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Fiscal Redistribution and Income Inequality in Latin America

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Abstract

Income inequality in Latin America ranks among the highest in the world. It can be traced back to the unequal distribution of assets (especially land and education) in the region. But the extent to which asset inequality translates into income inequality depends on the redistributive capacity of the state. This paper documents the performance of Latin American fiscal systems from the perspective of income redistribution using newly-available information on the incidence of taxes and transfers across the region. The findings indicate that: (i) the differences in income inequality before taxes and transfers between Latin America and Western Europe are much more modest than those after taxes and transfers; (ii) the key reason is that, in contrast with industrial countries, in most Latin American countries the fiscal system is of little help in reducing income inequality; and (iii) in countries where fiscal redistribution is significant, it is achieved mostly through transfers rather than taxes. These facts stress the need for fiscal reforms across the region to further the goal of social equity. However, different countries need to place different relative emphasis on raising tax collection, restructuring the tax system, and improving the targeting of expenditures.

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The World Bank

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1. Introduction

According to the World Bank's *World Development Report 2006,* Latin America ranks at the top among world regions in terms of inequality, second only to Sub-Saharan Africa. Inequality in Latin America is pervasive – it extends to every aspect of life, from the distribution of income and assets to access to education and health services, and political voice and influence.

High inequality is viewed by many as intrinsically bad on moral and ethical grounds.[1] But in addition high inequality can be a powerful drag on development and prosperity, for several reasons. First, for given average income levels, higher income inequality means higher poverty. And the magnitude of this effect is far from negligible: according to Perry et al. (2006), if Latin America had the levels of inequality found in developed countries, its current poverty rate would be more than halved. High poverty is not only a tragedy in itself but, as a rapidly expanding literature has argued, it can also be a source of underdevelopment traps in which financial market imperfections and institutional constraints prevent the poor from contributing to the growth process.[2] This in turn retards growth and makes poverty self-perpetuating. Indeed, the international evidence is consistent with this growth-deterring effect of poverty (e.g., López and Servén 2006b).

Second, the other side of the coin is that higher inequality also weakens the impact of aggregate income growth on poverty: the more unequal income distribution is, the faster the rate of growth required to achieve a given reduction in poverty.[3] Combined with the mechanism described above, the result is that inequality lies at the core of the vicious circles of stagnation and poverty in which many developing countries appear to be stuck.

Third, high inequality can also be a source of distributive conflict and social tension, which tend to undermine the legitimacy of policies and institutions as well as their stability, and in particular weaken property rights, thus discouraging investment and thereby growth.[4]

These considerations have brought social equity to center stage in the Latin American policy debate. Indeed, recent major contributions to that debate portray social equity as one, or even the, key organizing principle for the region's development strategy, and some retrospective assessments of Latin America's performance under the so-called 'Washington Consensus' of the 1990s blame the reforms' neglect of equity considerations for the region's limited achievements over the last decade.[5] On both

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[1] See World Bank (2006) for a review of the philosophical arguments for equity.
[2] See for example Azariadis and Stachurski (2005).
[3] See Bourguignon (2004) and López and Servén (2006a) for some quantitative estimates of the order of magnitude of this effect.
[4] Alesina and Rodrik (1994) and Alesina and Perotti (1996) present empirical evidence of the adverse effect of inequality on investment through these channels.
[5] Among major recent contributions see Birdsall and de la Torre (2001), Kuczynski and Williamson (2003), De Ferranti et al (2004) and Perry et al (2006).

counts, equity has become a central concern for development policy across the region, echoing the views of Latin American citizens, who overwhelmingly perceive the distribution of income as 'unfair' or 'very unfair' and believe that the state should take responsibility for reducing the gap between rich and poor. [6]

High income inequality usually reflects an unequal distribution of assets, such as land and human capital, which prevents important segments of the population from participating in the growth process. Across countries, asset inequality and income inequality are closely associated – e.g., the cross-country correlation between the Gini coefficients of the distribution of income and the distribution of years of schooling is above .75, while the correlation between the Gini indices of the distribution of income and the distribution of land is around .50 (de Ferranti et al., 2004). And asset distribution is highly unequal in Latin America. For example, the Gini coefficient of the distribution of operational holdings of agricultural land is about .81 for Latin America (Deininger and Olinto, 2000), while in other world regions it hovers around .60; similarly, for the distribution of years of schooling, the Gini coefficient is .42 in Latin America, against .27 in industrial countries.[7]

But high inequality can also reflect the failure of fiscal policy to perform its redistributive function – one of Musgrave's (1959) three classic fiscal functions[8] – through appropriate use of taxes and transfers to correct socially-undesirable distributive outcomes arising from market forces, given the prevailing distribution of assets. The evidence shows that industrial-country governments are highly effective at this redistributive function, but developing-country governments are not, and in fact they are often part of the problem rather than the solution. [9]

If inequality is above socially tolerable levels, as the survey evidence cited above suggests, in general policy action has to take a dual approach. On the one hand, it should target the deep roots of inequality, through interventions aiming to broaden asset ownership and equality of opportunity – e.g., by expanding access to education and health. But this is likely to be a long-term process with much of the payoff accruing in the distant future. On the other hand, policy should ensure, through the necessary fiscal reforms, that the fiscal system performs its redistributive function effectively. Of course, the relative emphasis on each of these courses of action should depend on country-specific circumstances.

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[6] According to the regional opinion poll Latinobarometro, 89 percent of those surveyed in 2001 regarded the distribution of income in their countries as unfair or very unfair. In an earlier 1996 poll, three-quarters of all respondents agreed strongly with the view that the state should take charge of reducing inequality, and a further 17 percent supported that view, but not "strongly".

[7] Asset inequality has deep roots in Latin America, which some authors (Engerman and Sokoloff, 2000 and Acemoglu, Johnson and Robinson, 2001) trace to the pattern of specialization during colonial times, heavily reliant on natural resources – especially mining and sugar production – and on the use of subordinate labor. In this view, the colonists developed institutions (related, for example, to land use and political control) that helped perpetuate their political dominance and their wealth, resulting in a highly unequal distribution of assets that has persisted until today. .

[8] The other two are efficiency and stabilization; see Musgrave (1959).

[9] For a discussion of the anti-poverty effect of taxes and transfers in industrial countries see Smeeding (2006). For a comparison of industrial and developing countries see Chu et al. (2000).

In this paper we document the performance of Latin American fiscal systems from the perspective of redistribution. Using recently-assembled data on the incidence of taxes and transfers in major Latin American countries, we place the region against the comparative benchmark provided by industrial countries. This serves to highlight two key facts. First, the biggest contrast between the two regions in terms of income inequality concerns the distributional impact of the tax and transfer system. In contrast with industrial countries, in most Latin American countries the fiscal system is of little help in reducing inequality. This is the combined result of two adverse factors. One is that transfers do help redistribution, but not much. The other is that the scope for active fiscal redistribution is severely constrained by the region's low levels of tax collection, which (with a couple of exceptions) are well below the international norm – a fact that also underlies the shortcomings of Latin America's public sectors in the other classic functions of efficiency and stability.

Second, the bulk of redistribution in industrial countries is achieved through transfers, rather than taxes. This has important policy implications for the debate on the type of taxes (income or VAT) that policy makers should consider in the context of fiscal reforms that have among their objectives an increase in tax collection.

On the whole, the evidence we present shows ample room for enhancing the distributive performance of Latin America's fiscal systems through appropriate fiscal reform – with specific reform priorities determined by country circumstances. Our analysis is subject to some caveats, however. First, we focus on the distribution of annual income, rather than that of lifetime income, which would be impossible to study with the available data. This in turn implies that we ignore the potential dynamic distributive effects arising from social expenditures such as health and education. These might affect asset accumulation by the poor and hence have an impact of the distribution of future market income. Second, our use of European countries as benchmark of comparison is also a reflection of data availability rather than a normative statement about the desirability (or lack thereof) of the 'European model' as a specific choice between redistributive activism and efficiency costs. Related to this, we do not discuss the institutional and implementation challenges that Latin American countries might face should they wish to expand significantly the role of taxes and/or transfers as redistributive vehicles.[10] Third, we rely on standard incidence analysis, leaving aside incentive effects of fiscal interventions whose proper analysis would require empirical implementation of a fully-specified general equilibrium model.

The rest of the paper is structured as follows. In Section 2, we compare the distributional impact of taxes and transfers in Latin America and in Europe. Section 3 explores in detail why Latin America's fiscal policy is largely ineffective at reducing income inequality. The section reviews the three key ingredients of fiscal redistribution --

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[10] See for example Dethier (2007) for a discussion of the difficulties that developing countries would likely encounter if they tried to raise social security coverage to levels similar to those found in the developed world.

the tax/transfer collection level, the incidence of the tax burden, and the distribution of transfer benefits. Finally, Section 4 closes with some concluding thoughts.

