of the asset sales also occurred. Over the period during 1993/–01, there were US\$1.8 billion of asset sales (primarily in the generation sector) and a further US\$3.1 billion of capitalization (primarily in the distribution sector). Future private investment in thermal generation is jeopardized by the volatile regulatory environment.

Moreover, greater efforts are needed to prepare failing public distribution utilities for private sector participation.

(b) Natural gas. The private sector played a pivotal role in the rapid expansion of the natural gas market in Colombia, with 50 percent% of the new transportation network developed under BOMT contracts. In the distribution sector, existing utilities were sold off and green field concessions awarded for network development in newly served towns.

(c) Telecommunications. There were a number of unsuccessful attempts to privatize the major telecommunications operators in the 1990s, so that private participation is largely combined to mobile and value added services. Factors currently constraining further private participation are the complex regulatory environment described above, the high cost of licenses for new entry, and the difficulty of competing with major public incumbents.

(d) Water. By regional standards, Colombia has seen a significant amount of private participation in the water sector both through the creation of mixed enterprises in the larger cities, and increasingly via public—private partnerships in smaller cities. However, while private participation has helped to bring about significant improvements in utilities management, it has never proved to be a major source of investment finance.

(e) Transport. Colombia's major program of toll road concessions is now close to completion, having now covered just about all of the high traffic corridors. The “first generation” contracts secured investments of US\$1 billion but triggered US\$500 million of traffic guarantees. Subsequent contracts have substantially curtailed guarantees, limiting them to critical components of risk that cannot be readily transferred. A series of successful concessions for sea ports leveraged private investment of US\$600 million and resulted in major improvements in operational performance. Contract design and risk allocation improved significantly following costly guarantees provided in “first generation’ generation” contracts. Private participation in ports has been a major success, but concessions for railroads and airports have not yet delivered major results.

ANNEX 6: THE TAXATION OF BUSINESS AND CAPITAL INCOME IN COLOMBIA¹¹⁶

INTRODUCTION

Recent changes in the tax structure in Colombia have resulted in major changes in the taxation of capital income. These include the imposition of a ten percent corporate income tax surcharge resulting in an effective statutory tax rate of 38.5 percent, the enactment of partial expensing at a thirty 30 percent rate for business purchases of depreciable assets other than structures, and the assessment of a 0.3 percent wealth tax with the proceeds used to fight the ongoing war against the guerrillas. Businesses also now receive credits for value-added tax (VAT) on business purchases of capital equipment—as is entirely appropriate under a consumption-based VAT—but the present value of the credits is reduced because they are spread out over three years. Moreover, all of these provisions are scheduled to be eliminated over the next few years. In addition, the Colombian business tax system is fully indexed for inflation (with indexing for inventories recently reintroduced), so that tax burdens vary little with inflation. The Colombian income tax system is also largely integrated, with dividends received exempt at the individual level if corporate level tax is paid; however, capital gains taxation on a realization basis at the individual level (another recent tax change) results in a moderate amount of double taxation of capital income at the business and individual levels. Interest income is also taxed at the individual level.

This brief outline of the taxation of business and capital income in Colombia suggests that many factors, including a wide variety of tax provisions not yet considered, affect the final tax burden borne by such income.¹¹⁷ Indeed an obvious issue in assessing the current tax system as well as any future reforms is that, because there are so many tax provisions that interact in complex ways, it is difficult for policy makers to determine the net tax burden on business and capital income attributable to all these provisions. Fortunately, a now-standard public finance instrument—the “marginal effective tax rate” or METR—is a tool that can be used to quantify in a single measure the net effects on investment incentives of all of the provisions in a tax system that affect an investment in any particular asset or in any particular business subsector.¹¹⁸

This report provides a METR analysis of the Colombian tax system. The following section begins with an overview of the METR methodology that explains its advantages

¹¹⁶ This annex was written by George R. Zodrow, Professor of Economics and Rice Scholar, Baker Institute for Public Policy, Rice University, Houston, Texas, USA.

¹¹⁷ In addition, several Colombian taxes are not considered in this analysis which focuses on the income, wealth and value-added taxation of business purchases of capital assets; these include the bank debit tax and local taxes on property and industry and commerce.

¹¹⁸ For an earlier analysis of the marginal effective tax rates applied to business and capital income in Colombia in the late 1980s, see McLure, Mutti, Thuronyi and Zodrow (1990). McLure and Zodrow (1997) provide an overview of the history of tax reform in Colombia, and Echavarría and Zodrow (forthcoming) discuss the effects of business income taxation on foreign direct investment in Colombia.

and disadvantages in characterizing the tax treatment of business and capital income under a tax system. Section III describes how the tax system in Colombia is modeled for purposes of the METR calculations, including a description of the main features of the current tax system, the capital stock weights used to calculate METRs on typical investments in fifteen 15 business subsectors, and some additional assumptions that must be made to conduct the analysis. Section IV provides and interprets the results of the analysis, first for investments in five types of capital assets and then for typical investments in the fifteen 15 different business subsectors. The final section summarizes the results and comments briefly on some potential tax reforms that might be appropriate for Colombia.

AN OVERVIEW OF THE METR METHODOLOGY

General Discussion

The concept of a marginal effective tax rate was created to analyze in a single measure of the tax burden on business and capital income, which is affected by a large number of provisions of the business and individual income tax systems, as well as by features of any property and wealth taxes, indirect transactions taxes including value-added taxes applied to capital purchases, import duties, and gross receipts taxes, and any special investment incentives that affect the incentives to invest. METR analysis is based on the standard neoclassical model of investment in which the level of investment is assumed to be a function of the “cost of capital” faced by a firm—the minimum or “hurdle” rate of return that an investment must earn to be profitable—and an assumption that has been confirmed by the most recent empirical evidence on this issue (Gordon and Hines, 2002). METR analysts, such as King and Fullerton (1984), Boadway, Bruce and Mintz (1984) and many others, have taken the basic neoclassical model and modified it to take into account the net effect of all the provisions of a tax system on the cost of capital to the firm. The primary goal of an METR analysis is thus to describe this net effect of a tax system on investment incentives in a straightforward and intuitively appealing form.

The METR terminology naturally provides some insight into the nature of this tool. A METR is *marginal* because it is based on an analysis of a prospective incremental investment—one that just breaks even, with its after-tax cost equal to its after-tax returns.¹¹⁹ It calculates the *effective* tax burden in that it captures the net effects of all the provisions of the tax system, rather than focusing on a single characteristic such as the maximum statutory corporate tax rate. And it is a *tax rate* in that it is defined as the difference between the gross of tax and net of tax returns to an investment—the “tax wedge” between gross and net returns created by the tax system—expressed as a percentage of the gross return.

The calculation of a METR requires careful specification of the characteristics of an investment in a specific asset or in a specific business sector, including the time path of its returns, the rate of economic depreciation of the asset and the length of its life, how

¹¹⁹ METR analysis is thus not well suited to analyzing tax effects on investments that generate above-normal returns.

the asset is financed, the economic environment in which it occurs, including the inflation rate, interest rates, and returns to equity, and all of the features of the current or proposed tax system that affect both the after-tax returns and the after-tax costs attributable to the investment, including all tax depreciation allowances, investment credits and allowances, interest deductions, special exemptions, and so forth, allowed under the income tax as well as any other taxes that impinge on investment decisions. Given this information, the analysis calculates the effective tax rate on a marginal or breakeven investment under the assumptions of profit maximization by the firm, competitive markets, and perfect certainty (for example, e.g., with respect to future returns and inflation rates).

Several additional assumptions underlying the METR approach should be noted. For example, METRs assume that firms are profitable, so that if the effective tax rate on an investment is negative (it is subsidized at the margin), the resulting losses can be used currently to offset other income. METR calculations are typically static; that is, they usually assume that the tax system in place at the time of investment remains unchanged for the life of the investment. Since the analysis typically assumes that assets depreciate at a constant rate but last forever, strictly speaking this implies that the analysis assumes the tax system remains fixed forever.¹²⁰ In addition, the calculation of METRs is partial equilibrium in nature. Thus, some rate of return in the economy must be taken as fixed; in the context of a small open economy such as that of Colombia, it is natural to take as fixed an interest rate that is determined in international capital markets. The return to equity, inclusive of an equity premium, can also be treated as determined in international markets. An implication of these partial equilibrium assumptions is that METR analysis cannot be used to analyze the shifting of business taxes to consumers or workers that might occur with market adjustments in the context of a general equilibrium model of the economy. Instead, the analysis implicitly reflects the rather simplistic assumptions regarding tax incidence implied by the assumption of a fixed rate of return after corporate-level taxes—that gross returns increase by enough to offset all business level taxes and that personal level taxes on capital income are borne by the owners of those assets—and that taxes on labor are borne by labor and general consumption taxes are borne by consumers. Accordingly, to the extent that these incidence assumptions are incorrect, reported METRs levels and differentials may be somewhat misleading. METRs also typically do not take into account, or take into account in a fairly ad hoc way, issues of tax administration, compliance and evasion, as they describe the tax system as it would operate if it were effectively administered and enforced.¹²¹

Finally, as noted above, a METR is defined as the tax wedge between the gross of tax and net of tax returns earned by a marginal investment, expressed as a percentage of the gross return. (The “gross” and “net” terminology refers to returns before and after taxes; both types of returns are defined net of actual economic depreciation.) The net return can

¹²⁰ The typical METR analysis also assumes that the inflation rate remains constant forever. However, since the Colombian tax system is fully indexed for inflation, the METRs in this analysis are assumed to be independent of the inflation rate.

¹²¹ Note also that since METRs are calculated for marginal investments, they are not a good indicator of the tax revenues that are raised from taxing capital income, which depend heavily on the taxation of inframarginal and other investments that earn above-normal returns as well as existing investments.

be measured at the company or “entity” level, in which case only entity level taxes (including withholding taxes) are considered. Such calculations are sometimes referred to as “open economy” METRs, since the taxation of saving at the level of the saver is ignored, so that such an METR reflects the Colombian tax burden faced by a foreign multinational contemplating foreign direct investment in Colombia. Alternatively, the net return can be measured at the level of the “saver” or provider of funds; in this case, the calculation includes taxation at the individual level. Such calculations are sometimes referred to as “closed economy” METRs since the source of investment funds is assumed to be domestic savers. Since Colombia closely approximates a small open economy, the report will report METRs calculated at the firm level, including, in some cases, withholding taxes on repatriations of funds from Colombian subsidiaries to their foreign parents. However, since the taxation of domestically financed investment is also of concern, the analysis will also consider METRs that include both firm and individual level taxes.

The basic concept of a METR can be illustrated with the following simple example. Suppose a business makes a marginal investment in a capital asset that just breaks even taking into account all taxes in the system, and earns a return of 10 percent net of depreciation but before any taxes. Suppose further that, after accounting for all taxes, the net real return received by the firm and paid to its investors is 7 percent. In this case, the METR on the investment is 30 percent:

$$\text{METR} = ([\text{return net of depreciation and before taxes}] - [\text{return net of depreciation and after taxes which is paid out to investors}]) / [\text{return net of depreciation and before taxes}].$$

$$0.3 = (0.10 - 0.07) / 0.10.$$

Issues Illuminated by METR Analysis

The primary applications of METR analysis are twofold. First, the results of an METR analysis show the net effect of all components of the tax system on the *level* of the taxation of capital income generated by marginal investments in the various types of assets defined by the tax code. For example, an METR can be calculated to measure the actual tax burden on a prospective investment in a particular type of asset attributable to the existing (or any proposed) tax system. Moreover, appropriately weighted averages of the METRs on investments on all of the types of assets defined by the tax code can be constructed to provide estimates of the METRs on specific investments or a measure of the overall level of taxation in the economy. METRs thus show how the tax system distorts investment decisions (and, if individual level taxes are considered, saving decisions as well) and thereby introduces inefficiencies or “excess burdens” into the economy.¹²²

¹²² It should be noted that “distortions” of investment decisions must be measured relative to some benchmark. In general, a tax system would not distort investment decisions only if the METR were zero on all types of investment; this would occur, for example, under an ideal consumption-based tax (Zodrow and McLure 1991). In this case, METR differentials—and the associated distortions of investment decisions—would be measured relative to a benchmark tax rate of zero. However, under an income-based tax, the

Second, by considering a variety of investments that differ in asset composition, method of finance, investor or economic circumstances, METR analysis provides an indicator of the tax differentials that arise across different types of investments—that is, it shows how taxes affect the *composition* of investment. In particular, a METR analysis shows how the tax system results in a variety of distortions of investment decisions, thus creating additional efficiency losses, beyond those associated with simply taxing capital income at a uniform effective tax rate. The most commonly cited distortion is across types of assets, as differential taxation of different types of assets induces businesses to invest too heavily in tax-advantaged assets and too little in tax-disadvantaged assets. This of course translates into distortions across business subsectors—analyzed in detail in this report—as the tax system favors subsectors with production processes that use tax-favored assets intensively and penalizes businesses that use relatively heavily taxed assets intensively. The following subsections discuss these distortions and a wide variety of others, all of which can be analyzed with an appropriately designed METR analysis.

Distortions of the Level of Investment and Saving

METRs provide an indication of the overall level of taxation of various forms of capital income and thus indicate how the tax system affects investment and saving decisions. Because they consider many aspects of the tax system, METR analyses often give very different results regarding the effects of the tax system on investment decisions than would a simple examination of statutory tax rates (or special preferences) in isolation. Effective tax rates that are far above or below the statutory rate indicate potential areas for reform, as relatively high positive rates act as a deterrent to investment, while negative METRs suggest that the tax system stimulates investments that are socially undesirable because they earn a return lower than the opportunity cost of funds.

Distortions of the Allocation of Investment

METRs are also very useful in identifying the extent to which the tax system distorts investment allocation decisions by asset and by business sector (given the benchmark level of taxation of capital income in the tax system). Apart from a variety of standard

benchmark level of taxation of capital income is typically the statutory income tax rate. In this case, the distortion of saving/investment decisions implied by the taxation of capital income at the statutory rate is in a sense taken as given, and the distortions attributable to tax differentials are measured relative to the statutory income tax rate. In addition, note that this discussion assumes that efficiency requires a tax system that is neutral across assets. This need not be true. For example, tax differentials may be desirable to correct for negative production externalities (for example, pollution) or to offset other inefficiencies in the economy (for example, inefficiencies in the taxation of labor income or due to protective tariffs). These complications are ignored in the analysis, as they are best addressed with specific tax policies as needed (for example, taxes on effluents or reform of the system of labor income taxation) rather than through the ordinary income tax system applied to capital income; for further discussion, see Gugl and Zodrow (2004). Finally, taxes on capital income are not distortionary if they are offset by the benefits of public services received. Since the taxes analyzed in this report are not likely to be related to the benefits of public services received, this factor is not considered explicitly in the analysis. However, it should be remembered that it is always desirable to replace general taxes on capital, such as the corporate profits tax or customs duties, with taxes that are explicitly related to government benefits received, such as user charges and fees.

market failure arguments (e.g. for example, externalities or the existence of other tax-induced distortions), most public finance economists would argue that competitive markets are generally efficient in allocating resources. The implication of this view is that tax differentials—at least those that are not specifically designed to offset market failures or charge firms for the benefits of public services received—are generally undesirable because the associated distortions of investment allocation decisions result in reduced productivity of investment; that is, a disproportionate amount of capital is allocated to those sectors and assets in which tax treatment is relatively favorable rather than to those sectors and assets where investment would be most productive in the sense of generating output valued by consumers. In other words, the tax system should generally be characterized by “economic neutrality” or a “level playing field” with respect to investment allocation decisions, or METRs that do not vary according to the type of asset or business sector.

In addition, METR analysis provides an estimate of the extent to which certain types of preferential treatment confer an advantage to the tax-favored activity. Indeed, METR analysis can be used to determine whether the effects of “preferential” treatment of certain forms of investment are in fact consistent with the intent underlying such treatment. For example, in some cases such as certain types of tax holidays, supposedly preferential treatment results in METRs that are actually higher than those under the ordinary income tax system. Similarly, a preferentially low tax rate in a subsector can have the effect of increasing METRs if depreciation deductions and other investment allowances under the regular tax system are sufficiently generous.

Method of Finance

METR analysis is useful in determining whether the tax system favors one form of finance over another. Under a market-based approach to tax reform, such distortions are also undesirable as they imply a tax-induced alteration of the allocation of risk-bearing in the economy. For example, a tax bias toward debt finance may increase the overall indebtedness of firms and thus increase the likelihood that costly bankruptcies—or perhaps even more costly government bailouts—will be incurred during an economic downturn.

In addition, tax differentials across methods of finance may discriminate against certain types of firms. For example, a tax system that results in an unusually high METR on new share issues will discourage investments by firms that tend to use new issue finance to a disproportionate extent, including new enterprises that have little retained earnings and limited access to debt finance. Again, most public finance economists would argue that neutrality with respect to firm financing decisions is a desirable property of tax system.