2. Income inequality and fiscal redistribution in Latin America

We begin by reviewing the facts regarding income inequality and the redistributive performance of the fiscal system in Latin America. Before proceeding, it will be useful to define some terms. We use the term *market income* to refer to income before taxes and government transfers – thus its distribution is largely determined by market rewards to the private assets and efforts of individuals, and by the underlying distribution of those private assets. However, from a welfare perspective a more relevant measure is *disposable income* – i.e., household income after government cash benefits (e.g. pensions, unemployment insurance, social assistance transfers) have been received and direct taxes have been paid. Note that disposable income, rather than market income, is the relevant measure of the purchasing power of the different households. Two additional definitions used below are *gross income* (market income plus government cash benefits, or total household income before taxes) and *post-tax income,* which deducts from gross income all taxes, direct and indirect. This latter measure is useful to get a more comprehensive view of the tax burden, particularly in countries that rely heavily on indirect taxation.

Comparing these various income concepts, we can assess the distributional impact of the tax and transfer system and its separate components. It is important to clarify the limitations of this type of analysis. First, taxes and transfers may themselves affect the distribution of market income, a fact whose proper consideration would require a fully specified behavioral model, which is beyond the scope of our analysis.[11] Second, we focus on annual income, thus neglecting intertemporal issues (such as redistribution over the life-cycle), which may lead to overstating inequality as well as the regressivity of indirect taxation (Fullerton and Rogers 1993). Third, we focus on cash transfers only, and thus we do not assess the redistributive effects of transfers in kind like public health, education, or housing.[12] And fourth, our discussion of the incidence of transfers on income inequality focuses on who benefits from spending on *average*, rather than *at the margin,* and thus we ignore possible systematic differences between average and marginal incidence – which could lead us to underestimate the redistributive impact of transfer increases.

With these caveats in mind, Figure 1 reports the value of the Gini coefficient of the distributions of disposable income (Panels A and B) and market income (Panels C and D) in Latin America (Panels A and C) and Europe (Panels B and D).[13] Inspection of

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[11] An example of that approach is Fullerton and Rogers (1993).

[12] Transfers in kind can also have a direct redistributive effect, but its quantitative assessment poses a number of difficulties. For example, one needs to make assumptions regarding how accurately the cost of the public good acquired by these transfers reflects its value for the private individuals receiving it. To avoid these complications, here we have limited our attention to the incidence of cash transfers only.

[13] The Latin American data underlying Figure 2.1 come from two main sources. Tax incidence information is derived from Breceda et al. (2006) for Argentina (1997), Brazil (1999), Colombia (2003), Mexico (2002), Peru (2004), Bolivia (2004), Honduras (2004) and Nicaragua (2001). Chile's tax incidence was

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Panels A and B clearly illustrates the fact that Latin America is much more unequal than Europe.[14] In fact, the Latin American country with the lowest Gini coefficient in this sample (Chile) has inequality levels above those of the most unequal European country (Portugal).[15]

Figure 1. Inequality of Disposable and Market income in Latin America and Europe (Gini coefficients)
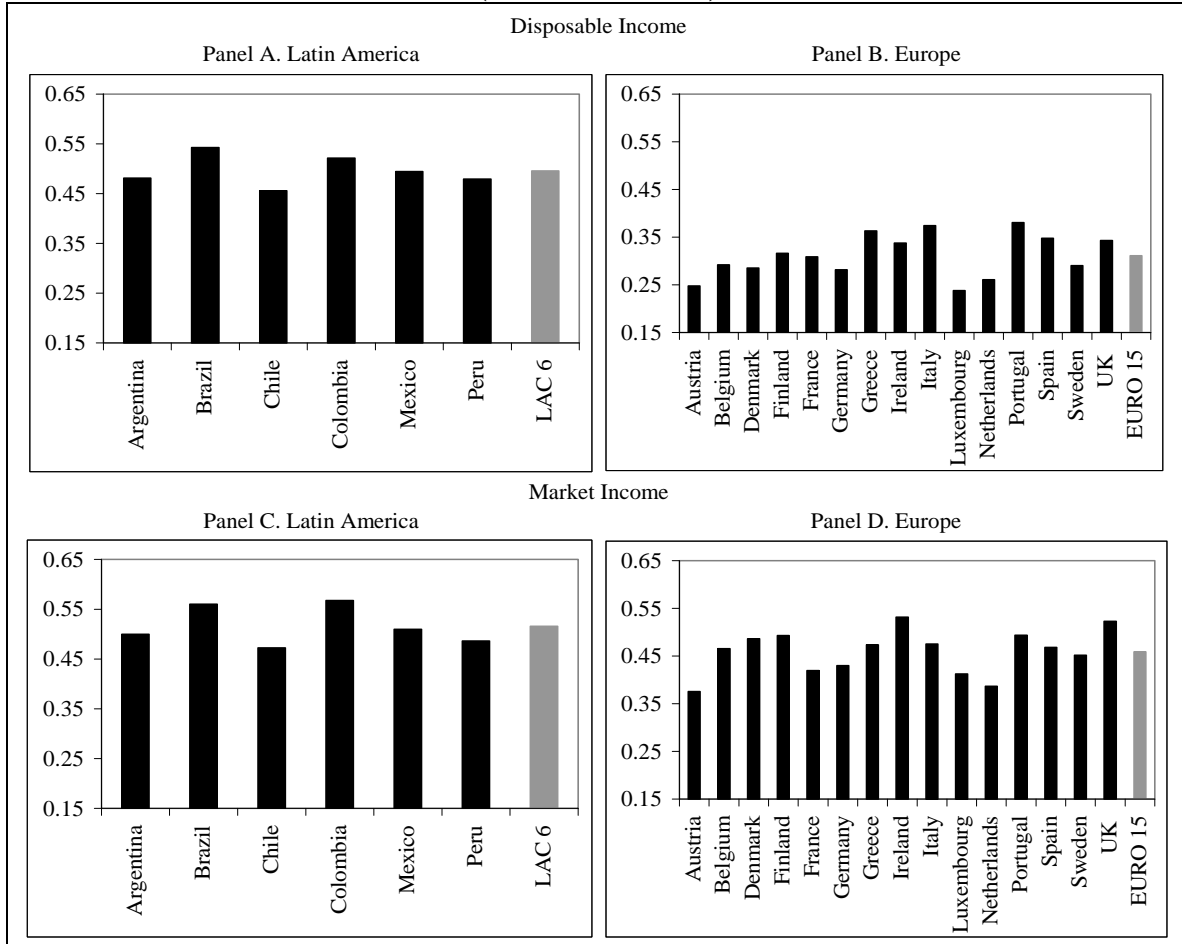
However, the situation is dramatically different when we look at Panels C and D, which depict the Gini coefficients of the distribution of market (i.e., pre-tax and transfer) incomes. In fact, whereas the average Gini coefficient of market income for the Latin America sample, at .52, is only 2 percentage points above that of disposable income, the

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drawn from Engel et al. (1999). The incidence of transfers is estimated on the basis of the information in Lindert et al. (2006). The European data come from EUROMOD, which is a source of harmonized microdata on the different income components before and after redistribution; see http://www.econ.cam.ac.uk/dae/mu/emodstats/index.htm

[14] The graphs confirm the findings of De Ferranti et al. (2004) and World Bank (2006). For disposable income, they report an average Gini coefficient of about .5 for Latin America and an average Gini coefficient of .31 for European countries.

[15] This result continues to hold in a broader sample of Latin American countries, because the lowest Gini in the region (Uruguay's) is .42.