Choice of Organizational Form

METR analysis is also often used to identify the extent to which the tax system distorts decisions regarding the choice of organizational form. In most countries, firms may be organized as corporations subject to the corporate income tax or non-corporate entities that are taxed on a “pass pass-through” basis, with business income attributed to the

individual owners and taxed only under the personal income tax. Economic neutrality with respect to decisions regarding organizational form is also generally desirable, so that firms may select the form of business organization that best meets their needs without worrying about differential tax consequences.¹²³ However, since the business tax in Colombia applies to virtually all businesses, this issue is largely irrelevant in Colombia.

Effects of Inflation

In many countries, another important benefit of METR calculations is that they demonstrate how tax rate differentials, as well as the level of business and capital income taxation, vary with the rate of inflation. However, since the Colombian tax system is fully indexed for inflation, this issue also does not arise for the calculations presented in this study.

MODELING THE TAX SYSTEM IN COLOMBIA

This section describes how the taxation of business and capital income in Colombia is modeled for purposes of the METR calculations. It begins with an overview of the current tax system in Colombia, focusing solely on national taxes on business and capital income.¹²⁴ The description is not meant to be comprehensive; rather, the focus is on the tax provisions that are relevant to the calculation of the METRs. In particular, this analysis requires details on the tax treatment of investment in the five major capital assets defined by the tax system—(a1) inventories; (b2) land; (3c) structures; (4d) machinery, equipment, and furniture; and (e5) computer equipment and vehicles—which are provided below. The discussion then turns to a description of the capital stock weights used to calculate the business subsector METRs, as well as some additional assumptions required to conduct the analysis.

THE BUSINESS INCOME TAX

Although the business income tax in Colombia is commonly referred to as the corporate income tax, it is broader in its coverage than most such taxes, as it applies to all business entities including limited liability companies and partnerships. The details of the business income tax are as follows.

Tax Rate

The standard tax rate under the corporate income tax is 35 percent. However, a temporary ten 10 percent surtax, first enacted in *Ley 788* of 2002 and then extended through 2007 in *Ley 863* enacted in 2003, increases the effective statutory rate to 38.5 percent. There is also a preferential business tax rate, with a ten 10 percent surtax, of 22 percent; this rate applies to companies in activities related to health, sports, formal

¹²³ As in the case of resource allocation, there may be externalities associated with the choice of organizational form; for example, tax enforcement may be less costly for firms that are publicly held corporations.

¹²⁴ Municipal taxes on property and on gross receipts (the tax on industry and commerce) are thus ignored.

education, culture, scientific/technological/ecological research, environmental protection, or social development, as long as they reinvest all profits in those activities. Finally, a variety of activities, such as publishing firms, liquor producers, livestock producers, firms investing in “privileged” or tax-free zones, certain types of cooperatives, and public service enterprises (water, sewer

age, electricity, telephones, and gas), are exempt from tax and are not considered in the analysis (see World Bank 2004).¹²⁵

Inflation Adjustment

Colombia has an extensive system of full inflation indexation, using a balance sheet adjustment approach similar to that utilized used by Chile.¹²⁶ Accordingly, the analysis ignores any residual effects of inflation on the METRs, which are all calculated in real terms. Such an approach seems reasonable, since the system applies to all business assets¹²⁷ and the current inflation rate is quite low (approximately 5 to -6 percent), so that any errors in inflation adjustment would have relatively small effects on the calculated METRs.

Treatment of Non-Depreciable and Depreciable Assets

The income tax system defines five different classes of assets for tax purposes. The tax treatment of these assets is as follows.

Inventories

The cost of inventories is generally calculated using the “First-In, First-Out” or FIFO method, with the value of inventories adjusted for inflation. Such treatment implies that the cost of goods sold will reflect the original value, adjusted for inflation since the time of purchase, and is appropriate under an income tax. Purchases of inventories are not eligible for the special 30 percent partial expensing deduction—described below—that was enacted as an investment incentive in 2003, and is scheduled to expire in 2007.

Land

Like inventories, land is not a depreciable asset, and therefore does not receive any deductions for depreciation under an income tax. Purchases of land are also not eligible for the special 30 percent partial expensing deduction.

¹²⁵ See World Bank (2004).

¹²⁶ See McLure, Mutti, Thuronyi, and Zodrow (1990, Chapter 7) for a general discussion of inflation adjustment issues under an income tax with an application to Colombia.

¹²⁷ Until recently, inventories were not adjusted for inflation, but this omission was rectified in the 2003 reform.

Structures

Structures are depreciated straight line over 20 years, with the inflation adjustment system implying that such deductions are indexed for inflation. Purchases of structures are also not eligible for the special 30 percent partial expensing deduction.¹²⁸

Machinery, Equipment, and Furniture

Purchases of machinery, equipment and furniture (including office equipment) are depreciated straight line over ten years, adjusted for inflation.¹²⁹ In addition, investment in these assets benefits from a special “partial expensing” deduction equal to 30 percent of the price of the asset. This investment incentive is inappropriately designed to be overly generous because the tax basis of the asset is not reduced to reflect partial expensing, implying that investors effectively get to deduct 130 percent of the cost of the asset, with a deduction equal to 40 percent of the purchase price in the first year, and 10 percent in each of the subsequent nine years.¹³⁰

Computer Equipment and Vehicles

Purchases of computer equipment and vehicles are depreciated straight line over five years, adjusted for inflation. In addition, investment in these assets also benefits from the special “partial expensing” deduction equal to 30 percent of the price of the asset, with no basis adjustment. This implies that investors effectively get to deduct 130 percent of the cost of the asset, with a deduction equal to 50 percent of the purchase price in the first year, and 20 percent in each of the subsequent four years.

Withholding Taxes

Interest expense is fully deductible, but generally subject to withholding at a 7 percent rate. Dividends are not deductible, and dividends paid abroad are also subject to withholding at a 7 percent rate.

THE WEALTH TAX

A temporary wealth tax, with the proceeds used to finance the war against the guerrillas, was enacted in 2003 and is currently in force through 2006. The tax is assessed at a rate of 0.3 percent on gross wealth (with no deduction for debt), and is assumed to apply to all

¹²⁸ It appears that some purchases of structures have received this deduction, but it is not allowed under the tax law.

¹²⁹ In addition, accelerated depreciation is provided in the form of a shift differential for asset that are used for multiple shifts. Assuming that these shift differentials roughly reflect actual increases in the economic depreciation of the affected assets, they should have relatively minor effects on METRs and are ignored in the analysis.

¹³⁰ As described in Zodrow (2003b), partial expensing should be designed so that some fraction α of the purchase price of the asset is expensed and the remaining fraction $(1 - \alpha)$ receives deductions for real economic depreciation. As will be shown below, allowing the expensed fraction to be deducted twice is far too generous. In addition, Zodrow (2003b) notes that the revenue cost of partial expensing can be reduced by having it apply only to incremental investments, that is investment above some benchmark level.

of the assets considered in the calculations.¹³¹ The wealth tax is not deductible against the income tax.¹³²

THE VALUE VALUE-ADDED TAX

In principle, the value-added tax should be irrelevant for an METR calculation, since VAT paid on purchases of capital assets (inventories and depreciable assets other than structures) should be fully creditable. However, the Colombian VAT requires that such credits be spread out over three years—with a 50 percent credit in the first year and 25 percent credits in the subsequent two years. (Imported capital goods are an exception, as they are zero-rated, so there is no VAT to credit.) Such treatment reduces the present value of the credit, implying that a reduced value-added tax is effectively imposed on the purchase of the capital asset. Specifically, the three-year credit implies that the effective value-added tax is equal to $t[1-0.5-0.25(1+r^f)^{-1}-0.25(1+r^f)^{-2}]$, where t is the statutory rate and r^f is the firm's discount rate. The METR results calculate separately the effects of delayed crediting for the VAT, for the cases in which the standard rate of 16 percent applies as well as for the preferential rate of 7 percent, which applies to certain goods, especially some machinery and equipment purchased by the agriculture and food processing industries. Since even delayed crediting of the VAT is scheduled to expire in 2005, a separate set of calculations is performed for the case in which the VAT is not credited at all.

No additional import duties are imposed on business imports of capital assets.

CAPITAL INCOME TAXATION UNDER THE PERSONAL INCOME TAX

Colombia has an integrated business and personal income tax system, as dividends paid from earnings that are subject to the business tax are exempt from tax at the individual level. Capital gains are subject to tax at the individual level, at an effective average rate—according to statistics compiled by DIAN—of approximately 14 percent, twice the withholding rate of 7 percent applied to some gains. However, the effective annual accrual tax rate on capital gains is much lower, reflecting deferral of tax until realization of gains and the absence of taxation at death. Deferral is usually estimated to reduce the effective tax rate by one-half, with a roughly similar reduction for the absence of taxation of death. The effective annual accrual tax rate on capital gains in Colombia is thus very low (e.g. for example, on the order of 3 to 4 percent), and since dividends are untaxed, the individual level tax on equity income is even lower, presumably on the order of 2 to 3 percent. Accordingly, individual level taxation of equity income is ignored in the METR

¹³¹ The wealth tax applies only to firms with assets in excess of COP3,000,000.

¹³² The METR calculations do not consider the wealth-based presumptive income tax, which is primarily an anti-evasion device. Note, however, that since the Colombian income tax provides for a presumptive return of six percent on net wealth (gross wealth minus debt), the implied effective tax rate can be quite high under this regime for equity-financed investments. Specifically, under the presumptive income tax regime, the effective tax rate is zero for a debt-financed investment (since tax is based on net wealth), and equals the ratio of the presumptive rate of return (six percent) to the actual rate of return for an equity-financed investment.

calculations; if considered, it would simply add approximately 2 to -3 percentage points to the reported METRs.

On the other hand, dividends paid abroad are subject to a withholding tax at a 7 percent rate. This withholding tax is included in the appropriate METR calculations.

Interest paid is also subject to withholding, typically also at a 7 percent rate. Interest income is subject to tax at the personal level, although apparently fairly little interest income is actually reported. The calculations consider the cases in which interest income is taxed only at the 7 percent withholding rate and at the 14 percent rate characteristic of capital income in the form of both interest and capital gains.

THE FINANCIAL TRANSACTIONS OR BANK DEBIT TAX

Colombia also has a financial transactions or bank debit tax that was introduced in 1998 at a rate of 0.2 percent, and increased in 2003 to a rate of 0.4 percent through 2007. Since the METR calculations do not consider financial intermediation, the financial transactions tax is not included in the calculations. However, it should be noted that although the use of taxes on various financial transactions is spreading, especially in Latin America, these taxes are generally perceived by public finance economists as highly undesirable. Such taxes increase the cost of capital and do so in an erratic manner with differential cascading effects across industries, encourage financial disintermediation, distort production decisions since they apply only to certain transactions and to intermediate as well as final transactions, and encourage a wide variety of wasteful avoidance and evasion activities designed to minimize the number of transactions subject to tax. For these reasons, serious consideration should be given to eliminating the financial transactions or bank debit tax.¹³³

ASSET WEIGHTS FOR SUBSECTOR METR CALCULATIONS

Finally, METRs can also be calculated for typical investments in various business subsectors in Colombia as weighted averages of the five asset METRs, where the weights are estimates of the fraction of the capital stock in the subsector accounted for by each asset. The weights used in the business subsector METR calculations are provided in Table A6.1. These were derived using income tax data—required for calculating the wealth-based presumptive income tax—on gross capital stocks (before deductions for debt) for the fifteen 15 business subsectors listed in the table. Data for 2003 were used to estimate the capital stock weights for inventories and fixed assets, while more disaggregated data for 1997 were used to split the weight for fixed assets into weights for land, structures and “other depreciable assets”. Unfortunately, no data are available to split the weight for “other depreciable assets” into the required categories “machinery, equipment and furniture” and “computers and vehicles.” This split was simply assumed to be (1) 90 to 10 percent in the case of the mining and chemicals subsectors, (2) 70 to 30 percent in the case of the cars and accessories, and hotels and restaurants subsectors, (3)

¹³³ See Arbeláez, Burman, and Zuluaga (forthcoming) for a highly critical analysis of the financial transactions or bank debit tax in Colombia.

60 to 40 percent in the large commerce, small commerce, and transportation, storage and communication subsector, (4) 50 to 50 percent in the financial services, other services, and sports and leisure subsectors, and (5) 80 to 20 percent in all other subsectors. The resulting business subsector METRs should thus clearly be viewed as tentative. Nevertheless, since the asset METRs for “machinery, equipment and furniture” and “computers and vehicles” in general do not differ greatly, the errors introduced by this approximation should not be significant.

ADDITIONAL ASSUMPTIONS MADE IN THE METR CALCULATIONS

Several additional assumptions must be made to conduct the METR analysis. Economic depreciation is assumed to be exponential for all depreciable assets (which are assumed to last forever) at rates that reflect recent estimates of economic depreciation in the United States.¹³⁴ The assumed rates of economic depreciation used are 3 percent for structures, 14 percent for machinery and equipment and furniture, and 30 percent for computers and vehicles. The real interest rate for debt-financed investment is assumed to be 4 percent, with an equity premium for equity-financed investment of 5 percent.¹³⁵ The calculations consider a wide variety of financing options, with the debt share of investment finance ranging from zero to 60 percent.

RESULTS OF THE METR CALCULATIONS FOR COLOMBIA

This section presents METRs for the current tax system in Colombia, and analyzes its economic effects. Results are presented for the five capital assets defined by the tax system (inventories, land, structures, machinery, equipment, and furniture ([including office equipment]), and computers and vehicles). Results are also presented for the fifteen 15 business subsectors listed in Table A6.1, calculated as weighted averages of the asset METRs, using the weights specified in that table.

The results of the METR calculations under current law are most clearly understood if several preliminary calculations that highlight specific features of the tax system are first analyzed, with additional features added sequentially. To focus initially on the business income tax, suppose that all other taxes in the Colombian tax system, including withholding taxes on interest and dividends, the wealth tax, and the value-added tax are zero. To abstract initially from the well-known tax advantage of full interest deductibility with debt finance, suppose further that all investments are entirely equity financed. Finally, to isolate the effects of the deductions for depreciation from those of the special partial expensing allowance, suppose initially that the latter is zero as well.

Under these circumstances, the METRs associated with the current business income tax are given in the first column of Table A6.2. The effective tax rate on investment in inventories and land, which do not depreciate and thus receive no depreciation

¹³⁴ Although these figures are plausible, they are nevertheless quite tentative since there are no data on actual depreciation rates in Colombia.

¹³⁵ As noted above, with a fully indexed income tax system, the inflation rate, currently 5.5 percent in Colombia, does not enter into the METR calculations.

allowances, is simply the statutory tax rate inclusive of the 10 percent surtax, or 38.5 percent. By comparison, the METRs on the remaining assets vary between 29.2 to 32.5 percent, reflecting in each case the extent to which the present value of depreciation allowances over the life of the asset exceed the present value of actual economic depreciation, as implied by the assumed economic depreciation rates. (Recall that, as noted by Zodrow (2002), depreciation allowances in Colombia are fairly generous because they were not adjusted when inflation indexing was introduced.) These results indicate that tax system favors considerably investment in depreciable assets over investment in inventories and land, but that there is little tax distortion across the three depreciable assets. These effects are also reflected in the business subsector METRs, which vary from 31.1 to 36.7 percent, with relatively lower effective tax rates in those sectors that use depreciable assets relatively intensively; these include hotels and restaurants, transport, storage and communications, financial and other services, sports and leisure, and electricity, gas and steam. Since the range of business subsector METRs is fairly narrow, however, tax distortion of the allocation of investment across subsectors is fairly limited.

The next three columns of Table A6.2 demonstrate that, like most corporate income tax systems that allow deductions for interest expense but not for the payment of dividends, the Colombian business income tax is biased toward debt finance. Note, however, that this problem is less critical in Colombia than in many other countries, since dividends are not taxed at the individual level as long as tax is paid on the distributions at the firm level. Nevertheless, as long as interest income at the individual level is taxed at a lower rate (in this case, zero) than the business tax rate at which interest expense is deducted, the tax system will favor debt finance. The magnitude of this effect is gauged by examining the changes in METRs as the debt-capital ratio, denoted as β , increases from zero to 60 percent in 20 percent increments. For example, the asset METRs range from 29.2 to 38.5 percent with no debt, but decline uniformly as β increases, ranging from 12.3 to 27.3 percent when the debt-capital ratio is 60 percent. Note also that the variation in METRs across assets increases as the debt-capital ratio increases, increasing the extent to which the tax system distorts the allocation of investment across assets. However, this effect is muted for the variation in METRs across business subsectors.

The following two tables present variations on these themes. First, Table A6.2a considers the same case as Table A6.2, but increases the interest withholding tax rate (or the tax rate applied to interest income at the individual level) to the statutory business income tax rate of 38.5 percent. This eliminated completely the advantage of deducting interest expense at a tax rate higher than the rate applied to interest income. As a result, both the asset and the business subsector METRs show little variation with the debt-capital ratio, declining only slightly. Thus, increasing the withholding tax rate in this fashion would eliminate the tax bias favoring debt finance under the Colombian business income tax.