Gini coefficients of the European countries are substantially higher than those in Panel B: the average for the 15 countries in the sample is now .46. That is, it appears that most of the difference between the levels of disposable income inequality in the two regions is due to the different impact of taxes and transfers: they reduce market income inequality considerably in Europe, and very little in Latin America.
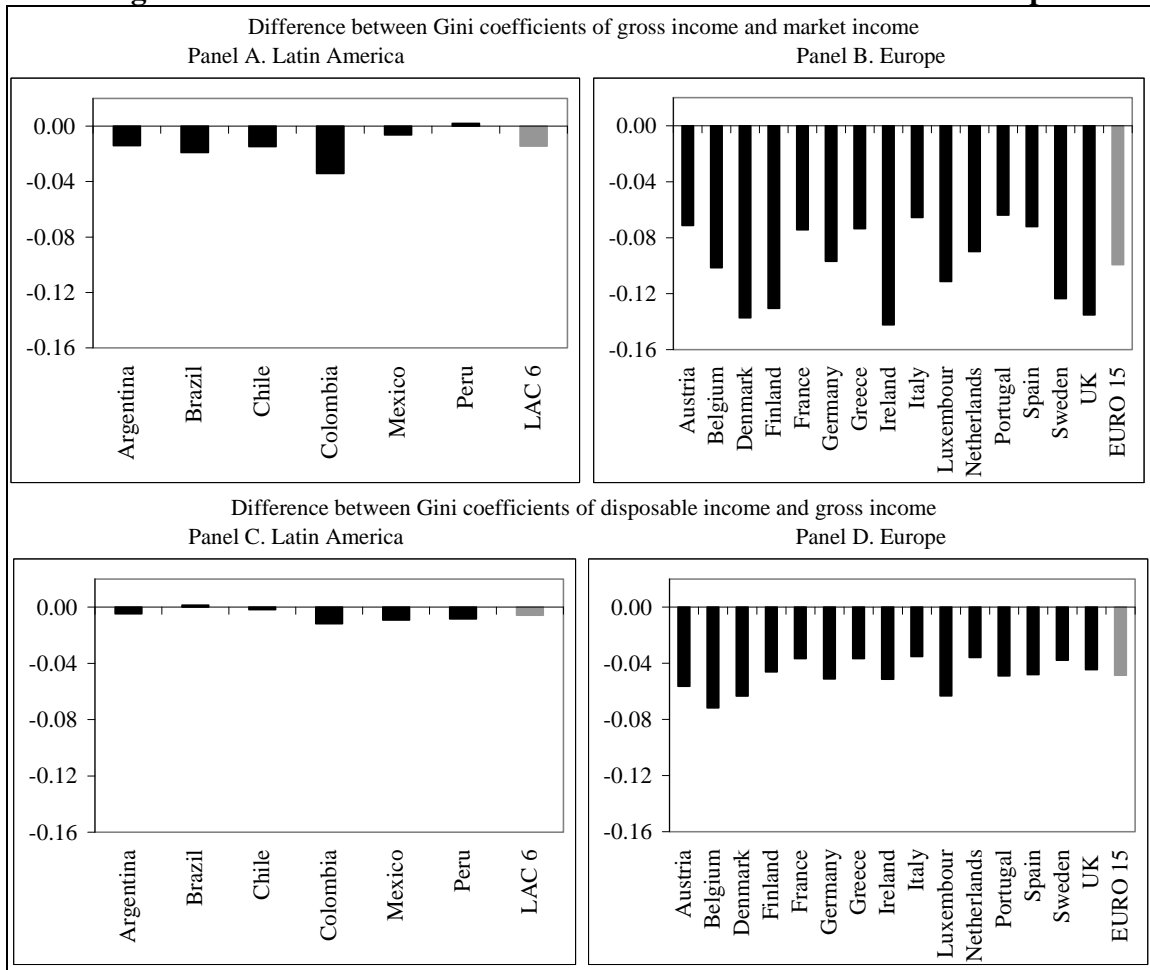
Note that before direct taxes and transfers are considered there are many countries in Europe that have Gini indices comparable to those typically found in Latin America. This is the case, for example, with the Gini coefficients of market income for Ireland and the UK, estimated at .53 and .52. Even the Nordic countries, popularly praised for their levels of equality, show high inequality in market incomes. The Gini indices of Denmark, Finland, and Sweden are .49, .49 and .45 respectively. The most equal countries in terms of market incomes are Austria and the Netherlands, with Gini coefficients of .38 and .39 respectively. Of course, this is in sharp contrast with Panel B, where the Gini coefficients are on average 15 percentage points lower. This difference is even larger in the cases of Denmark or Ireland, where taxes and transfers lower the Gini coefficient by 20 and 19 percentage points respectively. It is worth noting that even the countries that redistribute the least through the tax-benefit system (Italy, Greece and Portugal) still manage to lower the Gini index by more than 10 percentage points.

The dramatically different impact of the tax-benefit system in Latin America and Europe is also apparent from Figure 2, which separates the respective impacts of cash transfers and direct taxes. Panel B shows that in Denmark, Finland, Ireland, the UK, and Sweden public transfers lower the Gini coefficient of market incomes by 12-14 percentage points, and by 10-11 percentage points in Belgium, Germany, and Luxemburg. At the other extreme, in Portugal transfers lower the Gini coefficient by just 6 percentage points. The average contribution of transfers for the European sample is around 10 percentage points. In contrast, public transfers contribute only slightly to lower inequality in Latin America, lowering the Gini coefficient by between 1 and 2 percentage points, although in some cases (Peru) the distribution of income is even more unequal after transfers than before transfers.

As for taxes, the situation (depicted in panels C and D of Figure 2) is similar but the contrast between regions is less dramatic. Like with transfers, taxes reduce the levels of income inequality much more in European countries than in Latin America. For example, direct taxation lowers the Gini coefficient of household income by 6-7 percentage points in Austria, Belgium, and Luxemburg, and by an average 5 percentage points for the fifteen countries in the European sample. In contrast, the average decline in the Latin American Gini coefficients as a result of direct taxes is about 1 percentage point, with very little variation across countries.

One additional message from Figure 2 regards the relative redistributive roles of direct taxes and transfer benefits. For the European countries, transfers play a more significant role than taxes: of the 15 percentage points difference between the average Gini coefficients of market and disposable income across European countries, about two-thirds (10 percentage points) are due to transfers.

Figure 2. The role of taxes and transfers in Latin America and Europe

Difference between Gini coefficients of gross income and market income

Panel A. Latin America   Panel B. Europe

Difference between Gini coefficients of disposable income and gross income

Panel C. Latin America   Panel D. Europe

Table 1 The role of indirect taxes in the UK
(Gini coefficients)

	Income Definition			
	Market	Gross	Disposable	Post-tax
This Study	0.52	0.39	0.34	
Jones (2006)	0.52	0.37	0.34	0.38

Source: Tables 1 and 2 and Jones (2006)

Importantly, our definition of disposable income only deducts direct taxes, which in general tend to be more progressive than the overall tax package comprising both direct and indirect taxes. In this regard, Jones (2006) performs calculations similar to ours for the UK using 2003-04 data and extending the analysis to consider also the role of indirect taxation. As shown in Table 1, the conclusion is that indirect taxes increase the Gini coefficient of post-tax income (household income after transfers have been received and both direct and indirect taxes paid) by about 4 percentage points above that of disposable income, thus more than offsetting the progressive impact of direct taxes. That

is, the distribution of post-tax income is, if anything, more unequal than the distribution of gross income.[16]

In other words, the differences between the distributions of market and disposable income (such as those implied by Figure 1 above) likely overstate the redistributive role of the state, because they ignore the usually regressive impact of indirect taxes. Panel A of Figure 3 offers estimates of that impact for Latin American countries. It is indeed uniformly regressive, although smaller in magnitude than that found by Jones (2006) for the UK. Panel B compares the Gini coefficients of post-tax and market income for the same countries. Thus, it offers an encompassing view of fiscal redistribution, including the effects of both direct and indirect taxes as well as transfers. It shows that, with the exception of Peru, the combination of direct and indirect taxes and transfers contributes to lower inequality levels in all countries shown. As a result of fiscal policy, the Gini coefficient of the distribution of post-tax income is, on average, 1.5 percentage points lower than that of market income. The difference is particularly large in the case of Colombia, where it reaches 4 percentage points.

Figure 3. The role of indirect taxes in Latin America
(change in Gini coefficients)
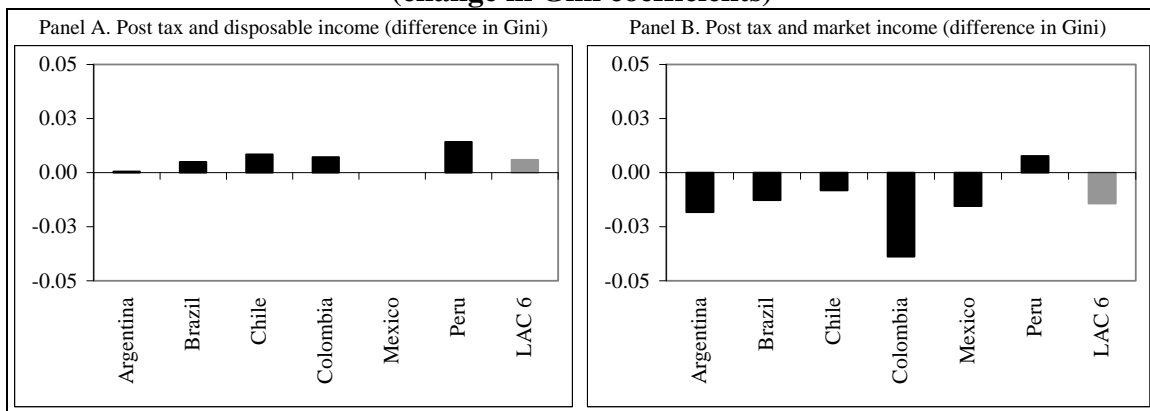
3. What limits fiscal redistribution in Latin America?

To summarize, the empirical evidence suggests that taxes and transfers exert a much more significant redistributive impact in Europe than in Latin America. But why exactly? Intuitively, one could argue that this is so because in Europe taxes are higher (and therefore can finance more transfers), and/or are more progressive (at least when we consider direct taxes), and/or transfers are better targeted towards the needy. But to assess reform priorities, we need to know what relative role each of these ingredients plays in shaping fiscal redistribution in Latin America.

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[16] Similar results have been found for the United States. For example, Pechman (1985, 1990) analyzed the structure of the tax burden in the US concluding that the tax system has very little effect on the distribution of income. However, he also found that the system of transfer payments is highly progressive and has a major effect on the income distribution.

3.1 A simplified framework

In fact, the respective contribution of each ingredient can be assessed making use of a simple expression that relates the Gini coefficient of disposable income (G^d),the Gini coefficient of market income (G^m), the level of taxation (τ), and the distribution among households of transfer benefits (G_θ) and the tax burden (G_τ):[17]

$$G^m - G^d = \tau(G_\theta + G_\tau) .\qquad\qquad (1)$$

We can view the left-hand side of the equation as the redistributive impact of the fiscal system – given by the difference between the degree of inequality of market income, and that of disposable income (measured by the Gini coefficients of the respective distributions).[18]

This expression shows that the redistributive impact of the fiscal system is proportional to the tax effort. In other words, even if benefits are well targeted towards the poor and the tax system is very progressive, countries with low tax efforts will end up with a distribution of disposable income quite similar to that of market income.

This is better seen if we simplify the previous expression by assuming proportional tax rates (i.e. $G^m = G_\tau$) so that rearranging we can write:

$$G^d = (1-\tau)G^m - \tau G_\theta .\qquad\qquad (2)$$

As the level of taxation τ declines, the Gini coefficient of disposable income approaches that of market income. To put this another way, the level of taxation determines how much of a given increase in market income inequality translates into an increase in the inequality of disposable income. Thus with an effective tax rate of 50 percent, an increase of 5 percentage points of the Gini coefficient of market income will translate into an increase of 2.5 points in that of disposable income. At the other extreme, with an effective tax rate of 10 percent, the effect on the Gini coefficient of disposable income rises to 4.5 points.

Given the tax effort, the more progressive the structure of taxation, the bigger the redistributive role of the state. What matters here is the Gini coefficient of tax payments, which will generally depend on the tax structure (a policy variable) and on the underlying distribution of market incomes (a given for policy makers, at least in the near term).

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[17] See Engel et al. (1999). In order to derive this expression one needs to assume that tax revenues are fully directed towards cash transfers, that transfer benefits are progressive -- in the sense that lower percentiles of the income distribution receive larger shares of total transfers than higher percentiles (so that a larger value of the Gini coefficient of transfers G_θ implies more progressivity), and that taxes are also progressive, so that the amount paid by richer percentiles is also higher than the amount paid by lower percentiles. Note that this latter assumption does not necessarily require progressive effective tax rates.

[18] If only direct taxes are considered, G^d refers to disposable income. If both direct and indirect taxes are taken into account, then G^d should be interpreted as referring to post-tax income.

Thus, in order to understand the redistributive potential of changes in the tax structure, it is critical to know how they affect G_τ [19]

Likewise, given the tax effort, the more progressive the transfer system, as measured by G_θ, the bigger the redistributive fiscal impact. The role of policy complementarities is clear in this context. For example, G_θ appears in the equations interacted with the tax effort (which in this simple framework equals also the transfer level).[20] In other words, if transfers are very low, improvements in their targeting have only a negligible impact on inequality. Similarly, the impact of changes in the tax effort on the distribution of disposable income depends on the targeting of transfers and on the progressivity of the tax system. If targeting is bad and taxes regressive, increases in tax collection are of no help to reduce inequality.

We next assess how Latin America fares in each of these three areas.

3.2 Tax collection

As just discussed, the first determinant of fiscal redistribution is the overall volume of tax collection, which sets an upper bound on redistributive and other expenditures.[21] This raises the question of whether Latin America's tax revenues are too low to permit adequate redistribution on the expenditure side. Of course, there is no such a thing as an optimal level of taxation that applies to all countries in all circumstances, and in setting the level of taxes countries have to trade off the excess burden of taxation against the social value of the public goods and services (such as education or infrastructure) and/or the distributional changes to be funded with them. These costs and benefits are likely to be affected by a variety of country-specific factors.

Tax collection has been on the rise in Latin America in recent years. Since the early 1990s it has grown by an average of 2-3 percent of GDP. But in spite of the rising trend, collection volumes remain well short of the international norm. Figure 4 shows that almost all Latin American countries lie below the regression line relating tax collection to the level of development, as measured by per capita GDP. Indeed, the median country in the region collects 4 percentage points of GDP less than would be expected given its level of development.[22]

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[19] Lopez and Serven (2006c) calibrate a simple fiscal model for Europe and conclude that to reduce the Gini coefficient of market incomes by 1 percentage through changes in the tax structure only, it would be necessary to more than double the ratio of the effective tax rates of the top and bottom deciles (from 4 to about 9), a fairly radical change.

[20] If this assumption were relaxed, G_θ would be interacted with the total level of transfers instead.

[21] Indeed, in accordance with the analytical discussion, the data for European countries reviewed earlier reveals a positive association between tax collection and the magnitude of the state's redistributive impact, as measured by the difference between the Gini coefficients of the distributions of market and disposable income.

[22] A similar result is obtained by Perry et al (2006) when they relate average collection during the 1990s (rather than in 2000) to per capita GDP.

Figure 4. Central government tax revenue vs. per capita GDP (2000)
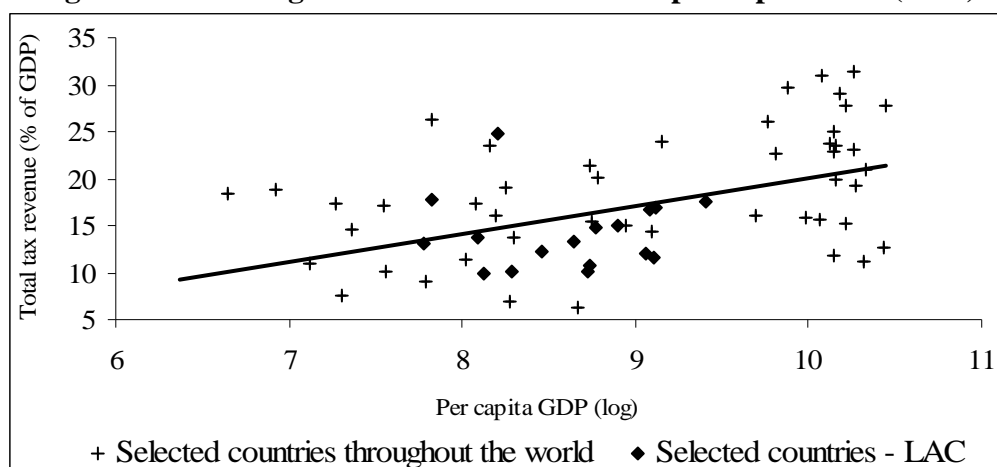
Why is tax collection so low in Latin America? Conceptually, there are two possible reasons: low statutory tax rates, and narrow tax bases. Of course, each of the two may play differently for different taxes. Table 2 offers a comparative perspective on tax rates across world regions, for both income and value added taxes. Latin America's income tax rates are at the low end of the spectrum, for both personal and corporate income. Indeed, income tax rates have declined across the region over the last two decades. The average top personal income tax rate fell from 49.5 percent in 1985 to about 30 percent in 2004. Likewise, the average top corporate tax rate declined from 43.9 percent in 1986 to 26.6 percent in 2004 (Gómez-Sabaini 2005). As for VAT rates, they have followed the opposite trend: the regional average of countries' general rates rose from 12 percent in 1992 to 15 percent in 2004 (Gómez-Sabaini 2005). Still, Table 2 shows that they are not high by international standards.

Table 2 Comparative perspective on Tax Rates

Region	Tax Rate		
	Personal	Corporate	VAT
East Asia Pacific	33.50	31.50	10.00
Latin America and the Caribbean	29.00	26.60	15.00
Middle East & North Africa	48.00	40.00	17.00
OECD	45.00	35.00	17.25
South Asia	39.50	41.00	15.00
Sub Saharan Africa	38.00	36.00	17.50

Source: Author's calculations based on Eichhorn (2006), WDI 2006, OECD tax Database, Doing Business Database. Figures refer to last available date.

What about tax bases? Narrow tax bases can be the result of plain tax evasion, or too generous tax concessions and loopholes. One rough way of gauging tax bases is by looking at tax productivity, defined as actual revenues (as a percentage of GDP) relative

to the prevailing nominal rates.[23] This exercise is reported in Table 3. VAT productivity[24] is comparable in Latin America to that observed in other world regions, including rich countries, although the regional average conceals significant cross-country variation.[25] For income taxes, however, Latin America places far behind industrial countries, even below Sub-Saharan Africa. This suggests that the problem behind Latin America's low income tax receipts is primarily one of narrow tax bases rather than tax rates.