However, the results in Table A6.2a are still characterized by METR differentials across assets and, to a lesser extent, across business sectors, with investment in depreciable assets favored over investment in inventories and land. This feature of the tax system could be eliminated by reducing depreciation allowances—that is, by increasing the lives

over which straight line depreciation deductions are taken. Specifically, suppose that depreciable lives were increased, from 20 years to 50 years for structures, from 10 years to 14 years for machinery, equipment and furniture, and from 5 years to 7 years for computers and vehicles. Under these circumstances, the tax system would be virtually neutral across all types of investments, as the present value of straight line deductions under the tax system would approximately equal the present value of the appropriate deductions under the assumed exponential depreciation rates for each type of asset. This is shown in Table A6.2b, which assumes the same tax structure as the previous table, including interest withholding at a 38.5 percent rate, but reduces the deductions for tax depreciation as described above. In this case, all of the asset and business subsector METRs are very close to the statutory rate of 38.5 percent (and are nearly independent of the debt-capital ratio, as in the case of the results presented in Table A6.2a).

Of course, the actual interest withholding rate in Colombia of 7 percent is far below the statutory business income tax rate of 38.5 percent. The results in Table A6.3 show that the current withholding rate has only a modest effect in limiting the tax advantage of debt finance. For example, with 60 percent debt finance, the METRs with withholding at the 7 percent rate are only approximately 2 percentage points higher than with no withholding at all. In addition, interest income that is reported in Colombia is taxed at an average rate of 14 percent. The results in Table A6.3a show that such individual level taxation, modeled as an increase in the withholding rate to 14 percent, further mitigates the tax advantage of debt finance by increasing the asset METRs by approximately another 2 percentage points. Nevertheless, the tax advantage of debt finance still exists at such withholding rates, as asset METRs range from 17.2 to 31.4 percent with withholding at a 14 percent rate, relative to a range of 25.8 to 38.5 percent with withholding at a 38.5 percent rate. Finally, investments by foreigners are also subject to a withholding tax of 7 percent when funds are repatriated by a Colombian subsidiary to its foreign parent. The results in Table A6.3b add such a dividend withholding tax to the basic tax structure, on the assumption that earnings are immediately repatriated to the parent. In this case, the METRs on equity-financed increase, reflecting withholding on equity income. For example, with all equity finance, the addition of dividend withholding increases the range of METRs from 29.2 to 38.5 percent to 34.2 to 42.8 percent, with smaller increases for the cases of partial equity financing. These results, however, presumably overstate actual METRs on equity-financed investment with dividend withholding in most cases, since such taxes may be deferred for a long period by retaining them within the company.

The effects of adding partial expensing, which applies to all depreciable assets other than structures, are shown in Table A6.4. The effects of partial expensing are dramatic, both because the fraction expensed is relatively large at 30 percent, but especially because tax basis for depreciation purposes is not adjusted for partial expensing, which implies that firms are effectively able to write -off 130 percent of the cost of the affected assets over their lives. As noted previously, this investment incentive is thus inappropriately designed and is far too generous, especially for the short-lived category of computers and vehicles, where 50 percent of the purchase price of the asset is written off in the first year of the investment, with an additional 80 percent written off over the next four years. As a result, the METRs under the business income tax, including withholding on interest payments at a 7 percent rate and assuming all equity finance, fall from 32.5 percent to 0.1

percent for investment in machinery, equipment and furniture, and from 29.2 percent to a subsidy of 67 percent (an METR of -67 percent) for investment in computers and vehicles (compare Tables A6.3 and A6.4). Thus, partial expensing with no basis adjustment eliminates all tax liability in the former case and creates a huge investment subsidy in the second case, even without the benefits of debt finance. These effects naturally imply huge tax differentials across assets, which range from -67 to 38.5 percent, and similar though more muted differentials across business subsectors, which range from -12.3 to 31 percent.

Moreover, the decline in METRs is even more dramatic if part of the investment is debt-financed, with the METR falling to -54.2 percent for investment in machinery, equipment and furniture with 60 percent debt finance and to a subsidy greater than 1,000 percent for investment in computers and vehicles. (These results are not particularly meaningful, as the METR concept is not well suited to analyzing subsidies; with sufficiently large subsidies, METRs become arbitrarily large as the denominator of the effective tax rate, the gross return required, becomes very small.) The differentials of METRs across investment in different assets and different business subsectors are similarly huge, indicating huge distortions of the allocation of investment.

These somewhat bizarre results, especially for the cases with large levels of debt finance, are due almost entirely to the lack of basis adjustment for partial expensing. This is illustrated in Table A6.5, which provides results for the same case as in the previous table, but with a basis adjustment so that firms receive depreciation deductions for only 70 percent of the purchase price of machinery, equipment and furniture and for computers and vehicles, since 30 percent of such investment is immediately expensed. In this case, METRs fall for the assets that receive partial expensing, but far more modestly. For example, with all equity finance, the METR falls from 32.5 percent without partial expensing to 0.1 percent for partial expensing with basis adjustment for investment in machinery, equipment and furniture, and from 29.2 percent to 22.4 percent for investment in computers and vehicles. Although granting partial expensing only for these assets still results in significant METR differential across assets and business subsectors, the variation in effective tax rates is far less than without basis adjustment. For example, with all equity finance, asset METRs vary from 22.4 to 38.5 percent and business subsector METRs vary from 28.1 to 35.8 percent. METRs still fall as debt finance increases, but again not as wildly as without basis adjustment. For example, with 60 percent debt finance, asset METRs range from 10.2 to 29.3 percent and business subsector METRs range from 13.7 to 25.7 percent. Thus, partial expensing with basis adjustment results in lower but still positive METRs, and far narrower ranges—and thus much smaller distortions of the allocation of investment—across assets and business subsectors. These results demonstrate that a first priority for reform should be “fixing” the partial expensing investment incentive by adding a basis adjustment so that the purchase price of the asset is deducted only once, as described in Zodrow (2003b). Most of the following discussion assumes that such a reform is enacted, thus avoiding results with hugely negative METRs.

Consider next the effects of the temporary wealth tax, which is assessed at a rate of 0.3 percent and is not deductible against the business income tax. The results in Table A6.6

demonstrate that the wealth tax has a relatively minor effect on METRs. For example, with partial expensing with basis adjustment, interest withholding at a rate of 7 percent, and all equity finance, the addition of the wealth tax increases asset METRs from a range of 22.4 to 38.5 percent to a range of 25.5 to 40.5 percent. Moreover, the effects of the wealth tax only increase modestly as the extent of debt finance increases. For example, under the same circumstances but 60 percent debt finance, the addition of the wealth tax increases asset METRs from a range of 10.2 to 29.3 percent to a range of 16.4 to 33.3 percent.

The imposition on purchases of certain capital goods of the value-added tax with delayed crediting (a 50 percent credit in the first year, with 25 percent credits in each of the following two years) also has only a limited effect on METRs. This is demonstrated in Table A6.7 (compared with Table A6.5), which considers the business income tax with partial expensing with basis adjustment, interest withholding at a rate of 7 percent, and no wealth tax. With all equity finance, the imposition of the VAT at the standard rate of 16 percent with three-year crediting increases the affected assets by 0.6 to 2.6 percentage points. These effects show very little variation with the extent of debt finance. For example, with 60 percent debt finance, the imposition of the VAT with three-year crediting increases the affected assets by 0.6 to 2.6 percentage points by 0.4 to 2.7 percentage points.

However, that is not to say that imposition of the VAT on the purchases of certain capital assets would not dramatically increase METRs if it were not credited at all, as is currently scheduled to occur. Instead, the VAT, as a tax on the purchase price of a capital asset rather than on its net income, can have significant effects if it is not credited (as is appropriate for a consumption-based tax). The results in Table A6.7a (compared with Table A6.5) show this clearly, as the imposition of an uncredited VAT at a rate of 16 percent, in the case of partial expensing with a basis adjustment, interest withholding at a 7 percent rate, and no wealth tax, significantly affects the METRs, especially in the cases of debt finance. For example, with all equity finance, the uncredited VAT increases the METRs on the affected assets by from 8.5 to 28.3 percentage points. By comparison, with 60 percent debt finance, the uncredited VAT increases the METRs on the affected assets by from 9.8 to 42.5 percentage points. In addition, an uncredited VAT results in wide variations in METRs across assets and business sectors and thus large tax-induced distortions in the allocation investment. For example, asset METRs with an uncredited VAT vary from 29.5 to 50.7 percent with all equity finance, and from 14.8 to 52.7 percent with 60 percent debt finance. The variation in business subsector METRs is considerably more muted but still reflects some distortions of the allocation of investment. For example, subsector METRs with an uncredited VAT vary from 37.3 to 44.4 percent with all equity finance, and from 28.0 to 40.7 percent with 60 percent debt finance. Thus, another clear direction for the Colombian tax system is the delayed crediting of the VAT should not be allowed to expire and, indeed, consideration should eventually (when revenue needs are less pressing) be given to allowing the standard consumption tax treatment of full immediate crediting of all VAT paid on purchases of capital assets.

The previous discussion strongly suggests that the addition of the wealth tax and the VAT with three-year crediting is by no means important enough to offset the deleterious effects of partial expensing with no adjustment of basis; that is, the lack of basis adjustment under partial expensing cannot be justified as counteracting the disincentive effects of the wealth tax or the creditable VAT. This is illustrated in Table A6.8, which presents METRs for the current tax system in Colombia, including partial expensing with no basis adjustment, interest withholding at a 7 percent rate, a VAT at a 16 percent rate with three-year crediting, and the wealth tax at a 0.3 percent rate. These results indicate that, due to partial expensing with no basis adjustment, METRs are very low or negative on investments in the affected assets (machinery, equipment and furniture, and computers and vehicles) but are much higher on the other assets, especially non-depreciable land and inventories. As a result, the current tax system results in huge distortions across assets and smaller but still significant distortions across business subsectors. For example, asset METRs range from -44.8 to 41 percent for all equity-financed investments and from -412% to 31.7 percent for investments financed with 60 percent debt. By comparison, business subsector METRs range from -1.6 to 34.4 percent for all equity-financed investments and from -136 to -1.2 percent for investments financed with 60 percent debt. Such huge distortions and low tax rates (or subsidies) imply highly inefficient tax biases that result in serious capital misallocation, coupled with little in the way of revenue especially for investments with a significant fraction of debt finance.

Finally, a standard prescription for tax reform in Colombia (see Zodrow (2002) and World Bank (2004)), at least in the long run, is broadening the base of the business income tax coupled with reduction in the statutory rate. Such reforms have long been recommended on efficiency, equity and simplicity grounds, as they reduce tax-induced distortions in the economy, increase the uniformity of the tax burden on individuals and firms, and avoid the complexities associated with high rates and generous tax incentives. The implications of such a base-broadening rate-reducing reform are analyzed in Table A6.9. These results assume a reduction in the statutory rate to the 22 percent statutory rate currently applicable to only a small number of mostly quasi-public sector enterprises in Colombia, coupled with complete elimination of partial expensing. Asset METRs under this approach, including interest withholding at a 7 percent rate, the current wealth tax at a rate of 0.3 percent, and the VAT at a rate of 16 percent with three-year crediting, would range from 18.8 to 25.2 percent with all equity finance and 12.8 to 21.6 percent with 60 percent debt finance. Moreover, the variation in METRs would be even smaller for the business subsectors, where METRs would range from 20.8 to 24.0 percent with all equity financing, and from 16.0 to 20.0 percent with 60 percent debt finance. Thus, such a reform would result in relatively low overall average effective tax rates, and a relatively small dispersion about those average rates.

Furthermore, even this fairly narrow range of METRs could be further narrowed by reducing current deductions for depreciation as outlined above—that is, if the straight line depreciable lives of structures were increased to 50 years for structures, 14 years for machinery, equipment and furniture, and 7 years for computers and vehicles. The results for this case, with a 22 percent statutory rate, no partial expensing, interest withholding at a 7 percent rate, the current wealth tax at a rate of 0.3 percent, and the VAT at a rate of 16 percent with three-year crediting, are shown in Table A6.10. These results indicate that

such a reform would yield a tax system that would have virtually uniform rates across all assets and business subsectors at any given level of debt finance, less variation in METRs across methods of finance (since the difference in the rate at which interest is deducted and taxed is reduced), and a relatively low overall level of taxation, determined primarily by the statutory rate. For example, asset METRs would vary only from 24.5 to 26.1 percent with all equity finance, and from 20.5 to 21.6 percent with 60 percent debt finance. The variation in business subsector METRs would be virtually non-existent, with METRs ranging from 25.1 to 25.9 with all equity finance, and ranging from 21.0 to 21.4 with 60 percent debt finance. Such a reform is well worthy of consideration in Colombia.

CONCLUSION

Several conclusions can be drawn from the marginal effective tax rate (METR) analysis of the Colombian tax system presented in this report. First, as described in Zodrow (2002), depreciation deductions under the income tax are relatively generous, as they were not adjusted when the tax system was indexed for inflation in 1988. As a result, the METRs under the business income tax for all equity-financed investments, neglecting partial expensing and withholding taxes, range from 29.2 to 32.5 percent for investments in depreciable assets while they equal the statutory rate of 38.5 percent for investments in non-depreciable inventories and land. This implies a moderate degree of distortion of the allocation of investment across different types of assets. This range of asset METRs is, however, sufficiently narrow that the METRs on the various business subsectors do not vary greatly, ranging only from 31 to 37 percent.

Second, the business income tax system in Colombia, like most corporate income taxes, is biased toward debt finance, although the problem is less critical in Colombia than in many other countries since dividends are not taxed at the individual level. Nevertheless, to the extent interest income is not fully taxed at the individual level, a bias favoring debt finance exists, as all the METRs decline as the debt-capital ratio increases. For example, METRs range from 29.2 to 38.5 percent with no debt, but range from 12.3 to 27.3 percent when the debt-capital ratio increases to 60 percent. In addition, distortions across asset types and business subsectors increase somewhat as the level of debt finance increases. This variability in METRs with the method of finance could be greatly reduced by increasing the withholding tax applied to interest payments. Indeed, with a withholding rate that matches the statutory business income tax rate of 38.5 percent (so that interest recipients are taxed at the same rate as which interest deductions are taken), virtually all of the variability in METRs with the method of finance disappears. (The viability of such a reform is unclear, however, as it would give rise to significant capital flight.) Moreover, the remaining variability in METRs across assets and business subsectors could be virtually eliminated by reducing the depreciation deductions allowed under the current inflation indexed income tax system. Indeed, if the straight line depreciable lives of structures were increased to 50 years for structures, 14 years for machinery, equipment and furniture, and 7 years for computers and vehicles, all METRs under the business income tax with no partial expensing and no withholding taxes would fall in the very narrow range of 36.7 to 38.5 percent.

Third, the modest degree of withholding under current law (7 percent) results in only a limited reduction in the variability of METRs with respect to the debt--capital ratio. For example, the range of METRs under the business tax without partial expensing and 60 percent debt finance increases from 12.3 to 27.3 percent with no withholding to 14.8 to -29.3 percent with 7 percent withholding, and to 17.2 to 31.4 percent if withholding were increased to the average tax rate imposed on reported interest income of 14 percent. In addition, for investments by foreigners, withholding on dividends imposed at a 7 percent rate increases the METRs on the equity-financed component of investment. For example, METRs under the business income with no partial expensing and interest withholding at a 7 percent rate increase from 29.2 to 38.5 percent to 34.2 to 42.8 percent when the withholding rate on dividends goes from zero to 7 percent.

Fourth, the granting of partial expensing at a rate of 30 percent for investments in depreciable assets other than structures has a huge effect on their METRs. This is especially true because this investment incentive is inappropriately designed and is thus overly generous, since the tax basis of the asset is not reduced to reflect partial expensing, implying that investors effectively get to deduct 130 percent of the cost of the asset. As a result, the METRs under the business income tax, including withholding on interest payments at a 7 percent rate and assuming 100 percent equity finance, fall from 32.5 percent to 0.1 percent for investment in machinery, equipment and furniture, and from 29.2 percent to a subsidy of 67 percent (an METR of -67 percent) for investment in computers and vehicles. The decline in METRs is even more dramatic if part of the investment is debt-financed, with the METR falling to -54.2 percent for investment in machinery, equipment and furniture with 60 percent debt finance and to a subsidy greater than 1,000 percent for investment in computers and vehicles. (Recall that the METR concept is not well suited to analyzing subsidies, since with sufficiently large subsidies, METRs become arbitrarily large as the denominator of the effective tax rate, the gross return required, becomes very small.) These results demonstrate that a first priority for reform should be “fixing” partial expensing by adding a basis adjustment so that the purchase price of the asset is deducted only once, as described in Zodrow (2003b). This would result in METRs that vary from 22.4 to 38.5 percent with all equity finance and from 10.2 to 29.3 percent for 60 percent debt finance, and such a reform is assumed in most of the subsequent discussion in order to avoid highly negative METRs.¹³⁶

Fifth, the 0.3 percent wealth tax has a relatively minor impact on investment incentives under the Colombian tax system. For example, with partial expensing with basis adjustment and interest withholding at 7 percent, the addition of the wealth tax increases METRs by roughly 2 to 6 percentage points.

Sixth, the delay in crediting the VAT on purchases of capital equipment (the VAT is credited over a three-year period rather than immediately) also has only a modest effect on METRs. For example, with partial expensing with basis adjustment and interest withholding at 7 percent, the addition of the VAT with three-year crediting increases

¹³⁶ Note that tax distortions across assets cannot be eliminated, even with all equity finance, unless partial expensing applies to investments in all types of assets, including inventories, land, and structures.

METRs on the affected assets by between 0.5 to 2.7 percentage points. However, the VAT, as a tax on the purchase price of a capital asset rather than on its net income, can have significant effects if it is not credited (as is appropriate for a consumption-based tax). For example, with partial expensing with basis adjustment and interest withholding at 7 percent, the addition of an uncredited VAT increases METRs on the affected assets by between 8.5 to 42.5 percentage points. In addition, an uncredited VAT results in wide variations in METRs across assets and business sectors, with METRs varying from 29.5 to 50.7 percent with all equity finance, and from 14.8 to 52.7 percent with 60 percent debt finance. Thus, delayed crediting of the VAT should not be allowed to expire, and consideration should be given to implementing the standard treatment of full immediate crediting.

Seventh, as would be expected from the previous discussion, the addition of the wealth tax and the VAT with three-year crediting by no means offsets the deleterious effects of partial expensing with no adjustment of basis. METRs for the current system, including the business income tax with partial expensing with no adjustment of basis and interest withholding, the wealth tax and the VAT, are very low or negative on investment in machinery, equipment, and furniture and on investment in computers and vehicles. Coupled with METRs that range from 18.2 to 41.0 percent on investment in structures and non-depreciable assets, the tax system results in huge distortions across assets and across business subsectors, with METRs ranging from -44.8 to 41 percent for all equity financed investments and -412% to 31.7 percent for investments financed with 60 percent debt.

Finally, rate reduction coupled with base-broadening may be an attractive route for reform of the Colombian business income tax system. The above analysis shows that the negative effects on investment incentives of a high statutory rate under the business income tax can be offset with the appropriate tax incentives, such as partial expensing with basis adjustment. Moreover, the use of investment incentives avoids the transitional problem of lowering the tax burden on existing capital that arises with a statutory rate reduction. However, the use of such incentives, coupled with a statutory corporate tax rate that is relatively high (especially by Latin American standards), suffers from two important problems. First, a high statutory tax rate creates incentives for multinationals to use accounting manipulations, such as transfer pricing schemes or judicious allocations of loans, to shift revenues away from, and deductions to, the high rate jurisdiction. Such manipulations can dramatically reduce revenues in countries with relatively high statutory tax rates such as the current rate in Colombia. A second less obvious but perhaps critical issue is whether a high statutory rate creates the perception in the international business community of an unfavorable tax regime, if even if the effects of the high statutory rate are greatly mitigated with investment incentives. Both of these considerations suggest that a lower-rate, broad-based approach to corporate taxation may be more desirable than one characterized by a high statutory rate and generous investment incentives.¹³⁷

¹³⁷ Another commonly noted point is that the effects of investment incentives may be muted for firms based in countries, such as the United States, that tax their multinationals on a residence basis, subject to a

One such approach would be to adopt for all businesses the 22 percent statutory rate currently applicable to only a small number of mostly quasi-public sector enterprises in Colombia, coupled with elimination of partial expensing. METRs under this approach, including interest withholding at a 7 percent rate, the current wealth tax, and the VAT with three-year crediting, would range from 18.8 to 25.2 percent with all equity finance and 12.8 to 21.6 percent with 60 percent debt finance. Such a system would thus result in a fairly low overall tax burden and few distortions across assets or subsectors. Moreover, even this fairly narrow range of METRs could be further narrowed by reducing current deductions for depreciation as outlined above, resulting in a tax system that would have virtually uniform rates across all assets and business subsectors at any given level of debt finance (24.5 to 26.1 percent with all equity finance, and 20.5 to 21.6 percent with 60 percent debt finance), less variation in METRs across methods of finance (since the difference in the rate at which interest is deducted and taxed is reduced), and a relatively low overall level of taxation, determined primarily by the statutory rate.

In summary, the METR analysis suggests that a number of reforms of the Colombian tax system are worthy of consideration. Most importantly, the system of partial expensing should be amended by allowing for a basis adjustment in the calculation of depreciation deductions. Alternatively, partial expensing could be replaced by a rate reduction that would reduce incentives for revenue-reducing transfer pricing and other manipulations by foreign multinationals and reduce distortions across assets, business subsectors and methods of finance. In either case, consideration should be given to reducing depreciation deductions to reduce tax distortions across assets and business subsectors. Moreover, delayed crediting of the VAT should not be allowed to expire, and should in the long run be replaced with the standard treatment of full immediate VAT crediting of all business purchases. Finally, consideration should be given to an increase in interest withholding to reduce the existing tax bias favoring debt finance, although this is severely complicated by the extent to which such a change would encourage domestic capital flight to Miami and elsewhere.

foreign tax credit for taxes paid abroad, as incentives in the host country may simply be offset by higher taxes in the home country. It should also be noted, however, that many factors, including the existence of countries that tax on a territorial basis or allow tax sparing, the existence of many firms with excess foreign tax credits, and the fact that home taxes are deferred until profits are repatriated, suggest that the importance of this “Treasury transfer effect” is limited in many cases.

CALCULATION OF MARGINAL EFFECTIVE TAX RATES

The calculation of METRs is outlined in this annex (for further details, consult Boadway, Bruce, and Mintz, [1984], or King and Fullerton, [1984]). Consider an investment in an asset that costs q , has a marginal revenue product of c , and lasts forever but depreciates exponentially at a constant rate of economic depreciation δ . Suppose further that the corporate income tax rate is u , the net indirect tax rate on the purchase of the asset, due to non-creditable VATs, is t (which is included in the tax basis of the asset), and a wealth tax, not deductible against the corporate income tax, is assessed on the market value of the asset, net of any indirect taxes, at rate w . Let z be the present value of the depreciation deductions allowed under the income tax, per dollar of investment, over the life of the asset. For example, if the tax code allows exponential (declining balance) deductions at rate α , with no adjustment for inflation,

$$z = \int_0^{\infty} \alpha e^{-\alpha t} e^{-(r_f + \pi)t} dt = \frac{\alpha}{\alpha + r_f + \pi},$$

where r_f is the firm's real discount rate. In addition, a deduction for partial expensing at rate n is granted (with no adjustment of basis). To calculate the firm's discount rate r_f , assume that the debt-asset ratio is fixed at β , the nominal interest rate is i and the nominal return required by equity holders (which reflects dividends and capital gains) is ρ , in which case

$$r_f = \beta(1-u)i + (1-\beta)\rho,$$

reflecting the deductibility of interest payments coupled with the lack of deductibility of payments to shareholders.

The calculation of a marginal effective tax rate (METR) assumes that a marginal investment in an asset just breaks even, that is, that the net benefits generated by the investment, taking into account all tax factors, just equals the after-tax net cost of the investment. For a depreciable asset, assuming that the wealth tax is not deductible against the business income tax, this requires

$$\begin{aligned} (1-un)(1+t)q &= (1-u) \int_0^{\infty} c e^{-\delta t} e^{\pi t} e^{-(r_f + \pi)t} dt + u(1+t)qz - w \int_0^{\infty} q e^{-\delta t} e^{\pi t} e^{-(r_f + \pi)t} dt \\ (1-un)(1+t) &= \frac{(1-u)(c/q)}{\delta + r_f} + u(1+t)z - \frac{w}{\delta + r_f} \\ c/q &= \frac{(1-un)(1+t)(\delta + r_f)}{(1-u)} - \frac{u(1+t)z(\delta + r_f)}{(1-u)} + \frac{w}{(1-u)} \end{aligned}$$

The gross return to the asset, net of depreciation, is thus

$$r_g = c/q - \delta = \frac{(1+t)(\delta + r_f)}{(1-u)} [1 - u(n+z)] + \frac{w}{(1-u)} - \delta.$$

For land and inventories, the gross return is obtained by setting the depreciation rate in this expression equal to zero. Finally, letting r_n denote the real return to investment received by the saver, net of the combined withholding and any personal income tax burden on interest, t_i , and net of the combined withholding and any personal income tax burden on dividends, t_d ,

$$r_n = \beta(1-u)i + (1-\beta)\rho - \pi,$$

the marginal effective tax rate on the investment is

$$METR = \frac{r_g - r_n}{r_g}.$$

Note that in the case of a foreign investor, this effective tax rate does not take into account any exchange rate effects or the effects of any foreign tax credits.

Table A6.1: Business Subsector Capital Stock Weights.

Subsector	Inventories	Land	Structures (20 years)	Machinery and Equipment (10 yrs)	Computers and Vehicles (5 yrs)
Agriculture and fishing	0.201	0.098	0.463	0.190	0.047
Mining	0.093	0.037	0.041	0.747	0.083
Food processing	0.256	0.040	0.215	0.391	0.098
Leather and textiles	0.487	0.018	0.112	0.306	0.077
Wood, cork, and paper	0.302	0.024	0.122	0.442	0.111
Chemicals	0.377	0.027	0.126	0.424	0.047
Processing of mineral products	0.321	0.044	0.167	0.375	0.094
Electricity, gas, and steam	0.013	0.101	0.201	0.548	0.137
Construction	0.495	0.276	0.102	0.101	0.025
Cars and accessories	0.599	0.021	0.215	0.116	0.050
Large- scale commerce	0.588	0.020	0.193	0.119	0.080
Small- scale commerce	0.438	0.032	0.292	0.143	0.095
Hotels and restaurants	0.071	0.065	0.510	0.247	0.106
Transportation, storage, communication	0.027	0.059	0.157	0.454	0.303
Financial services	0.061	0.063	0.497	0.189	0.189
Other services	0.069	0.116	0.283	0.266	0.266
Sports and leisure	0.094	0.102	0.445	0.180	0.180

Table A6.2: METRs under Baseline Business Income Tax with All-Equity Financing:

(PE = 0, BA = 0, WHI = 0, WHD = 0, VAT = 0, WT = 0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	38.5%	36.0%	32.6%	27.3%
Land	38.5%	36.0%	32.6%	27.3%
Structures	29.5%	25.7%	20.3%	12.3%
Machinery, equipment, and furniture	32.5%	29.3%	25.0%	18.5%
Computers and vehicles	29.2%	26.1%	21.9%	15.5%
METRs by Business Subsector				
Agriculture and fishing	32.8%	29.5%	24.9%	18.1%
Mining	32.9%	29.8%	25.5%	19.2%
Food processing	33.3%	30.2%	25.9%	19.5%
Leather and textiles	34.9%	32.1%	28.1%	22.0%
Wood, cork, and paper	33.7%	30.7%	26.5%	20.3%
Chemicals	34.4%	31.4%	27.3%	21.1%
Processing of mineral products	33.9%	30.9%	26.7%	20.4%
Electricity, gas, and steam	32.1%	28.9%	24.5%	17.9%
Construction	36.7%	34.0%	30.3%	24.6%
Cars and accessories	35.4%	32.5%	28.5%	22.5%
Large Large-scale commerce	35.3%	32.4%	28.4%	22.4%
Small Small-scale commerce	34.1%	31.1%	26.9%	20.5%
Hotels and restaurants	31.5%	28.0%	23.3%	16.2%
Transport, storage, communication	31.5%	28.4%	24.0%	17.4%
Financial services	31.1%	27.7%	23.0%	16.0%
Other services	31.9%	28.7%	24.2%	17.6%
Sports and leisure	31.8%	28.4%	23.8%	16.9%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.2a: METRs under Business Income Tax and Same Rate on Interest Income

(PE = 0, BA = 0, WHI = 0.385, WHD = 0, VAT = 0, WT = 0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	38.5%	38.5%	38.5%	38.5%
Land	38.5%	38.5%	38.5%	38.5%
Structures	29.5%	28.5%	27.3%	25.8%
Machinery, equipment, and furniture	32.5%	32.1%	31.6%	31.1%
Computers and vehicles	29.2%	29.0%	28.7%	28.5%
METRs by Business Subsector				
Agriculture and fishing	32.8%	32.2%	31.5%	30.7%
Mining	32.9%	32.5%	32.1%	31.6%
Food processing	33.3%	32.9%	32.4%	31.9%
Leather and textiles	34.9%	34.7%	34.4%	34.0%
Wood, cork, and paper	33.7%	33.4%	33.0%	32.6%
Chemicals	34.4%	34.1%	33.7%	33.3%
Processing of mineral products	33.9%	33.5%	33.1%	32.7%
Electricity, gas, and steam	32.1%	31.7%	31.1%	30.5%
Construction	36.7%	36.6%	36.4%	36.2%
Cars and accessories	35.4%	35.1%	34.8%	34.4%
Large Large-scale commerce	35.3%	35.0%	34.7%	34.4%
Small Small-scale commerce	34.1%	33.8%	33.3%	32.8%
Hotels and restaurants	31.5%	30.8%	30.1%	29.1%
Transport, storage, communication	31.5%	31.1%	30.7%	30.1%
Financial services	31.1%	30.5%	29.8%	28.9%
Other services	31.9%	31.4%	30.9%	30.3%
Sports and leisure	31.8%	31.2%	30.5%	29.7%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.2b: METRs under Business Income Tax with Slower Depreciation
(more economically realistic)

(slower depr., PE = 0, BA = 0, WHI = 0.385, WHD = 0, VAT = 0, WT = 0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	38.5%	38.5%	38.5%	38.5%
Land	38.5%	38.5%	38.5%	38.5%
Structures	38.8%	38.7%	38.6%	38.2%
Machinery, equipment, and furniture	38.7%	38.5%	38.3%	38.0%
Computers and vehicles	37.0%	36.9%	36.8%	36.7%
METRs by Business Subsector				
Agriculture and fishing	38.6%	38.5%	38.4%	38.2%
Mining	38.5%	38.4%	38.2%	38.0%
Food processing	38.5%	38.4%	38.3%	38.1%
Leather and textiles	38.5%	38.4%	38.3%	38.2%
Wood, cork, and paper	38.4%	38.3%	38.2%	38.0%
Chemicals	38.5%	38.4%	38.3%	38.2%
Processing of mineral products	38.5%	38.4%	38.3%	38.1%
Electricity, gas, and steam	38.4%	38.3%	38.2%	37.9%
Construction	38.5%	38.5%	38.4%	38.4%
Cars and accessories	38.5%	38.5%	38.4%	38.3%
Large Large-scale commerce	38.5%	38.4%	38.3%	38.2%
Small Small-scale commerce	38.5%	38.4%	38.3%	38.2%
Hotels and restaurants	38.6%	38.4%	38.3%	38.0%
Transport, storage, communication	38.2%	38.0%	37.9%	37.7%
Financial services	38.4%	38.3%	38.2%	37.9%
Other services	38.2%	38.1%	38.0%	37.8%
Sports and leisure	38.4%	38.3%	38.2%	38.0%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.3: METRs under Business Income Tax with 7% on Interest Withholding

(PE = 0, BA = 0, WHI = 0.07, WHD = 0, VAT = 0, WT = 0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	38.5%	36.5%	33.6%	29.3%
Land	38.5%	36.5%	33.6%	29.3%
Structures	29.5%	26.2%	21.6%	14.8%
Machinery, equipment, and furniture	32.5%	29.8%	26.2%	20.8%
Computers and vehicles	29.2%	26.7%	23.1%	17.8%
METRs by Business Subsector				
Agriculture and fishing	32.8%	30.0%	26.1%	20.4%
Mining	32.9%	30.3%	26.7%	21.4%
Food processing	33.3%	30.7%	27.1%	21.7%
Leather and textiles	34.9%	32.5%	29.2%	24.2%
Wood, cork and paper	33.7%	31.2%	27.7%	22.5%
Chemicals	34.4%	31.9%	28.5%	23.4%
Processing of mineral products	33.9%	31.4%	27.9%	22.6%
Electricity, gas, and steam	32.1%	29.4%	25.7%	20.2%
Construction	36.7%	34.5%	31.4%	26.7%
Cars and accessories	35.4%	33.0%	29.7%	24.7%
Large Large-scale commerce	35.3%	32.9%	29.6%	24.6%
Small Small-scale commerce	34.1%	31.6%	28.1%	22.8%
Hotels and restaurants	31.5%	28.5%	24.5%	18.6%
Transport, storage, communication	31.5%	28.9%	25.2%	19.7%
Financial services	31.1%	28.3%	24.2%	18.3%
Other services	31.9%	29.2%	25.4%	19.9%
Sports and leisure	31.8%	28.9%	25.0%	19.3%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT =value value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.3a.: METRs under Business Income Tax with 14% on Interest Withholding**(PE = 0, BA = 0, WHI = 0.14, WHD = 0, VAT = 0, WT = 0)**

METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	38.5%	36.9%	34.7%	31.4%
Land	38.5%	36.9%	34.7%	31.4%
Structures	29.5%	26.7%	22.9%	17.2%
Machinery, equipment, and furniture	32.5%	30.3%	27.4%	23.1%
Computers and vehicles	29.2%	27.2%	24.4%	20.2%

METRs by Business Subsector

Agriculture and fishing	32.8%	30.5%	27.3%	22.7%
Mining	32.9%	30.8%	27.9%	23.7%
Food processing	33.3%	31.2%	28.3%	24.0%
Leather and textiles	34.9%	33.0%	30.4%	26.4%
Wood, cork, and paper	33.7%	31.7%	28.9%	24.7%
Chemicals	34.4%	32.4%	29.6%	25.6%
Processing of mineral products	33.9%	31.8%	29.0%	24.9%
Electricity, gas, and steam	32.1%	29.9%	26.9%	22.5%
Construction	36.7%	35.0%	32.5%	28.8%
Cars and accessories	35.4%	33.5%	30.8%	26.8%
Large Large-scale commerce	35.3%	33.4%	30.7%	26.8%
Small Small-scale commerce	34.1%	32.1%	29.2%	25.0%
Hotels and restaurants	31.5%	29.1%	25.8%	20.9%
Transport, storage, communication	31.5%	29.4%	26.4%	22.0%
Financial services	31.1%	28.8%	25.5%	20.7%
Other services	31.9%	29.7%	26.7%	22.2%
Sports and leisure	31.8%	29.4%	26.3%	21.6%

Note: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.3b: METRs under Business Income Tax with 7% Withholding on Foreign Dividends and Interest

(PE = 0, BA = 0, WHI = 0.07, WHD = 0.07, VAT = 0, WT = 0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	42.8%	40.5%	37.3%	32.4%
Land	42.8%	40.5%	37.3%	32.4%
Structures	34.5%	30.9%	25.9%	18.5%
Machinery, equipment, and furniture	37.2%	34.3%	30.2%	24.2%
Computers and vehicles	34.2%	31.3%	27.3%	21.4%
METRs by Business Subsector				
Agriculture and fishing	37.5%	34.4%	30.2%	23.9%
Mining	37.6%	34.7%	30.7%	24.8%
Food processing	38.0%	35.1%	31.1%	25.1%
Leather and textiles	39.5%	36.8%	33.1%	27.5%
Wood, cork and paper	38.4%	35.6%	31.7%	25.9%
Chemicals	39.0%	36.2%	32.4%	26.7%
Processing of mineral products	38.5%	35.7%	31.8%	26.0%
Electricity, gas, and steam	36.9%	33.9%	29.8%	23.6%
Construction	41.2%	38.7%	35.2%	29.9%
Cars and accessories	39.9%	37.3%	33.5%	27.9%
Large large-scale commerce	39.8%	37.2%	33.5%	27.8%
Small Small-scale commerce	38.7%	35.9%	32.0%	26.1%
Hotels and restaurants	36.3%	33.1%	28.7%	22.1%
Transport, storage, communication	36.3%	33.4%	29.3%	23.2%
Financial services	36.0%	32.8%	28.4%	21.8%
Other services	36.7%	33.7%	29.5%	23.3%
Sports and leisure	36.5%	33.5%	29.2%	22.7%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.4: METRs under Business Income Tax with 30% Partial Expensing and No Basis Adj.

(PE = 0.3, BA = 0, WHI = 0.07, WHD = 0, VAT = 0, WT = 0)

METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	38.5%	36.5%	33.6%	29.3%
Land	38.5%	36.5%	33.6%	29.3%
Structures	29.5%	26.2%	21.6%	14.8%
Machinery, equipment, and furniture	0.1%	-9.6%	-25.1%	-54.2%
Computers and vehicles	-67.0%	-111.7%	-224.1%	-1043.5%

METRs by Business Subsector

Agriculture and fishing	22.0%	15.9%	4.7%	-44.2%
Mining	0.7%	-10.7%	-32.1%	-122.6%
Food processing	11.2%	1.7%	-17.2%	-111.4%
Leather and textiles	17.7%	9.9%	-5.4%	-80.0%
Wood, cork, and paper	8.7%	-1.5%	-22.3%	-128.0%
Chemicals	16.1%	8.7%	-4.9%	-58.4%
Processing of mineral products	12.7%	3.6%	-14.5%	-104.9%
Electricity, gas, and steam	1.2%	-11.1%	-36.3%	-166.3%
Construction	31.0%	27.0%	19.9%	-7.8%
Cars and accessories	26.9%	21.6%	11.5%	-36.6%
Large Large-scale commerce	23.8%	17.2%	3.8%	-68.8%
Small Small-scale commerce	20.3%	12.7%	-2.9%	-89.3%
Hotels and restaurants	13.2%	4.1%	-14.4%	-112.5%
Transport, storage, communication	-12.3%	-30.9%	-72.9%	-335.4%
Financial services	6.8%	-5.4%	-32.2%	-196.7%
Other services	-2.4%	-18.2%	-54.0%	-282.6%
Sports and leisure	8.7%	-3.0%	-28.5%	-184.7%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.5: METRs under Business Income Tax with 30% Partial Expensing and Basis Adj.

(PE=0.3, BA=1, WHI=0.07, WHD=0, VAT=0, WT=0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	38.5%	36.5%	33.6%	29.3%
Land	38.5%	36.5%	33.6%	29.3%
Structures	29.5%	26.2%	21.6%	14.8%
Machinery, equipment, and furniture	25.2%	22.4%	18.5%	12.7%
Computers and vehicles	22.4%	19.7%	15.9%	10.2%
METRs by Business Subsector				
Agriculture and fishing	31.1%	28.2%	24.3%	18.5%
Mining	26.9%	24.1%	20.3%	14.7%
Food processing	29.8%	27.1%	23.4%	17.8%
Leather and textiles	32.2%	29.7%	26.3%	21.1%
Wood, cork, and paper	29.7%	27.1%	23.5%	18.1%
Chemicals	31.0%	28.4%	24.9%	19.5%
Processing of mineral products	30.5%	27.9%	24.3%	18.9%
Electricity, gas, and steam	27.2%	24.4%	20.5%	14.6%
Construction	35.8%	33.6%	30.4%	25.7%
Cars and accessories	34.2%	31.8%	28.4%	23.3%
Large Large-scale commerce	33.9%	31.5%	28.1%	23.0%
Small Small-scale commerce	32.4%	29.9%	26.3%	20.9%
Hotels and restaurants	28.9%	26.0%	21.8%	15.7%
Transport, storage, communication	26.2%	23.4%	19.5%	13.7%
Financial services	28.5%	25.5%	21.4%	15.3%
Other services	28.1%	25.3%	21.5%	15.7%
Sports and leisure	29.2%	26.3%	22.4%	16.4%

Note: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt/capital ratio.

Table A6.6: METRs under Income and Wealth Taxes

(PE = 0.3, BA = 1, WHI = 0.07, WHD = 0, VAT = 0, WT = 0.003)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	40.5%	38.9%	36.6%	33.3%
Land	40.5%	38.9%	36.6%	33.3%
Structures	32.1%	29.4%	25.7%	20.4%
Machinery, equipment, and furniture	28.1%	25.9%	22.9%	18.6%
Computers and vehicles	25.5%	23.4%	20.6%	16.4%
METRs by Business Subsector				
Agriculture and fishing	33.6%	31.3%	28.2%	23.8%
Mining	29.7%	27.5%	24.6%	20.4%
Food processing	32.4%	30.2%	27.3%	23.1%
Leather and textiles	34.6%	32.7%	30.0%	26.1%
Wood, cork, and paper	32.3%	30.3%	27.5%	23.4%
Chemicals	33.5%	31.5%	28.7%	24.7%
Processing of mineral products	33.1%	31.0%	28.2%	24.1%
Electricity, gas, and steam	30.0%	27.7%	24.7%	20.4%
Construction	38.0%	36.2%	33.7%	30.1%
Cars and accessories	36.5%	34.6%	31.9%	28.0%
Large Large-scale commerce	36.2%	34.3%	31.6%	27.7%
Small Small-scale commerce	34.8%	32.8%	29.9%	25.8%
Hotels and restaurants	31.6%	29.2%	26.0%	21.3%
Transport, storage, communication	29.0%	26.8%	23.8%	19.5%
Financial services	31.2%	28.8%	25.6%	20.9%
Other services	30.8%	28.6%	25.6%	21.3%
Sports and leisure	31.9%	29.6%	26.4%	21.9%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β =debt-/capital ratio.

Table A6.7: METRs under Income Tax and Credited VAT

(PE = 0.3, BA = 1, WHI = 0.07, WHD = 0, VAT = 0.16, WT = 0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	39.1%	37.0%	34.1%	29.7%
Land	38.5%	36.5%	33.6%	29.3%
Structures	29.5%	26.2%	21.6%	14.8%
Machinery, equipment, and furniture	26.7%	23.9%	20.0%	14.2%
Computers and vehicles	25.0%	22.3%	18.5%	12.9%
METRs by Business Subsector				
Agriculture and fishing	31.6%	28.8%	24.8%	19.0%
Mining	28.3%	25.5%	21.7%	16.1%
Food processing	30.8%	28.1%	24.3%	18.8%
Leather and textiles	33.1%	30.6%	27.2%	22.0%
Wood, cork, and paper	30.9%	28.2%	24.6%	19.2%
Chemicals	32.0%	29.4%	25.8%	20.5%
Processing of mineral products	31.5%	28.9%	25.2%	19.8%
Electricity, gas, and steam	28.4%	25.6%	21.7%	15.9%
Construction	36.3%	34.1%	30.9%	26.1%
Cars and accessories	34.9%	32.4%	29.0%	23.9%
Large Large-scale commerce	34.6%	32.2%	28.8%	23.6%
Small Small-scale commerce	33.2%	30.6%	26.9%	21.5%
Hotels and restaurants	29.6%	26.6%	22.5%	16.4%
Transport, storage, communication	27.7%	24.9%	21.0%	15.2%
Financial services	29.3%	26.3%	22.2%	16.2%
Other services	29.3%	26.5%	22.6%	16.8%
Sports and leisure	30.0%	27.1%	23.1%	17.2%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.7a.: METRs under Income Tax and Uncredited VAT

(PE = 0.3, BA = 1, WHI = 0.07, WHD = 0, VAT = 0.16, WT = 0)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	47.0%	45.2%	42.8%	39.1%
Land	38.5%	36.5%	33.6%	29.3%
Structures	29.5%	26.2%	21.6%	14.8%
Machinery, equipment, and furniture	44.4%	43.7%	42.8%	41.6%
Computers and vehicles	50.7%	51.2%	51.8%	52.7%
METRs by Business Subsector				
Agriculture and fishing	37.8%	35.6%	32.5%	28.0%
Mining	44.4%	43.5%	42.3%	40.7%
Food processing	42.3%	40.8%	38.8%	35.8%
Leather and textiles	44.4%	42.9%	40.9%	38.0%
Wood, cork and paper	43.9%	42.7%	41.0%	38.5%
Chemicals	43.7%	42.2%	40.3%	37.5%
Processing of mineral products	43.1%	41.7%	39.7%	36.8%
Electricity, gas, and steam	41.7%	40.5%	38.8%	36.4%
Construction	42.7%	40.9%	38.3%	34.5%
Cars and accessories	42.9%	41.1%	38.5%	34.6%
Large- scale commerce	43.4%	41.7%	39.2%	35.6%
Small Small-scale commerce	41.6%	39.8%	37.2%	33.3%
Hotels and restaurants	37.3%	35.2%	32.3%	28.1%
Transport, storage, communication	43.7%	42.8%	41.6%	39.9%
Financial services	38.0%	36.1%	33.4%	29.4%
Other services	41.4%	40.0%	38.1%	35.4%
Sports and leisure	38.6%	36.7%	34.0%	30.2%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 =yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.8: METRs under Current Tax

(PE = 0.3, BA = 0, WHI = 0.07, WHD = 0, VAT = 0.16, WT = 0.003)				
METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	41.0%	38.9%	36.0%	31.7%
Land	40.5%	38.4%	35.6%	31.4%
Structures	32.1%	28.9%	24.5%	18.2%
Machinery, equipment, and furniture	7.4%	-1.1%	-14.2%	-37.3%
Computers and vehicles	-44.8%	-76.9%	-146.5%	-412.0%
METRs by Business Subsector				
Agriculture and fishing	26.4%	21.1%	12.4%	-8.8%
Mining	8.4%	-1.0%	-17.1%	-57.2%
Food processing	17.5%	9.8%	-4.0%	-41.6%
Leather and textiles	23.2%	16.7%	5.4%	-24.9%
Wood, cork and paper	15.6%	7.2%	-7.8%	-49.5%
Chemicals	21.6%	15.2%	4.7%	-20.1%
Processing of mineral products	18.9%	11.4%	-1.8%	-38.0%
Electricity, gas, and steam	9.0%	-0.9%	-18.8%	-69.6%
Construction	34.4%	30.8%	25.0%	12.0%
Cars and accessories	31.0%	26.4%	18.7%	-1.2%
Large Large-scale commerce	28.5%	23.0%	13.3%	-14.4%
Small Small-scale commerce	25.4%	19.2%	8.0%	-24.5%
Hotels and restaurants	19.0%	11.6%	-1.7%	-39.3%
Transport, storage, communication	-1.6%	-15.9%	-43.8%	-136.0%
Financial services	14.0%	4.4%	-13.8%	-72.1%
Other services	6.7%	-5.5%	-29.2%	-108.6%
Sports and leisure	15.6%	6.4%	-10.9%	-66.4%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.9: METRs under Business Income Tax

(22% RATE, PE = 0, BA = 0, WHI = 0.07, WHD = 0, VAT = 0.16, WT = 0.003)

METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	25.2%	24.3%	23.2%	21.6%
Land	24.5%	23.7%	22.7%	21.2%
Structures	18.8%	17.3%	15.4%	12.8%
Machinery, equipment, and furniture	22.2%	21.0%	19.3%	17.1%
Computers and vehicles	21.4%	20.2%	18.8%	16.7%

METRs by Business Subsector

Agriculture and fishing	21.4%	20.2%	18.6%	16.4%
Mining	22.4%	21.2%	19.6%	17.5%
Food processing	22.3%	21.1%	19.6%	17.5%
Leather and textiles	23.3%	22.2%	20.8%	18.9%
Wood, cork, and paper	22.7%	21.5%	20.0%	18.0%
Chemicals	23.0%	21.8%	20.4%	18.4%
Processing of mineral products	22.6%	21.5%	20.0%	18.0%
Electricity, gas, and steam	21.7%	20.5%	18.9%	16.7%
Construction	24.0%	23.0%	21.8%	20.0%
Cars and accessories	23.3%	22.2%	20.9%	19.0%
Large Large-scale commerce	23.3%	22.3%	20.9%	19.0%
Small Small-scale commerce	22.5%	21.4%	19.9%	17.9%
Hotels and restaurants	20.8%	19.5%	17.8%	15.5%
Transport, storage, communication	21.7%	20.4%	18.8%	16.7%
Financial services	20.7%	19.4%	17.7%	15.4%
Other services	21.5%	20.3%	18.7%	16.6%
Sports and leisure	21.1%	19.8%	18.2%	16.0%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.10: METRs under Business Income Tax Reform

(22% RATE, PE = 0, BA = 0, WHI = 0.07, WHD = 0, VAT = 0.16, WT = 0.003)

METRs by Asset	$\beta=0$	$\beta=0.2$	$\beta=0.4$	$\beta=0.6$
Inventories	25.2%	24.3%	23.2%	21.6%
Land	24.5%	23.7%	22.7%	21.2%
Structures	24.8%	23.8%	22.5%	20.5%
Machinery, equipment, and furniture	26.1%	25.0%	23.5%	21.4%
Computers and vehicles	26.0%	24.9%	23.5%	21.4%

METRs by Business Subsector

Agriculture and fishing	25.1%	24.2%	22.9%	21.0%
Mining	25.9%	24.8%	23.4%	21.4%
Food processing	25.5%	24.5%	23.2%	21.3%
Leather and textiles	25.5%	24.5%	23.2%	21.4%
Wood, cork, and paper	25.6%	24.6%	23.3%	21.3%
Chemicals	25.6%	24.6%	23.2%	21.4%
Processing of mineral products	25.5%	24.5%	23.2%	21.3%
Electricity, gas, and steam	25.7%	24.6%	23.2%	21.2%
Construction	25.1%	24.2%	23.0%	21.4%
Cars and accessories	25.2%	24.3%	23.1%	21.4%
Large Large-scale commerce	25.3%	24.4%	23.1%	21.4%
Small Small-scale commerce	25.3%	24.3%	23.1%	21.2%
Hotels and restaurants	25.2%	24.3%	22.9%	21.0%
Transport, storage, communication	25.8%	24.7%	23.3%	21.2%
Financial services	25.3%	24.3%	22.9%	21.0%
Other services	25.5%	24.5%	23.1%	21.1%
Sports and leisure	25.2%	24.3%	22.9%	21.0%

Notation: PE = partial expensing, BA = basis adjustment for partial expensing (1 = yes, 0 = no)

WHI = withholding on interest, WHD = withholding on dividends, VAT = value-added tax

WT = wealth tax, β = debt-/capital ratio.