Tax evasion is rampant across the region, although precise figures are obviously hard to calculate. Some recent estimates for Argentina, Brazil and Chile place evasion rates at 50 percent or higher in the case of the personal income tax, and around 40 percent for the corporate income tax. Even for the VAT the estimates are quite large. Some rough calculations suggest that a 30 percent reduction in evasion would increase tax revenues by 17 percent in Argentina, 14 percent in Brazil and 12 percent in Chile (Pessino and Fenochietto, 2006).

Table 3. Tax Collection and Tax productivity

Region	Collection (% of revenue)		Tax Productivity	
	Income	VAT	Income	VAT
East Asia Pacific	34.38	25.45	0.15	0.36
Latin America and the Caribbean	18.27	36.83	0.08	0.33
Middle East & North Africa	16.93	29.05	0.07	0.32
OECD	25.87	25.96	0.15	0.34
South Asia	23.02	29.61	0.05	0.18
Sub Saharan Africa	23.00	33.10	0.11	0.33

Source: Author's calculations based on Eichhorn (2006), WDI 2006, OECD tax Database, Doing Business Database.

The practice of tax evasion in Latin America is encouraged by weak tax administrations across the region. Indeed, opinion polls show that large majorities of individuals perceive tax collection as largely arbitrary and unfair -- only 23 percent of those surveyed by Latinobarómetro in 2003 thought tax collection was 'impartial'. The culture of evasion is likely further promoted by the overwhelmingly negative views about the state's capacity to spend wisely – in the same survey, just 15 percent of respondents believed that tax revenues would be put to good use.

A key factor behind poor tax compliance (and hence tax collection) is informality, which is pervasive in Latin America. The size of the 'shadow economy' relative to the formal one is estimated to average around 40 percent, the highest figure across world

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[23] In the case of the income tax, our productivity measure is based on the top marginal rate.

[24] The calculations in the table use GDP to approximate the VAT base. Using aggregate consumption instead yields similar qualitative results.

[25] Across the region, VAT productivity ranges from less than 25 percent in Mexico to over 50 percent in Honduras (Martner and Aldunate 2006).

regions, equaled only by Sub-Saharan Africa.[26] Figure 5 shows that tax collection has a strong negative association with informality. The figure depicts the partial scatter plot of tax collection as percent of GDP against the estimated size of the shadow economy, after removing the effect of per capita income. Across Latin America, higher informality comes along with lower tax revenue, holding constant the level of development.

Figure 5. Tax revenue and the shadow economy in Latin America
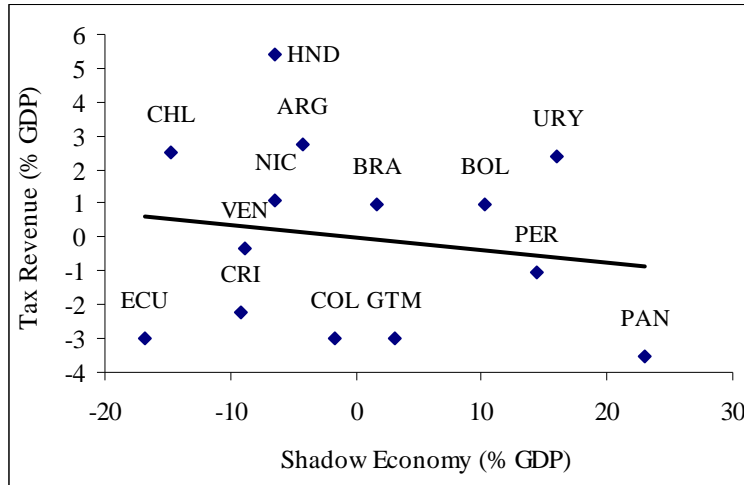
Informality, of course, is not exogenous, but the combined result of poor public services (that reduce the benefits of formality), weak tax administration, and the tax structure itself. Payroll taxes in particular are widely viewed as providing a major incentive to informality, and still account for a considerable fraction of total direct tax collection in Latin America – as high as 50 percent in Brazil (Martner and Aldunate 2006). More broadly, the overall tax burden facing formal firms – combining corporate taxes and VAT along with payroll contributions-- is higher in Latin America than in other world regions, with the exception of Sub-Saharan Africa,[27] and this provides small firms a strong incentive to remain informal.

Aside from evasion, tax concessions – exemptions, deductions, and other loopholes – play a major role in narrowing income tax bases across Latin America. In many countries, households with above-average income levels are exempt from the personal income tax because of very high minimum personal exemption levels. The average level of the minimum taxable income is twice the region's per capita income, and in some countries it is much higher (Figure 6).[28] High personal exemptions combined with a plethora of deductions severely reduce effective income tax rates, especially for the rich. As a result, tax rates highly progressive on paper collect little revenue in practice because the higher rates only kick in at extraordinarily high levels of income, so they are rarely, if ever, effective (Tanzi 2000).

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[26] Eichhorn (2006).

[27] See World Bank (2006).

[28] Shome (1995) reports that these minimum exemptions are higher in Latin America than in other developing regions.

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Figure 6. Personal exemption levels (multiples of GDP per capita)
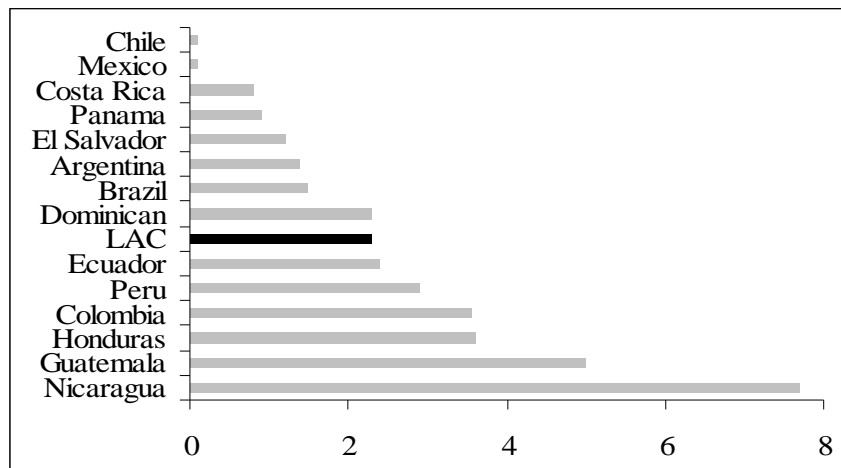
Source: Stotsky and WoldeMariam (2002).

The limited collection of income taxes has prompted some experimentation with alternative taxes – such as gross asset taxes and taxes on financial transactions. The former is essentially a minimum tax, typically applied at a rate of 1 percent. While easy to administer and potentially effective against evasion, it is not devoid of efficiency problems (Gómez-Sabaini, 2005). In turn, taxes on financial transactions were originally introduced in several countries as emergency collection devices, but they have proven hard to replace and have tended to persist given their low administration cost and high revenue collection capacity – in spite of their clear distorting potential in terms of promoting financial disintermediation.[29]

If Latin America's tax collection, low by international standards, effectively limits the room for fiscal redistribution, how much more effective could the state be in performing its redistributive role if tax revenues were more plentiful? We can illustrate the answer to this question using the conceptual framework outlined earlier to perform a counterfactual exercise in which we raise both overall tax collection and overall transfers by 2 percentage points of GDP, but maintain unaltered the incidence of taxes and transfers across the population – so as to isolate the distributive impact of additional fiscal resources.

Figure 7 reports the results of these simulations. The first striking aspect is the large degree of heterogeneity in the country responses. For example, in Peru an increase of taxes and transfers is accompanied by increases of inequality, a reflection of the regressivity of the transfer system (in the sense that transfers contribute to higher income inequality). At the other extreme are Mexico and Colombia, where tax-transfer volume increases lead to noticeable declines in the Gini coefficient of between .5 and 1.2 percentage points. In the other countries, tax-transfer volume increases not accompanied by interventions affecting their incidence have only modest distributional effects.

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[29] See Tanzi (2000).