Table A6.11: Tax Reform Measures Since 2002
(designed to improve the structure of the tax system)

Tax	Measures
Value-Added added Tax	<p>Law 788 (2002)</p> <ul style="list-style-type: none"> • Made many previously exempt or excluded goods and services subject to the VAT at a 7 percent rate beginning in 2003, rising to 10 percent in 2005 • Established a uniform tax rate on the use of mobile phones at 20 percent • Unified the taxation of automobile sales at a rate of 25 percent (which had ranged from 20 to - 35 percent) • Made the VAT on all capital goods creditable for registered firms making further sales, with the credits spread out over three years (and thus reduced in present value). <p>Law 863 (2003)</p> <ul style="list-style-type: none"> • Expanded the base slightly • 75 percent of the tax is retained at the source¹³⁸ • Further restricted access to the simplified regime. <p>Bill presented to Congress September 2004</p> <ul style="list-style-type: none"> • Raises general VAT rate from 16 to 17 percent, to increase revenue and to be consistent with the rest of Andean Community of Nations • Includes most zero-rated and excluded goods at a 3 percent% rate, except for basic basket of the poor (to fix a part of 788 that the Constitutional Court ruled out).
Personal Income Tax	<p>Law 788 (2002)</p> <ul style="list-style-type: none"> • Reduces the wage tax exemption from 30 to 25 percent, subject to a new ceiling of COP\$4.3 million in monthly wages (currently equivalent to about 12 minimum wages), which is indexed for inflation. • Reduces or eliminates various tax exemptions, tax credits, and income exclusions under the personal income tax. • Eliminates the exemption for individual capital gains on sales of stock. <p>Bill presented to Congress September 2004</p> <ul style="list-style-type: none"> • Makes pension income above the (high) threshold taxable.
Corporate Income Tax	<p>Law 788 (2002)</p> <ul style="list-style-type: none"> • Phases out exemptions for capital gains from sales of stock, mutual funds, and real estate, and for profits from a variety of previously privileged corporate forms that often served as tax shelters. • Restricts access to the special tax regime (which provides for a tax rate of 20 percent rather than the standard rate of 35 percent). <p>Law 863 (2003)</p> <ul style="list-style-type: none"> • Ended the corporate income tax surcharge in 2007 (but kept it at 10 percent until then; see below). • Accelerated phase-out of exemptions of profits for certain categories of firms. • Introduces a new temporary investment incentive in the form of partial expensing scheduled to expire in 2006. • Further restricts access to the special tax regime. <p>Bill presented to Congress September 2004</p> <ul style="list-style-type: none"> • Lowers corporate rate from 35 to 32 percent in 2008.
Financial transactions tax	<p>Law 863 (2003)</p> <ul style="list-style-type: none"> • Reduces the rate for the financial transactions tax to 3 per 1000 starting in 2008.
Subnational Taxes	<p>Law 788 (2002)</p> <ul style="list-style-type: none"> • Rationalizes departmental and district taxes on alcohol • Increases the gasoline tax surcharge rate by 5 percentage points, which is transferred to subnational governments.

¹³⁸ Some firms are now required to withhold VAT on their purchases from other firms, with the selling firms receiving credits for tax withheld.

Table A6.12: Non-Reform Tax Measures Since 2002
(designed only to increase revenue)

Law/Action	Measures
Law 788 (2002)	<ul style="list-style-type: none"> • Introduced a temporary 10 percent% surtax on corporate income, to be reduce to 5% percent in 2005 • Maintained the distortionary <i>financial transactions tax</i> implemented in 1999, and closed some loopholes for transactions in the real economy and allows exemptions for some interbank transactions • Established a “one-time” tax on wealth.
Law 863 (2003)	<ul style="list-style-type: none"> • Extended the 10 percent special surcharge on the corporate income tax for 2005 and 2006. • Raised the financial transactions tax from 3 to 4 per 1000. • Renewed the wealth tax for another year.
Bill presented to Congress September 2004	<ul style="list-style-type: none"> • Expands the base of the wealth tax to include more upper middle income tax payers (but does not extend the tax for another year).

ANNEX 7: METHODOLOGY FOR CALCULATING HOUSEHOLD WELFARE CHANGES

In estimating the household-level welfare impact of trade liberalization in Colombia, predicted price changes that are generated by a computable general equilibrium (CGE) model are utilized. These price estimates are obtained by allowing all markets to respond to the set of trade liberalization policies in a general equilibrium framework, and so reflect fully both the direct and indirect effects of the policy in question. In this study, the set of price changes that were detailed in Light and Rutherford (2003) are utilized. This studies computes, for a number of commodities, the changes in prices (and quantities) implied by the negotiated Free Trade Agreement discussed in the previous section.

While CGE models take into account both direct and indirect effects of the policies considered, in general they rely upon an aggregation across household types and so are not well suited to performing the detailed distributional analysis that is the focus of this paper. Therefore the analysis combines the price responses computed from the above CGE model, which are taken as given, with a comprehensive household data- set: the *Encuesta de Calidad de Vida* (ECV) or Life Quality Survey from 1997. The analysis is then able to provide a detailed distributional assessment of the impact of the proposed trade liberalization across a wide range of observable characteristics.

The welfare analysis that is undertaken in this study follows the methodology proposed by Deaton (1989, 1997). The procedure, which is described in detail below, is very simple: the welfare consequences for each household are computed taking as given the (net) quantities consumed by that household *before the change* and multiplying that by the price change. A household that is a net seller of a commodity whose price drops will be a net loser, while a household that is a net buyer of the same commodity will be a net gainer. Of course, these types of approximations are reliable only for small price changes. This method has been implemented recently by Pörtner (2003) to study a Free Trade Agreement in Guatemala and by Ravallion and Lokshin (2004) to study trade liberalization in Morocco.

The starting point of the Deaton procedure is the assumption that each household i acts to maximize a utility function $u_i(q_i^d, L_i)$ defined over a vector of quantities demanded q_i^d and of labor supply activities L_i .¹³⁹ Note that because the utility function is defined at the household level, there is an implicit assumption of perfect substitutability in utility of labor amongst all household members.

Given a set of consumer prices p_i^d and wage rates w_i from each activity, each household i will choose (q_i^d, L_i) to maximize its utility subject to the household budget constraint.

¹³⁹ The utility function is assumed to be strictly increasing in each element of consumption and strictly decreasing in each labor supply activity.

Since each household owns its own production technology, the budget constraint of household i will be given by $p_i^d q_i^d \leq w_i L_i + \pi_i(p_i^s)$, where $\pi_i(p_i^s) = \max_{q_i^s} p_i^s q_i^s - c_i(q_i^s)$ is the value of profits generated by the household's production activities, when faced with producer prices p_i^s and the cost function $c_i(\cdot)$. The indirect utility function of household i is then given by:

$$v_i(p_i^s, p_i^d, w_i) = \max_{q_i^d, L_i} u_i(q_i^d, L_i) \mid p_i^d q_i^d \leq w_i L_i + \pi_i(p_i^s).$$

The analysis now examines how the maximized value of utility—or some function of it—changes following trade liberalization in Colombia. To undertake this exercise, the envelope theorem is applied, by noting that in the neighborhood of a utility maximum, any small change in wages or prices will have zero first-order effect upon quantities, so that any effect upon utility will be derived from the changes in these prices, with quantities held fixed. Calculating the total derivative of utility and dividing by the budget constraint multiplier μ_i , the gain to household i (denoted by g_i) can be written as the money metric change in utility:

$$g_i \equiv \frac{du_i}{\mu_i} = \sum_{j=1}^m \left(p_{ij}^s q_{ij}^s \frac{dp_{ij}^s}{p_{ij}^s} - p_{ij}^d q_{ij}^d \frac{dp_{ij}^d}{p_{ij}^d} \right) + \sum_{k=1}^n \left(w_k L_{ik} \frac{dw_k}{w_k} \right). \quad (1)$$

As is to be expected, at constant goods prices welfare will increase following any increase in wages, with this increase being larger the greater is the labor supply in the activity experiencing the change. Note also that if any proportional increase in producer and consumer prices is the same, i.e. that is, $dp_{ij}^s/p_{ij}^s = dp_{ij}^d/p_{ij}^d$, then the household will experience an increase/decrease in welfare as a result of the price change depending upon whether the total value of production is greater/less than the total value of household consumption for this good.

It should be stressed, however, that the price changes that are expected as a result of the trade liberalization certainly are *not* small. As such, the expression for the welfare change g_i above does not hold exactly, and so should be interpreted as being an approximation to the true welfare change. Note that in contrast to Ravallion and Lokshin (2004), the household data-set contains information on individual wages, so that the last term in the above expression for g_i does not need to be set to zero. The richness of the data therefore affords us the possibility of investigating how important it is to incorporate these wage changes when quantifying the welfare change experienced by households. For such a purpose, it is necessary to compute the change in wages (for each household) induced by the FTA. These changes can be computed either using a CGE, as with the price changes, or using evidence from other studies of previous liberalizations. Attanasio, Goldberg, and Pavcnik (2004), for instance, found a relationship between the sectorial reduction in tariffs and the sectorial wage premiums using the 1991 trade liberalization in Colombia. In a future draft, it is planned to incorporate changes in wages to study the distributional consequences of the negotiated trade agreement.

METHODOLOGY FOR INEQUALITY MEASUREMENT

In their analysis of the distributional impact of trade reform in Morocco, Ravallion and Lokshin (2004) distinguish between the ‘horizontal impact’ and the “‘vertical impact’” of the reform. The latter refers to the extent that average impacts vary by the level of pre-reform income across households, while the former refers to the extent that the impact differs across households with the same level of pre-reform income.

Of interest is not only in how overall inequality changes following the trade liberalization, but also in how this change can be explained in terms of the horizontal and vertical impacts. Such a decomposition can easily be performed by using the mean logarithmic deviation (MLD) as the measure of inequality. The MLD possesses a number of desirable properties for a measure of inequality and, in particular, can be easily decomposed, which makes it particularly suitable for the analysis here.

Before proceeding to explain how this decomposition is performed, notation used henceforth is introduced. Specifically, the convention is adopted that an asterisk corresponds to any post-trade-liberalization variables.

Therefore, if one denotes the pre-reform level of welfare for household i as y_i , then post-reform welfare for this same household will be given by $y_i^* = y_i + g_i$, where g_i is simply the change in household welfare as defined above. Using this notation, one can write measured post-reform inequality as:

$$I^* = \frac{1}{n} \sum_{i=1}^n \log \bar{y}^* / y_i^*$$

where $\bar{y}^* = \frac{1}{n} \sum_{i=1}^n y_i^*$ is mean post-reform income. Similarly, measured inequality before the trade reform will be given by:

$$I = \frac{1}{n} \sum_{i=1}^n \log \bar{y} / y_i$$

where \bar{y} is similarly defined as mean pre-reform income. If $g_i^c = E_i(g_i | y = y_i)$ is defined as the average welfare gain across households with a given level of pre-reform income,¹⁴⁰ then it is straightforward to show that the change in inequality $I^* - I$ may be expressed as:

$$I^* - I = \underbrace{\frac{1}{n} \sum_{i=1}^n \log \left(\frac{1 + \bar{g} / \bar{y}}{1 + g_i^c / y_i} \right)}_{\text{Vertical Component}} + \underbrace{\frac{1}{n} \sum_{i=1}^n \log \left(\frac{1 + g_i^c / y_i}{1 + g_i / y_i} \right)}_{\text{Horizontal Component}}$$

¹⁴⁰ For the empirical implementation, this is estimated non-parametrically using the locally weighted regression of Cleveland (1979).

To understand this decomposition, note that if the average proportional welfare gain is the same across all households with a given pre-reform income, then $g_i^c/y_i = g_j^c/y_j = \bar{g}/\bar{y}$, so that the vertical component is zero. Similarly, if the welfare impact is the same across all households with a given level of pre-reform income, i.e. that is, $g_i = g_i^c$ for all i , then the horizontal component is zero. Clearly, both the horizontal and vertical components are potentially important in explaining any change in inequality induced by the trade liberalization in Colombia, and the decomposition will allow one to quantify the relative importance of these two components.

ANNEX 8: MORE OPEN TRADE: DOES IT REALLY LEAD TO GROWTH?

Despite theoretical bases for a link between trade liberalization and growth, recent empirical work has generated much controversy over question of whether there is, indeed, a link between trade liberalization and growth. Dividing his trade measures between trade volume measures and trade restriction measures, Yanikkaya (2003) finds an association between economic growth and trade volumes, but he finds a strong positive relation between various measures of trade restrictiveness and economic growth.¹⁴¹

Despite Yanikkaya's result, most previous empirical literature finds a positive relationship between various measures of trade openness and measures of income or output expansion. However, a now famous paper by Rodriguez and Rodrik (2001) is skeptical of the results in some of the most widely cited empirical studies on the links between trade openness and growth (Dollar, 1992; Ben-David 1993; Sachs and Warner, 1995; and Edwards, 1998). Specifically Rodriguez and Rodrik argue that trade openness indicators most analysts use are bad measures of indicators of trade policy or are highly correlated with other measures of economic performance, so that separating the effects of one influence from the other is difficult.

Since the appearance of Rodriguez and Rodrik's critique of the trade and growth literature, an industry has surfaced that has attempted to refute their criticism (Frankel and Romer, 1999; Irwin and Tervio, 2002; Frankel and Rose, 2002). To account for possible endogeneity in trade openness with other more fundamental factors that determine growth, it now has become common to instrument openness in a growth equation using such variables as population, land area, the presence of common borders, distances between trading partners and other measures that had historically found places in gravity models of trade. New measures to condition the impacts of trade have also materialized, including the market size of trade partners in with which a nation enters in a regional trading agreement (Berthelon, 2004). Since much of the literature had been criticized for excessive reliance on cross-sectional modeling procedures the roles of time series processes began to receive much more attention (viz.see Wacziarg and Welch, 2002).

However, scarcely any of the empirical trade and growth literature has fully addressed the question raised by Rodriguez and Rodrick (2001) concerning the difficulty in

¹⁴¹ Yanikkaya does find positive and significant associations between measures of trade volume and growth. However, he separately examines links between measures of trade restrictiveness and growth and finds that growth and trade restrictiveness are positively and significantly linked and that the results that drive this relation come from the developing countries in his data sample. Yanikkaya cites various theoretical models that address possible complications to the standard notion that trade leads to growth. He emphasizes that "if trading partners are asymmetric countries in the sense that they have considerably different technologies and endowments, even if economic integration raises the worldwide growth rate, it may adversely affect individual countries."

distinguishing between trade liberalizations and other economic reforms that oftentimes accompany the liberalizations. As Baldwin (2003) in a subsequent article notes, “it does not even seem to make much sense to investigate what the empirical evidence is on this relationship in view of the complex interrelationships between trade policy and other government policies and various macroeconomic variables when one is talking about trade policy actions covering a wide group of goods....” (p.30).

Despite Baldwin’s (2003) fatalism about ever being able to disentangle these factors, there are econometric techniques available, traditionally used in the labor literature that addresses the question of selectivity bias in policy reforms. These innovations are applied to test for potential growth effects from joining a regional trade agreement where—as Baldwin notes in different words—many factors and policies have their hands on the wheel of economic expansion. Countries often open their economies as part of a broader policy effort towards greater competition or economic growth. More to the point, the act of trade liberalization itself may be endogenous and self-selecting.

ANNEX 9: CROSS-COUNTRY GROWTH REGRESSION ANALYSIS

Table A9.1: Fixed Effects Panel Regressions, 1970–2000 (5-year average)*

	1	2	3	4	5	6	7
Log Initial initial real GDP p.c. (\$)	-0.017 (-3.27)	-0.021 (-3.89)	-0.024 (-4.37)	-0.035 (-6.28)	-0.032 (-5.02)	-0.033 (-5.10)	-0.034 (-5.14)
Log secondary school enrollment (%)	-0.004 (-1.26)	-0.009 (-2.52)	-0.006 (-1.64)	-0.003 (-0.76)	-0.007 (-1.61)	-0.007 (-1.48)	-0.007 (-1.51)
Log of investment share of GDP (%)	0.016 (3.90)	0.017 (4.15)	0.015 (3.68)	0.014 (3.24)	0.013 (2.58)	0.013 (2.63)	0.013 (2.68)
Number of Regional regional FTAs		0.008 (3.59)	0.007 (3.23)	0.008 (3.51)	0.007 (3.15)	0.007 (2.90)	0.007 (2.83)
World GDP growth (%)			0.011 (5.37)	0.010 (5.36)	0.007 (3.69)	0.007 (3.45)	0.007 (3.47)
Trade share of GDP (%)			0.0004 (5.13)	0.0003 (3.19)	0.0002 (2.20)	0.0002 (2.08)	0.0002 (2.07)
Black market premium (%)				0.000006 (-2.22)	0.000004 (-1.70)	0.000004 (-1.67)	0.000004 (-1.66)
Government share of consumption (%)				-0.0002 (-0.81)	-0.0001 (-0.43)	-0.0001 (-0.50)	-0.0001 (-0.52)
Fiscal balance as share of GDP (%)					0.001 (3.46)	0.001 (3.57)	0.001 (3.59)
Choice to liberalize						0.008 (1.09)	0.008 (1.11)
Freedom							0.002 (0.66)
Constant	0.134 (3.06)	0.171 (3.83)	0.145 (3.16)	0.241 (5.04)	0.255 (4.61)	0.260 (4.70)	0.258 (4.66)
Observations	743	743	743	655	557	557	556
R-sq within	0.058	0.076	0.144	0.202	0.206	0.208	0.209
R-sq between	0.002	0.002	0.049	0.008	0.015	0.016	0.019
F- statistic	13.13	13.25	17.99	16.01	12.22	11.12	10.14

* t statistics in parenthesis. Dependent variable: Current per capita real GDP growth.