Figure 7. Redistributive impact of an increase in taxes and transfers of 2% of GDP
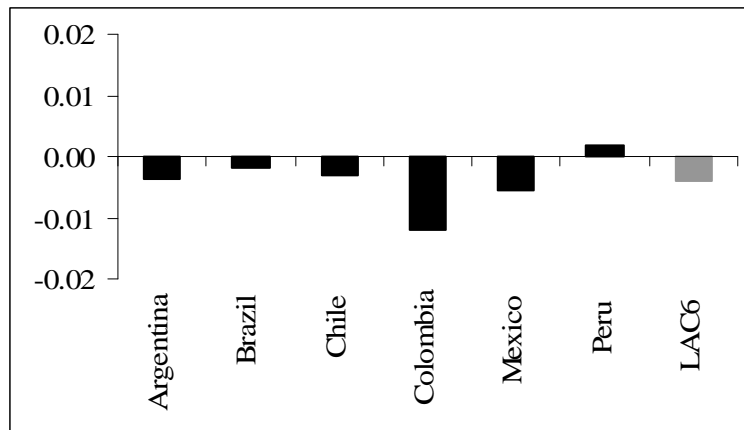
3.3 Tax incidence

The distributional implications of Latin America's tax structure have been widely debated. On *a priori* grounds, the large weight of indirect taxes in the region's total revenues leads to the presumption that overall taxation is likely to be regressive or neutral at best, given the conventional wisdom that income taxes are usually progressive while consumption taxes such as the VAT are not. This, of course, is not necessarily the case, since multiple rates for VAT and similar taxes may actually achieve some progressivity – at the cost of potentially significant administrative complication -- by granting more favorable treatment to food and other goods primarily consumed by the poor.[30] Indeed, most Latin American countries make use of multiple VAT rates (Gómez Sabaini, 2005).

On the other hand, in a number of Latin American countries, the effective income tax rates of the upper income brackets are only a fraction of the statutory rates, negating much of the supposed progressivity of income taxes. In turn, payroll taxes are also usually regressive, since in most countries they are capped, so that the average rate declines with the level of income.

The few assessments available of the incidence of taxes in Latin America tend to find a neutral or regressive effect. Gómez-Sabaini (2005) summarizes the findings of individual studies of ten Latin American countries. In eight of them the overall effect of the tax system is found to be regressive; in the other two it is approximately neutral. Those studies, however, use disparate methodologies, so that their results are not truly comparable across countries, and cover different time periods.

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[30] However, evidence shows that much of the benefit from reduced VAT rates accrues to the rich, due to their higher levels of expenditure; see Tanzi (2000) for discussion. On the other hand, the regressive effects of consumption taxes may be much reduced in an intertemporal framework, as already mentioned.

Figure 8. Taxation structure by income quintiles
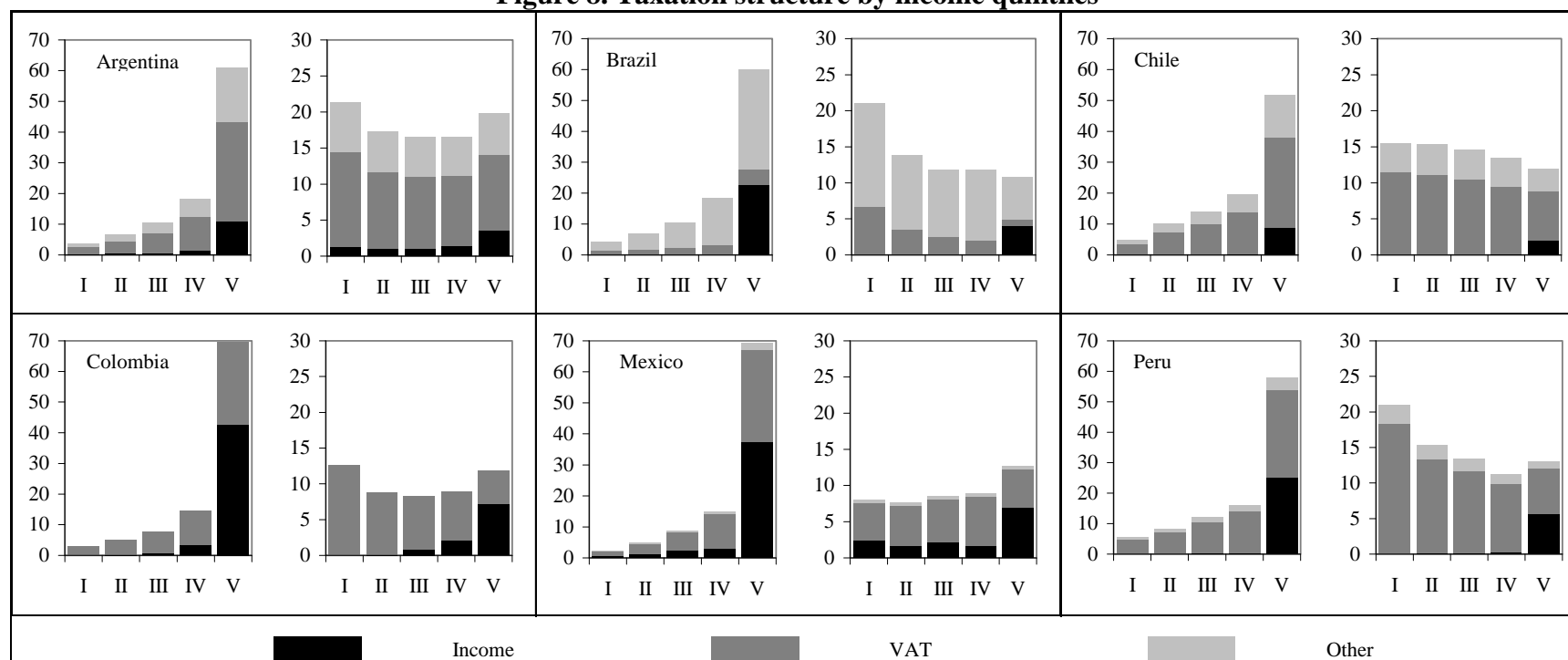
Source: Author's calculation
Note: Panels on the left are expressed as percentage of total contribution of all quintiles; panels on the right are expressed as percentage of the total market income of each quintile

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We can revisit this question using the tax incidence data introduced earlier. For the six Latin American countries with available data, Figure 8 reports the share of taxes (both direct and indirect) paid by each quintile of the income distribution, as well as the quintile's effective tax rate (i.e., taxes paid relative to total income). The figure shows that the upper quintiles tend to pay more taxes in all cases. For example, the top quintile pays at least 50 percent of total taxes, and in a couple of cases (Mexico and Colombia) as much as 70 percent -- but this should not be a surprise given that the top quintile of the population also accounts for 55 to 65 percent of the income.

More indicative of the tax burden is the effective tax rate that the different quintiles pay on their disposable income, and in this case it is apparent that poorer households tend to face a heavier tax burden relative to their income than those at the top of the distribution. The estimated incidence of the different taxes is also different. Income taxes are generally progressive and, in some cases (e.g., Brazil or Bolivia), highly so as contributions come solely from the top quintile. Value added taxes on the other hand tend to be regressive, as are overall taxes in most countries (as already shown in section 2).

Table 4 brings together direct and indirect taxes. As already shown, income taxes are modestly progressive or neutral (in all countries except Brazil and Chile they tend to lower income inequality), while the VAT is modestly regressive in all countries. The table also indicates that taxation is roughly neutral overall, so that the Gini coefficients of post-tax income (i.e., after both direct and indirect taxes) are fairly similar to those of gross income.

Table 4. Income inequality before and after taxation

	Argentina	Brazil	Chile	Colombia	Mexico	Peru	Average
Gini of Gross income (A)	0.49	0.54	0.46	0.53	0.50	0.49	0.50
Gini of Disposable income (B)	0.48	0.54	0.46	0.52	0.49	0.48	0.50
Gini of Post tax income (C)	0.48	0.55	0.46	0.53	0.49	0.49	0.50
(B) - (A)	-0.01	0.00	0.00	-0.01	-0.01	-0.01	-0.01
(C) - (B)	0.00	0.00	0.01	0.01	0.00	0.01	0.01
(C) - (A)	0.00	0.01	0.01	0.00	-0.01	0.01	0.00

What is the redistributive potential of a progressive change in the tax structure? Figure 9 reports the results of a counterfactual simulation of a hypothetical tax reform that for each country involves declines of 2 and 1 percent in the effective tax rate of the lowest and second lowest quintile, respectively, and increases of the same magnitudes in the effective tax rates of the highest and second highest quintiles. Tax revenue is kept fixed by adjusting the overall tax structure. Note that this reform is quite significant in terms of how the tax burden is changed. Yet, as figure 9 indicates, the estimated redistributive improvement is quite limited – the Gini coefficient changes by less than half a percentage point. This highlights the limitations of changes in the tax structure as a redistributive tool in a context of low tax collection.

Figure 9. Redistributive impact of an increase in tax progressivity
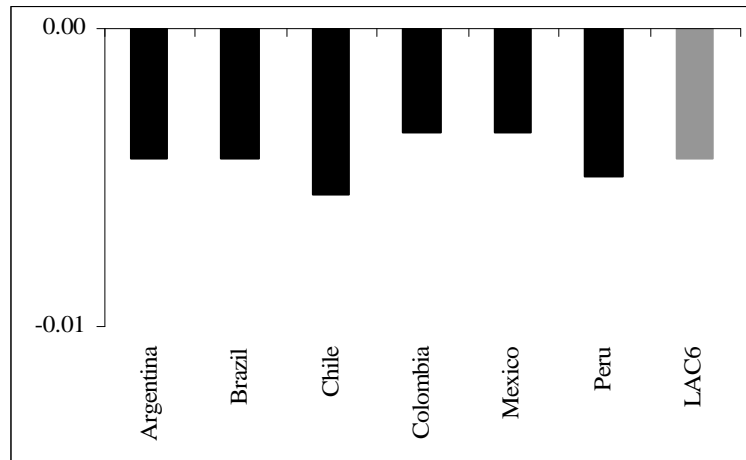
3.4 The redistributive effects of public spending

Section 2 showed that in European countries fiscal redistribution manages to reduce sharply the Gini coefficient of market incomes, and that public transfers account for the bulk of this effect. In contrast, in Latin America public transfers achieve little on the inequality front. There are two potential (not mutually exclusive) reasons for this difference. One is that the volume of transfers is much smaller in Latin America than in Europe. The other is that the targeting of the given volume of transfers is not very progressive

Regarding the volume of transfers, Latin America spends, on average, less than half of what is spent in Europe. For example, Table 5 (based on Lindert et al. 2006) indicates that on average the six Latin American countries considered here devote to transfers about 7.3 percent of GDP. Of this total, about 6.3 percent of GDP goes to social insurance programs (such as pensions and unemployment insurance) and about 1 percent of GDP to social assistance programs such as conditional cash transfers, school meals, and scholarships. In contrast, Europe spends more than 16 percent of GDP on transfers, most of which for social insurance programs. Table 5 also indicates that there is substantial heterogeneity among Latin American countries, with some high spenders (Argentina, and especially Brazil), some moderate spenders (Chile, Colombia) and some low spenders (Mexico and Peru). Thus in principle, even if these flows were targeted progressively, we would expect them to have much less of an impact than in Europe, given their smaller volume.

Table 5. Transfers in Latin America and Europe (% of GDP)

	Argentina	Brazil	Chile	Colombia	Mexico	Peru	LAC6	Europe
Social Insurance	7.7	11.7	6.9	5.9	2.6	3.1	6.3	14.7
Social Assistance	1.5	1.4	0.7	0.6	1	0.5	1.0	1.6
Total Transfers	9.2	13.1	7.6	6.5	3.6	3.6	7.3	16.3

Source: Lindert et al. (2006)

But the problem is not only that Latin America spends relatively little on transfers. In addition, their targeting leaves much to be desired. Figure 10 shows the median incidence of social protection transfers[31] for Latin America (Panel A) and Europe (Panel B). In these figures, the horizontal axis measures the quintiles of the income distribution and the vertical axis the share of the spending estimated to flow towards the different quintiles. Thus, Figure 10 gives an idea of who along the income distribution benefits from the spending: a positive slope means that those at the top of the income distribution receive a larger share of the spending than those at the bottom, whereas a downward sloping curve means the reverse.

Figure 10. Public transfers in Latin America and in Europe
Incidence by income quintile
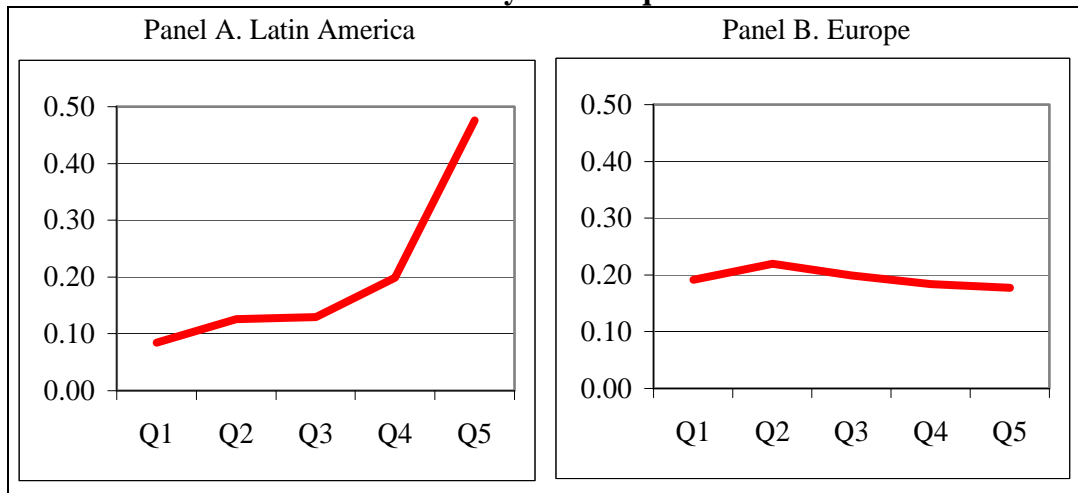
The message that emerges from this figure is quite clear. Latin American transfers tend to flow overwhelmingly towards the richest quintiles.[32] In fact, the top quintile accounts for almost half of total transfers, and the top two quintiles combined account for about 70 percent. At the other extreme, the poorest quintile receives only 8 percent of these flows. This is in stark contrast to what we observe in Europe, where each quintile receives approximately 20 percent of the total -- i.e. transfers appear to be distributed under an almost fully egalitarian rule.

Figure 11 shows the incidence of two major transfer programs: pensions and unemployment insurance. These two programs combined account for the bulk of social insurance spending in Latin America. Inspection of this figure reveals that these programs are regressive, especially in the case of pensions, in which the two top quintiles of the population attract about 80 percent of the spending. On the other hand, the bottom quintile receives less than 3 percent. The biggest problem with Latin American pension systems from the point of view of equity is their low coverage: pension systems are far

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[31] In other words, the curves portray the empirical estimates of the θ_i parameters introduced earlier base.

[32] Note, however, that this does *not* mean that regressive transfer programs are inequality-increasing. They still reduce inequality if their incidence is less regressive than that of pre-transfer income itself.

from universal, and usually exclude workers in the informal sector and in agriculture. In addition, some special pension schemes for public sector employees are hugely regressive, as they offer extremely generous benefits to a privileged few, with the bulk of the cost financed by taxpayers.[33] Unemployment insurance is likewise regressive, although less markedly so. About 65 percent of the spending goes to the top two quintiles, with the bottom quintile obtaining less than 10 percent of the spending. Given that in Latin America poor households often work in the informal sector, it is not surprising that they have little access to these benefits aimed at formal sector workers.[34]

Figure 11. Pensions and unemployment insurance in Latin America
Incidence by income quintile

Panel A. Pensions | Panel B. Unemployment Insurance
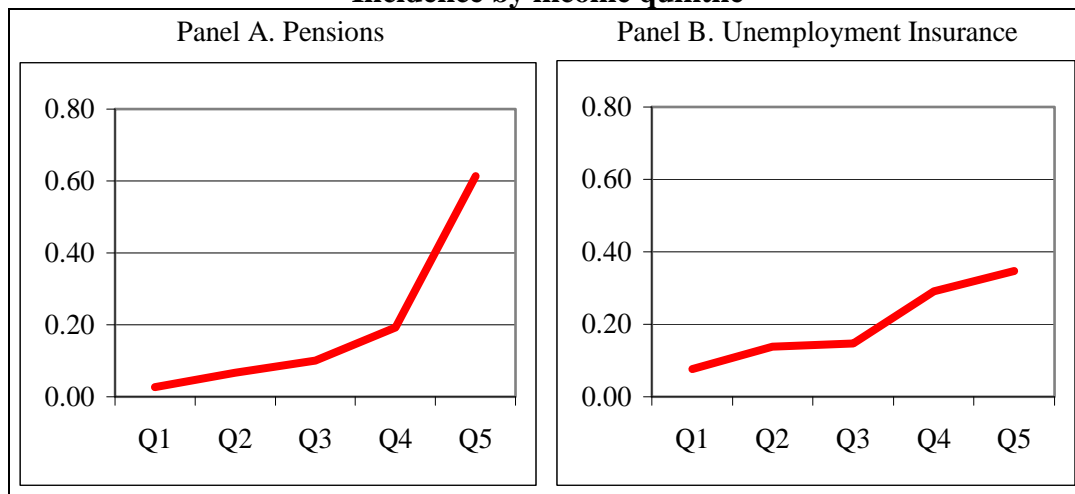
This does not mean that all social programs are regressive. Indeed, there are programs, typically in the social assistance area, that are well targeted. Figure 12 shows that conditional cash transfer programs[35] are strongly progressive, with close to 75 percent of the resources accruing to the bottom two quintiles of the population. But these programs are quantitatively small (as shown in table) and therefore their redistributive capacity is limited, at least in comparison with the large social insurance programs just reviewed.

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[33] For example, the deficit of Brazil's civil service pension system, which covers only 13 percent of pensioners, amounts to nearly 4 percent of GDP.

[34] It could be argued that social insurance programs are not financed by direct taxation but by 'contributions' and therefore should be treated differently. For example, if pensions are viewed as an intertemporal transfer for an individual rather than as an intergeneration transfer at a point in time, the benefits of each household should be treated as deferred consumption. In practice, however, the link between contributions and benefits is tenuous at best, and the programs run sizable deficits financed by general taxation. Indeed, pension subsides financed through general taxation absorb about 5 percent of GDP in some countries, a figure higher than total spending in social assistance and, in some cases, higher than public spending in education and health.