Table A9.2: Fixed Effects Panel Regressions, 1970–2000 (10-year averages)*

	1	2	3	4	5	6	7
Log Initial initial real GDP p.c. (\$)	-0.011 (-1.82)	-0.013 (-2.25)	-0.018 (-2.90)	-0.030 (-5.08)	-0.032 (-5.06)	-0.032 (-4.99)	-0.032 (-5.01)
Log secondary school enrollment (%)	-0.005 (-1.25)	-0.010 (-2.16)	-0.005 (-0.93)	-0.003 (-0.47)	-0.004 (-0.79)	-0.005 (-0.83)	-0.005 (-0.84)
Log of investment share of GDP (%)	0.016 (3.16)	0.017 (3.38)	0.015 (2.92)	0.014 (2.91)	0.009 (1.83)	0.009 (1.82)	0.010 (1.91)
Number of Regional regional FTAs		0.006 (2.51)	0.006 (2.43)	0.008 (2.98)	0.006 (2.39)	0.006 (2.37)	0.006 (2.24)
World GDP growth (%)			0.011 (2.31)	0.009 (1.91)	0.006 (1.31)	0.006 (1.25)	0.007 (1.33)
Trade share of GDP (%)			0.0004 (4.22)	0.0002 (1.42)	0.0002 (1.47)	0.0002 (1.43)	0.0002 (1.45)
Black market premium (%)				0.000001 (-0.31)	0.000002 (0.47)	0.000002 (0.46)	0.000002 (0.50)
Government share of consumption (%)				-0.0003 (-1.12)	-0.0002 (-0.74)	-0.0002 (-0.75)	-0.0002 (-0.79)
Fiscal balance as share of GDP (%)					0.001 (3.60)	0.001 (3.61)	0.001 (3.61)
Choice to liberalize						0.011 (0.51)	0.108 (0.48)
Freedom							0.004 (1.00)
Constant	0.082 (1.68)	0.112 (2.24)	0.100 (1.65)	0.209 (3.61)	0.258 (4.05)	0.257 (4.03)	0.248 (3.84)
Observations	440	440	440	335	300	300	299
R-sq within	0.075	0.094	0.156	0.304	0.344	0.345	0.349
R-sq between	0.002	0.028	0.018	0.000	0.000	0.000	0.000
F- statistic	8.08	7.74	9.09	10.92	10.14	9.11	8.38

Table A9.3: Arellano-Bond Dynamic Panel Regressions 2 Step, 1970--2000 (5-year averages)*

	1	2	3	4	5	6	7
First difference Log initial real per capita GDP (\$)	-0.059 (-1.02)	-0.071 (-1.46)	-0.041 (-0.79)	-0.079 (-1.12)	-0.141 (-2.25)	-0.138 (-2.07)	-0.140 (-2.11)
Log secondary school enrollment (%)	-0.013 (-1.45)	-0.010 (-1.29)	-0.004 (-0.56)	0.002 (0.19)	-0.009 (-1.17)	-0.010 (-1.23)	-0.009 (-1.12)
Log of investment share of GDP (%)	0.033 (3.96)	0.034 (4.28)	0.028 (3.46)	0.032 (4.30)	0.030 (4.73)	0.030 (4.70)	0.029 (4.58)
Number of Regional FTAs		0.006 (2.17)	0.004 (1.41)	0.007 (1.62)	0.007 (2.02)	0.006 (1.83)	0.006 (1.82)
World GDP growth (%)			0.009 (4.62)	0.007 (3.34)	0.007 (3.38)	0.006 (3.38)	0.006 (3.33)
Trade share of GDP (%)			0.0005 (2.49)	0.0004 (1.69)	0.0004 (2.29)	0.0005 (2.25)	0.0005 (2.32)
Black market premium (%)				-0.000004 (-2.50)	-0.000004 (-2.68)	-0.000004 (-2.53)	-0.000003 (-2.44)
Government share of consumption (%)				-0.0006 (-1.26)	-0.0003 (-0.64)	-0.0004 (-0.68)	-0.0004 (-0.75)
Fiscal balance as share of GDP (%)					0.0008 (1.60)	0.0008 (1.59)	0.0009 (1.66)
Choice to liberalize						-0.00012 (-0.03)	-0.00003 (-0.01)
Freedom							0.0001 (0.01)
Constant	0.001 (0.59)	-0.001 (-0.59)	-0.002 (-1.30)	-0.004 (-1.86)	-0.003 (-1.99)	-0.003 (-1.91)	-0.003 (-2.03)
Observations	579	579	579	481	407	407	407
Hansen (p-value)	0.037	0.308	0.299	0.349	0.722	0.732	0.722
Second order correlation (p-value)	0.569	0.648	0.394	0.805	0.989	0.968	0.964

* statistics in parenthesis. Dependent variable: Current per capita real GDP growth (First difference).

Table A9.4: Treatment Effects Model, 1970–2000 (5- year averages)*

	Maximum Likelihood Estimates	Two Step Estimates
<u>Current per capita real GDP growth</u>		
Log Initial real GDP p.c. (\$)	-0.039 (-2.90)	-0.039 (-3.88)
Log secondary school enrollment (%)	-0.0003 (-0.05)	-0.0004 (-0.06)
Log of investment share of GDP (%)	0.007 (0.46)	0.007 (1.02)
World GDP growth (%)	0.0063 (2.57)	0.006 (2.60)
Trade share of GDP (%)	0.00003 (0.19)	0.00003 (0.19)
Black market premium (%)	-0.00001 (-0.57)	-0.00001 (-0.94)
Government share of consumption (%)	0.0003 (0.91)	0.0003 (0.84)
Fiscal balance as share of GDP (%)	0.001263 (2.62)	0.001 (2.28)
Choice to liberalize	0.0103 (1.39)	0.011 (1.45)
Number of Regional FTAs	0.006 (2.48)	0.006 (2.42)
<u>Choice to liberalize</u>		
Lagged per capita real GDP growth	-9.701 (-1.7)	-9.569 (-2.11)
2-period lagged per capita real GDP growth	-14.511 (-2.11)	-14.322 (-2.77)
Lagged log level of real GDP per capita	2.42493 (2.18)	2.420 (3.01)
Lagged world real GDP growth per capita	0.427 (2.28)	0.434 (2.61)
Lagged trade share of GDP	-0.017 (-1.39)	-0.017 (-1.62)
Lagged freedom index	0.455 (1.46)	0.454 (1.59)
Dummy for 1980	-0.821 (-2.25)	-0.818 (-2.48)
Dummy for 1990	-0.047 (-0.11)	-0.042 (-0.13)
Hazard (<i>H</i>)	-0.001 (-0.20)	-0.002 (-0.32)
Observations	297	297
Wald Chi Square	...	325.59
Log pseudo-likelihood	552.11	...

***Z statistics in parenthesis.**

Data ANNEX:

Table A9.5a: Summary Statistics (1960--2002)

	Obs	Mean	Std. Dev.	Min.	Max.
Current per capita real GDP growth	1122	0.020492	0.035773	-0.2306	0.235846
Log real per capita GDP (\$)	1122	8.115969	1.043246	5.773635	10.41356
Log secondary school enrollment (%)	744	3.592764	0.968234	0.113329	5.079913
Log of investment share of GDP (%)	1124	2.608961	0.689849	0.081122	4.044216
Regional trade agreement index	1076	0.60855	0.827527	0	5
Regional Integration Agreements (Share of world GDP)	1009	0.051133	0.107988	0	0.608453
Economic Freedom of the World	621	5.726087	1.207982	2.3	9.1
World GDP growth (%)	1009	1.857951	1.018959	0.568824	3.667349
Trade share of GDP (%)	1124	62.06638	42.38338	5.244616	393.7483
Black market premium (%)	834	65.47042	458.6325	-9.93	11662.38
Government share of consumption (%)	1124	18.18883	10.38591	1.430759	70.71793
Fiscal balance as share of GDP (%)	831	-3.02481	4.239407	-43.499	19.19231
Choice to liberalize	1009	0.126858	0.332979	0	1
Freedom	835	2.103772	0.773869	1	3

Number of Observations: 743

Table A9.5b: Data Sources

Variable	Unit	Coverage	Definition	Source
Per capita real GDP growth	Decimal	1950—2000	(Constant price: Laspeyres)	Penn World Tables
Real per capita GDP	\$ constant	1950—2000	(Constant price: Laspeyres)	Penn World Tables
Secondary school enrollment rate	% gross	1960—2000	Ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers.	United Nations Educational, Scientific, and Cultural Organization.
Investment share of GDP	%	1950—2000	Current Price Entries	Penn World Tables
Regional trade agreement index	Integer	1950—2000	Number of free trade agreements in force in any period. If an FTA was signed in the middle of a period it's value is equal to the share of time in force during the entire period.	
Regional Integration Agreements Share (% world GDP)	Decimal	1960—2002	Share of world market, that the country has accessed by signing a regional trade agreement with those countries in the FTA.	World Development Indicators, World Bank
Economic Freedom of the World Index	1 to 10	1970—2002		Economic Freedom Network Website
World GDP growth	%	1961—2002	World aggregate (includes all 208 economies, plus Taiwan, China).	World Development Indicators
Trade share of GDP	%	1950—2000	Current Price Entries	Penn World Tables
Black market premium	%	1960—1999	parallel Xrate/official Xrate-1)*100	Levine and Renelt; World's Currency Yearbook (for 1985, 1990—93); Adrian Wood, Global trends in real exchange rates: 1960—84, WB Discussion paper no. 35. 1988 (filling in missing observations); Global Development Finance & World Development Indicators (for 1996—1997, calculated as (parallel Xrate/official Xrate-1)*100); values for industrial countries are added as 0)
Government share of consumption	%	1950—2000	Current Price Entries	Penn World Tables
Fiscal balance as share of GDP	%	1950—2000		
Choice to liberalize	1 or 0	1950—2000	Dummy variable equal to 1 if and FTA takes place during period	
Freedom House Freedom Status	1 to 3	1973—2004	Not Free (1), Partially Free (2), Free (3)	Freedom House Website

**Table A9.6: List of Countries and Number of
Regional FTAs**

Country	Years Available	# FTA's
Albania	1995--2000	0
Algeria	1970--2000	1
Angola	1970--1995	1
Argentina	1970--2000	3
Armenia	1995--2000	0
Australia	1970--2000	3
Austria	1970--2000	2
Azerbaijan	1995--1995	0
Bangladesh	1975--2000	2
Belarus	1990--2000	0
Belgium	1970--1995	1
Bolivia	1970--2000	4
Botswana	1970--1995	0
Brazil	1970--2000	3
Bulgaria	1995--2000	0
Burkina Faso	1970--2000	1
Burundi	1970--2000	1
Cambodia	1995--1995	0
Cameroon	1970--1995	1
Canada	1970--1995	2
Central Africa	1970--1995	1
Chad	1970--1995	1
Chile	1970--2000	5
China	1970--1995	0
Colombia	1970--2000	4
Congo, Dem.	1970--1995	2
Congo, Republic	1970--2000	0
Costa Rica	1970--2000	3
Cote d'Ivoire	1970--2000	1
Croatia	1995--1995	0
Cyprus	1975--1995	1
Czech Republic	1990--2000	0
Denmark	1970--1995	3
Dominican R	1970--2000	0
Ecuador	1970--2000	2
Egypt	1970--2000	2
El Salvador	1970--2000	1
Estonia	1995--2000	0
Ethiopia	1970--2000	1
Fiji	1970--1995	1
Finland	1970--2000	2
France	1970--2000	1
Gabon	1995--2000	1
Gambia, The	1975--2000	1
Georgia	2000--2000	0
Germany	1990--1995	0

**Table A9.6: List of Countries and Number of
Regional FTAs**

Country	Years Available	# FTA's
Ghana	1970--2000	1
Greece	1970--2000	1
Guatemala	1970--2000	1
Guinea	1970--1995	1
Guinea-Bissau	1970--1995	1
Guyana	1970--1995	1
Haiti	1975--1995	2
Honduras	1970--1995	1
Hong Kong	1970--1995	0
Hungary	1970--1995	2
India	1970--1995	3
Indonesia	1970--2000	1
Iran	1970--2000	1
Ireland	1970--1995	1
Israel	1970--2000	5
Italy	1970--2000	1
Jamaica	1970--2000	1
Japan	1970--2000	0
Jordan	1970--1995	1
Kazakhstan	1995--2000	0
Kenya	1970--2000	1
Korea, Republic	1970--2000	0
Kyrgyzstan	1995--2000	0
Latvia	1990--2000	0
Lebanon	1990--2000	0
Lesotho	1970--2000	0
Lithuania	1995--2000	0
Macedonia	1995--2000	0
Madagascar	1970--1995	1
Malawi	1970--2000	1
Malaysia	1970--2000	2
Mali	1970--1995	1
Mauritania	1970--1995	1
Mauritius	1970--2000	1
Mexico	1970--2000	3
Moldova	1995--2000	0
Morocco	1970--1995	1
Mozambique	1970--2000	0
Namibia	1990--1995	1
Nepal	1970--2000	1
Netherlands	1970--2000	1
New Zealand	1970--2000	2
Nicaragua	1970--2000	1
Niger	1970--2000	1
Nigeria	1970--1995	0
Norway	1970--2000	2
Pakistan	1970--2000	2

**Table A9.6: List of Countries and Number of
Regional FTAs**

Country	Years Available	# FTA's
Panama	1970--2000	0
Papua New G	1970--1995	0
Paraguay	1970--2000	1
Peru	1970--1995	2
Philippines	1970--2000	2
Poland	1970--2000	3
Portugal	1970--2000	3
Romania	1970--2000	0
Russia	1995--2000	0
Rwanda	1970--1995	1
Senegal	1970--2000	1
Sierra Leon	1970--1995	1
Singapore	1970--1995	1
Slovak Republic	1990--2000	0
Slovenia	1990--1995	0
South Africa	1990--2000	0
Spain	1970--2000	1
Sri Lanka	1970--1995	2
Sweden	1970--2000	2
Switzerland	1970--2000	2
Syria	1970--2000	1
Tajikistan	2000--2000	0
Tanzania	1970--2000	1
Thailand	1970--2000	2
Togo	1970--2000	1
Trinidad &T	1970--2000	1
Tunisia	1970--2000	1
Turkey	1970--1995	3
USA	1970--2000	2
Uganda	1970--2000	1
Ukraine	1990--1995	0
United King	1970--2000	3
Uruguay	1970--2000	1
Uzbekistan	1995--1995	0
Venezuela	1970--2000	4
Vietnam	1990--1995	0
Yemen	1990--1995	0
Zambia	1970--2000	1
Zimbabwe	1970--2000	1

BIBLIOGRAPHY

- Analdex. 2003. "Optimization and Rationalization of Institutions and Policies to Promote Small and Medium Enterprises in Colombia." Mimeo.
- Arbeláez, María Angélica, Len Burman, and Sandra Zuluaga (forthcoming). "Bank Debit Tax in Colombia." In Richard Bird, James Poterba and Joel Slemrod, (eds.), *Fiscal Reform in Colombia: Problems and Prospects*. Cambridge, MA: MIT Press.
- Attanasio, O., P. K. Goldberg, and N. Pavcnik. 2004. "Trade Reforms and Wage Inequality in Colombia." *Journal of Development Economics*, 74:331–66.
- Baldwin, Robert I. 2003. "Openness and Growth: What's the Empirical Relationship?" Working Paper 9578. Cambridge, MA: National Bureau of Economic Research.
- Bejarano, J. A. 2001. "Una política comercial de transición para la agricultura." Universidad Nacional de Colombia.
- Ben-David, Dan. 1993. "Equalizing Exchange: Trade Liberalization and Income Convergence." *Quarterly Journal of Economics*, 108(3):653–79.
- Berthelon, Matias. 2004. "Growth Effects of Regional Integration Agreements." Central Bank of Chile Working Paper No. 278. matias.berthelon@ucv.cl.
- Biggs, Tyler. 2002. "Is Small Beautiful and Worthy of Subsidy?" Mimeo. Washington, D.C.: International Finance Corporation.
- Boadway, Robin, Neil Bruce, and Jack Mintz. 1984. "Taxation, Inflation, and the Effective Marginal Tax Rate on Capital in Canada." *Canadian Journal of Economics*, 17: 62–79.
- Burnside, Craig. 2004. *Fiscal Sustainability in Theory and Practice*. Washington, D.C.: World Bank.
- Clavijo, S. 2004. *Crecimiento, Comercio Internacional e Instituciones: Reflexiones a Raíz de las Negociaciones TLC-ALCA*. Banco de la República, Subgerencia de Estudios Económicos, Borradores de Economía No. 307.
- Clerides, Sofronis, S. Lach, and J. Tybout. 1996. "Learning-by-Exporting" Important Micro-dynamic Evidence from Colombia, Mexico and Morocco." National Bureau of Economic Research Working Paper 5715. Cambridge, MA.
- William Cline (2004), Trade and Global Poverty, Institute for International Economics, Washington, D.C.
- Cleveland, W. 1979. "Robust Locally Weighted Regression and Smoothing Scatterplots." *Journal of American Statistical Association*, 74:829–36.
- CONPES. 2004. "Optimización de los Instrumentos de Desarrollo Empresarial." Documento 3280. Colombia, April.

- Cord and Quentin T. Wodon. 2001. "Do Agricultural Programs in Mexico Alleviate Poverty: Evidence from the Ejido Sector." *Cuadernos de Economia*, 38(114):239–256.
- Dean, Judith M., Seema Desai, and James Riedel. 1994. "Trade Policy Reform in Developing Countries since 1985: A Review of the Evidence." *World Bank Discussion Paper* 267. Washington, D. C.
- Deaton, A. 1989. "Rice Prices and Income Distribution in Thailand: A Non-parametric Analysis." *Economic Journal*, 99, Supplement:1–37.
- _____. 1997. *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy*. Washington, D.C.: World Bank.
- Dillinger, William, Guillermo Perry, and Steven Webb. 2001. *Macroeconomic Management in Decentralization Democracies: The Quest for Hard Budget Constraints in Latin America*. Annual World Bank Conference on Development in Latin America and the Caribbean, 1999: Decentralization and Accountability of the Public Sector. Proceedings of the conference held in Valdivia, Chile, June 20–22, 1999 (2000): 85–105. Washington, D.C.: World Bank.
- DNP (Departamento Nacional de Planeación). 2003. *Effectos de un Acuerdo Bilateral de Libre Comercio con Estados Unidos*. Archivos de Economia, Documento No. 229.
- _____. 2004. Cifras de violencia, III Trimestre 2004. Bogotá, September.
- Dollar, David. 1992. "Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976–1985." *Economic Development and Cultural Change*, 40(3):523–44.
- Dollar, David, and Aart Kraay. 2002. "Growth is Good for the Poor." *Journal of Economic Growth*, 7(3):195–225.
- _____. 2004. "Trade, Growth and Poverty." *The Economic Journal*, 114 (February):F22–F49.
- Easterly, William, and Luis Servén. 2003. "Latin American Development Forum Series." Stanford: Stanford University Press, Stanford Social Sciences; Washington, D.C: World Bank.
- Echevarria, Juan Jose, Carolina Renteria, and Roberto Steiner. 2002. *Decentralization and Bailouts in Colombia*. Washington, D.C.: Inter-American Development Bank.
- Echavarría, Juan José, and George R. Zodrow. (forthcoming). "Foreign Direct Investment and the Business Tax in Colombia." In: Richard Bird, James Poterba and Joel Slemrod, (eds.), *Fiscal Reform in Colombia: Problems and Prospects*. Cambridge, MA: MIT Press.
- Edwards, Sebastian. 1998. "Openness, Productivity and Growth: What Do We Really Know?" *Economic Journal*, 108(447) (July):383–98.
- Escribano, Alvaro, and J. L. Guasch. 2005. "An Econometric Methodology for Investment Climate Assessments (ICA) on Productivity Using Firm Level Data:

- The Case of Guatemala, Honduras and Nicaragua.” Washington, D.C.: World Bank. Forthcoming.
- Eslava, Marcela, J. Haltiwanger, A. Kugler, and M. Kugler. 2002. “The Effects of Structural Reforms on Productivity and Profitability Enhancing Reallocation: Evidence from Colombia.” *Journal of Development Economics*, 75:333–71.
- Fischer, Stanley. 2003. “Globalization and its Challenges.” *American Economic Review*, 93(2):1–30.
- Frankel, Jeffrey, and Andrew Rose. 2002. “An Estimate of the Effect of Common Currencies on Trade and Growth.” *Quarterly Journal of Economics*, 117(2):437–66.
- Frankel, Jeffrey, and David Romer. 1999. “Does Trade Cause Growth?” *American Economic Review*, 89(3):379–99.
- Garay, L. J. et al. 2004. *El Agro Colombiano frente al TLC con los Estados Unidos*. Bogotá: Ministerio de Agricultura y Desarrollo Rural.
- Goldberg, Pinelopi Koujianou, and Nina Pavcnik. “The Effects of the Colombian Trade Liberalization on Urban Poverty.” National Bureau of Economic Research Working Paper No. 11081. Cambridge, MA. penny.goldberg@yale.edu.
- Gordon, Roger H., and James R. Hines, Jr. 2002. “International Taxation.” In: Alan J. Auerbach and Martin Feldstein, (eds.), *Handbook of Public Economics Volume IV*. New York: Elsevier.
- Gugl, Elisabeth, and George R. Zodrow. 2004. “International Tax Competition and Tax Incentives in Developing Countries.” Paper presented at the conference, “Challenges of Tax Reform in a Global Economy,” Andrew Young School of Policy Studies, Georgia State University, May 24–25, 2004.
- Hallberg, Kristin. 2000. “A Market Oriented Strategy for Small and Medium-Scale Enterprises.” International Finance Corporation Discussion Paper Number 40. Washington, D.C.
- Hallberg, Kristin, L. Koryukin, and H. Tan. 2000. “Export Dynamics and Productivity: Analysis of Mexican Manufacturing in the 1990s.” World Bank Report 19864-ME. Washington, D.C.
- Harberger, Arnold. 1995. “The ABCs of Corporation Tax Incidence: Insights into the Open-Economy Case.” In: *Policy and Economic Growth*. Washington, D.C.: American Council for Capital Formation.
- Heritage Foundation. *Index of Economic Freedom*. <http://www.heritage.org/research/features/index/downloads/PastScores.xls>.
- Hernández, G. A., and J. R. Perilla. 2001. *Análisis de las Importaciones Agropecuarias en la Década de los Noventa*. Departamento Nacional de Planeación.
- Hufbauer, Jones, and Schott. 2003. “North American Labor Under Nafta.” Institute for International Economics, Working Paper. Washington, D.C.
- Irwin, Douglas A., and Marko Tervio. 2002. “Does Trade Raise Income? Evidence from the Twentieth Century.” *Journal of International Economics*, 58(1):1–18

- Jaramillo, C. F. 2002. *Crisis y Transformación de la Agricultura Colombiana 1990–2000*. Bogotá: Fondo de Cultura Económica y Banco de la República.
- Kalmanovitz, Salomón and Enrique López (2004), “Patrones de desarrollo y fuentes de crecimiento de la agricultura” Borradores de Economía #228. Banco de la Republica de Colombia.
- Kaufmann, Daniel. 2004. "Corruption, Governance and Security: Challenges for the Rich Countries and the World." The Global Competitiveness Report 2004-2005. Chapter 2.1.
- Kaufmann, Daniel; Aart Kaay; and Massimo Mastruzzi. 2005. "Governance Matters IV: Governance Indicators for 1996-2004." Working Paper. Washington DC, The World Bank
- Kee, Hiau Looi. 2002. “Markups, Returns to Scale, and Productivity: A Case Study of Singapore’s Manufacturing Sector.” Policy Research Working Paper 28571. Washington, D.C.: World Bank.
- King, Mervyn, and Don Fullerton. 1984. *The Taxation of Income From Capital*. Chicago: University of Chicago Press.
- Kletzer, Lori G. 2004. “Trade-related Job Loss and Wage Insurance: A Synthetic Review.” *Review of International Economics*, 12(5):724–48.
- Light, M. K., and T. F. Rutherford. 2003. *Free Trade Area of the Americas: An Impact Assessment for Colombia*. Departamento Nacional de Planeación, Archivos de Economía Documento No. 222.
- Ljungqvist, L., and T. J. Sargent. 1996. “A Supply-side Explanation of European Unemployment. *Journal of Economic Perspectives*, XX(5):2–15.
- _____. 1998. “The European Unemployment Dilemma.” *Journal of Political Economy*, 106(3):514–50.
- _____. 2002. “The European Unemployment Experience.” Draft.
- Lopez, Humberto. 2004. “Pro-growth, Pro-poor: Is there a tradeoff?” World Bank mimeo. Washington, D.C.
- Lora, Eduardo. 1994. “Colombia: Structural Reforms and Economic Performance.” Center for Strategic and International Studies Policy Papers on the Americas, Volume V, Report No. 1, (March). Washington, D.C.
- Martinez, C., Alberto. 2002. “The European Union and the Andean Community: Two Integration Systems.” Universidad Simón Bolívar, Caracas, Venezuela. amartinez@usb.ve.
- Mauro, Paolo. 1995. "Corruption and Growth." *Quarterly Journal of Economics*. 110(3): 681–712
- McLure, Charles E., Jr., and George R. Zodrow. 1997. “Thirty Years of Tax Reform in Colombia.” In: Wayne Thirsk, (ed.), *Recent Experience with Tax Reform in Developing Countries*. Washington, D.C: World Bank.

- Medina, P., M. Meléndez, and K. Seim. 2003. "Productivity Dynamics of the Colombian Manufacturing Sector." Documento CEDE 2003-2.
- Melendez, M., and R. Paredes, R. (forthcoming). "Herramientas y Políticas Para Reducir Impactos Negativos de Cambios Estructurales." *Coyuntura Económica*, 35(1). Bogotá, Colombia: Fedesarrollo.
- Meléndez, M., F. Sánchez, y M. P. Velasco. 2003. "Estudio del mercado de MYPIMES en Colombia." Mimeo. CEDE.
- Mintz, Jack M. 1995. "Tax Holidays and Investment." In: Anwar Shah, (ed.), *Fiscal Incentives for Investment and Innovation*. Oxford: Oxford University Press, for the World Bank.
- OECD. 2002. "Small Businesses, Job Creation and Growth: Facts Obstacles and Best Practices." Paris.
- Paredes, R., J. Ruiz-Tagle, y V. Nieto. 2000. "Evaluación del Programa de Reinserción Laboral del Sence." Documento del Ministerio del Trabajo. Santiago, Chile.
- Peres, Wilson, and Giovanni Stumpo. (eds.). 2002. "Pequeñas y Medianas Empresas Industriales en América Latina y el Caribe." Buenos Aires and México D.F.: Siglo XXI and ECLAC/United Nations.
- Pietrobelli, Carlo, and Roberta Rabellotti. 2004. "Upgrading in Clusters and Value Chains in Latin America: The Role of Policies." Washington, D.C.: Inter-American Development Bank.
- Pörtner, C. C. 2003. "Expected Impacts of CAFTA in Guatemala." Mimeo.
- Ravallion, M., and M. Lokshin. 2004. "Gainers and Losers from Trade Reform in Morocco." World Bank, Policy Research Working Paper No. 3368. Washington, D.C.
- Reinhart, Carmen, Kenneth Rogoff, and Miguel Savastano. 2003. "Debt Intolerance." Processed. Brookings Papers on Economic Activity. Washington, D.C.
- Roberts, Mark J., and J. Tybout. 1997. "What Makes Exports Boom?" Washington, D.C.: World Bank.
- Rocha, R., R. Perilla, and R. López. 2004. "Una aproximación a los efectos del ALCA sobre las importaciones de Colombia." Universidad de los Andes, CEDE, no. 25.
- Rodríguez, Astrid Genoveva. 2003. "La Realidad de la PYME Colombiana, Desafío para el Desarrollo." Fundes Colombia.
- Rodriguez, Francisco, and Dani Rodrik. 2001. "Trade Policy and Economic Growth: A Sceptic's Guide to the Cross-National Evidence." *NBER Macroeconomics Annual 2000*. Cambridge, MA: MIT Press.
- Rosen, Howard. 2002. "Reforming Trade Adjustment Assistance: Keeping a 40-Year Promise." Paper presented at the Institute for International Economics conference on "Trade Policy in 2002," February 26. Washington, D.C..
- Saavedra, J. 2003. "Labor Markets during the 1990s." In: Pedro-Pablo Kuczynski and John Williamson, (eds), *After the Washington Consensus: Restarting Growth and*

- Reform in Latin America.* Washington, D.C.: Institute for International Economics.
- Sachs, Jeffrey, and Andrew Warner. 1995. "Economic Reform and the Process of Global Integration." *Brookings Papers on Economic Activity*, 1995(1), 25th Anniversary Issue.
- Scheve, Kenneth F., and Matthew J. Slaughter. 2001. "Globalization and the Perceptions of American Workers." Washington, D.C.: Institute for International Economics.
- Segura, M., M. E. Muñoz, y K. Foster. 1998. "Reconversión Laboral: Colombia." En: *Programas de Adaptación Laboral en Latinoamérica: Cuatro experiencias de reconversión laboral.* Washington, D.C.: Banco Interamericano de Desarrollo.
- Suescún, Rodrigo. 2004. "Fiscal Space for Investment in Infrastructure in Colombia." Washington, D.C.: World Bank. Processed.
- Thorsten Beck; Ross Levine; Norman Loayza, 1999. "Finance and the Sources of Growth" Polilcy Research Working Paper No. 2057. Washington, DC. The World Bank.
- Transparency International Corruption Research. 2004.
- Vamvakidis, Athanasios. 1998. "Regional Trade Agreements Versus Broad Liberalization: Which Path Leads to Faster Growth? Time Series Evidence." International Monetary Fund Working Paper WP/98/40 (March). Washington, D.C.
- Wacziarg, Romain, and Karen Horn Welch. 2002. "Trade Liberalization and Growth: New Evidence." Stanford Graduate School of Business, mimeo. wacziarg@gsb.stanford.edu.
- WBES. 2004 <http://info.worldbank.org/governance/wbes/>
- Wei, S-J "How Taxing is Corruption on International Investors? The Review of Economics and Statistics, 1 February 2000, vol. 82, no. 1, pp. 1-11(11)
- Western Hemispheric Trade Digest. 2004. IV(7)1-2.
- White, Howard, and Edward Anderson. 2001. "Growth versus Distribution: Does the Pattern of Growth Matter?" *Development Policy Review*, 19(3):267-289.
- Winters, L. Alan, Neil McCulloch, and Andrew McKay. 2004. "Trade Liberalization and Poverty: The Evidence So Far." *Journal of Economic Literature*, XLII (March):72-115.
- World Bank. 2002. "Colombia Poverty Report, Vol. 1." Report number 24524-CO. November 1. Washington, D.C.
- _____. 2004a. "Doing Business." Washington, D.C.
- _____. 2004b. "Colombia Public Expenditure Review." Washington, D.C: World Bank.
- _____. 2004c. "The World Development Indicators and Global Development Finance Database." CD-Rom. Washington, D.C.

- _____. 2004d. "Peru: Microeconomic Constraints to Growth—Evidence from the Manufacturing Sector." Washington, D.C.
- _____. 2004. *Colombia: Recent Developments in Infrastructure* (REDI). Washington, D.C.
- _____. 2005a. "Labor Market Adjustment, Reform and Productivity in Colombia: What are the Factors that Matter?"
- _____. 2005b. *World Development Report*. Washington, D.C.
- _____. 2005c. "DR-CAFTA: Challenges and Opportunities for Central America," Washington, DC
- _____. 2005d. *Doing Business.*" Washington, D.C.
- World Economic Forum. 2003. *The Global Competitiveness Report*.
- _____. 2004. *The Global Competitiveness Report*
- _____. 2005. *The Global Competitiveness Report*
- Yanikkaya, Halit. 2003. "Trade Openness and Economic Growth: A Cross-country Empirical Investigation." *Journal of Development Economics*, 72(1):57–89.
- Zodrow, George R. 2002. "World Bank Tax Reform Proposals for Colombia." Washington, D.C: World Bank.
- _____. 2003. "Reflections on the Economic Theory of Local Tax Incentives." *State Tax Notes*, 28(10)(June 9):891–900.
- _____. 2003a. "Tax Competition and Tax Coordination in the European Union." *International Tax and Public Finance*, 10:651–71.
- _____. 2003b. "Incremental Partial Expensing as an Investment Incentive Option in Colombia." Washington, D.C.: World Bank.
- _____. 2003. "Subnational Taxes in Colombia." Processed. Houston, TX: Rice University.
- Zodrow, George R., and Charles E. McLure, Jr. 1991. "Implementing Direct Consumption Taxes in Developing Countries." *Tax Law Review*, 46:405–87.
- Zoellick, Robert. 2002. "Unleashing the Trade Winds." *The Economist*. December 5th.