[35] These include programs such as *Bolsa Escola* in Brazil, *Subsidio Unico Familiar* and *Solidario* programs in Chile, *Familias en Accion* in Colombia, and *Oportunidades* in Mexico.

Figure 12. Conditional cash transfers in Latin America
Incidence by income quintile
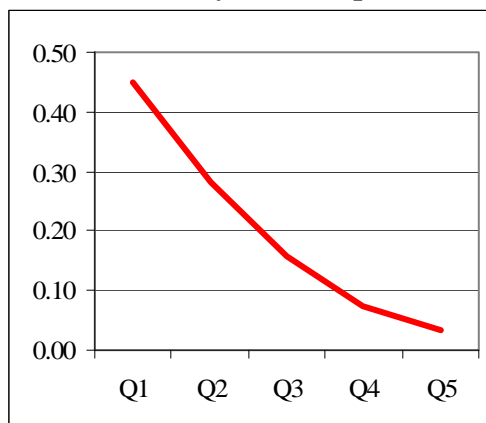
In light of the preceding discussion, one may wonder what would be the potential gains, in terms of redistributive impact, from improving the targeting of cash transfer programs. To sharpen the point, we assume that the counterfactual scenario involves a fully egalitarian distribution of transfers, as observed in Europe (see Panel B in figure 10), without altering their total volume.

In some cases, the assumed change in targeting is admittedly very large, as Table 6 shows.[36] The consequences of the change are presented in Figure 13. Aside from Colombia, the rest of countries would see their Gini coefficient fall by between 1 percentage point (Mexico) and 5 percentage points (Brazil). In Peru and Mexico, despite the large reform being simulated, the gains would be somewhat limited, because, as table 5 indicates, the volume of transfers is quite low and therefore it offers limited potential for improving the distribution of income regardless of the improvements of the targeting – as discussed earlier.

Table 6. Transfers in Latin America- Incidence by income quintile (%)

	Q1	Q2	Q3	Q4	Q5
Argentina	7	12	13	23	44
Brazil	7	10	12	20	52
Chile	10	13	17	23	38
Colombia	24	17	17	17	25
Mexico	10	14	13	13	51
Peru	3	5	9	20	63
Simulation	20	20	20	20	20

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[36] For example, Table 6 indicates that in Brazil and Mexico we would need to shift 31 percent of resources from the top quintile: in the case of Brazil to the three lowest quintiles, and in the case of Mexico to the other four quintiles. More dramatically, in Peru the simulation would require redistribution of 43 percent of the transfers from the top quintile to the bottom three quintiles. In fact, the only countries that relatively close to the simulated target are Chile, and more notably Colombia where the poorest quintile receives more than the simulated share.

Figure 13. Redistributive impact of improving the targeting of transfers
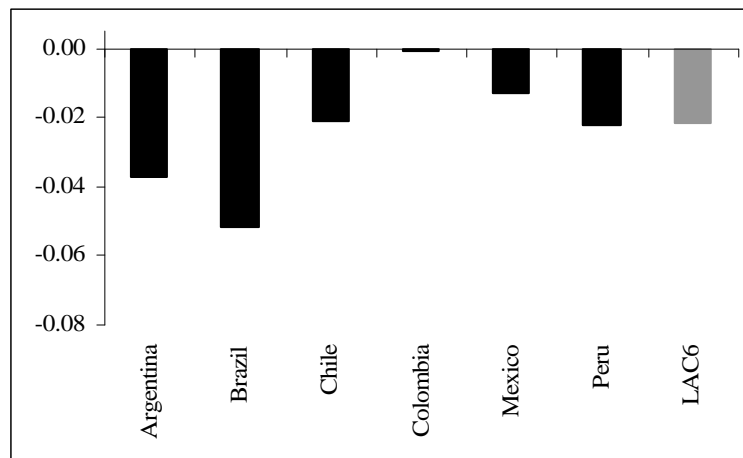
4. Concluding remarks

Latin America's high inequality extends to virtually all aspects of social and economic life, and is viewed by a large majority of the region's citizens as deeply unjust. High inequality undermines the stability and legitimacy of institutions and policies, and represents a powerful drag on Latin America's development prospects. These reasons put social equity at the top of the region's development agenda.

A close inspection of the international evidence on income inequality reveals that the big difference between Latin America and the more egalitarian countries of Western Europe lies not so much in the extent of the inequality resulting from market forces, but in the redistributive power of the state. To put it differently, the gap between the two regions in terms of income inequality is much bigger *after* taxes and public transfers than *before* taxes and transfers, and this implies that a good deal of Latin America's excess inequality over international levels reflects the failure of the region's fiscal systems to perform their redistributive functions. And the magnitude of this failure is considerable: while in European countries direct fiscal redistribution leads to an average reduction of some 15 percentage points in the Gini coefficient of the distribution of income, in Latin America the reduction is on average about 2 percentage points.

The evidence from rich countries also shows that the bulk of the state's redistributive impact is due to the effect of public transfers. They account for over two-thirds of the overall redistributive effect. Yet this is a conservative figure, because it ignores the regressive impact of indirect taxes, which counteracts much of the progressive effects of direct taxes, so that on the whole taxes likely achieve little or no redistribution, and the full distributive impact of the fiscal system is due to transfers.

Why does Latin America do so poorly at fiscal redistribution? The paper has reviewed three potential explanatory factors, namely: (i) too low a volume of resources gets collected and transferred; (ii) tax collection is regressive; and (iii) transfers are

poorly-targeted. All three are at play, to different extents in different countries, but on the whole the conclusion is that the prospects for significant fiscal redistribution lie mainly in increasing the volume of resources available for redistributive spending, and improving the targeting of expenditures. In contrast, even significant increases in the progressivity of Latin America's tax systems – which at present appear to be roughly neutral from the perspective of distribution -- are likely to have only a modest effect on the distribution of income. In other words, from the perspective of inequality reduction, the overall volume of tax revenue is likely to be a more important priority than the progressivity of the revenue-raising system – a conclusion that echoes the experience of the European countries reviewed in the paper.

These considerations offer some guidance for the design of reforms to make Latin America's fiscal systems more conducive to equity. In general, such reforms will likely pose significant institutional and implementation challenges, which deserve separate analysis. But the evidence presented in this paper shows that the specific reform priorities obviously vary across countries. In some countries the top priority is to expand tax collection and thereby the volume of transfers. Our simulation exercises suggest that this may be the case for Colombia or Mexico. In most countries, there is significant scope for raising tax collection by reducing tax concessions and loopholes, and especially improving tax administration to reduce evasion, which is rampant across the region.

In other places, like Brazil and Peru, the immediate concern is instead to improve the targeting of transfers – indeed, major programs, such as social insurance, are in some cases quite regressive, and their reform can make a major difference for overall inequality. In these circumstances, raising tax collection -- without improving the targeting of the spending it finances -- is unlikely to help much.

Of course, making the tax system more progressive will also help everywhere, although in general the quantitative impact on inequality is likely to be modest. This does not mean that the structure of the tax system is irrelevant, but only that tax choices should be primarily based on the efficiency and administration costs of different taxes. For example, the increasing recourse to 'quick and dirty' forms of taxation, such as the taxes on financial intermediation now in place in a number of Latin American countries, may be a matter of concern in view of its distorting potential. Among conventional instruments, payroll taxes, which play a quantitatively major role in several countries, encourage informality and ultimately tend to detract from the revenue-raising ability of the overall tax system. The incidence analysis in the paper does not explore any of these incentive and efficiency effects, but they are undoubtedly important for tax reform.

Finally, we have limited our attention to the redistributive function of the state through taxes and cash transfers. But there are other social spending categories like education and health that play a very significant role in the distribution of household income, not only in terms of the direct incidence of the expenditures across the income distribution – as transfers in kind -- but also indirectly, because they can help raise the human capital assets of the poor and thereby their future incomes. While few doubt the relevance of this indirect effect, assessing it quantitatively is problematic (e.g., among

other complications, one needs to assume that the cost of the public good acquired by these transfers correctly reflects its value for the private individuals receiving it) and so here we have limited our attention to the incidence of cash transfers only. Yet, the existing evidence (see Perry et al. 2006) indicates that in the Latin American context social spending in health tends to be moderately progressive whereas social spending in education tends to be regressive, suggesting an additional area of interest for policy makers concerned with income inequality.

Similarly, social equity is also affected by how well the state does at performing its other two classic objectives of efficiency and stabilization, because ultimately this affects the economic opportunities available to the poor and the distribution of *market* incomes. Through these indirect channels, fiscal policy can also have a major impact on Latin America's inequality. Regarding the stabilization objective of fiscal policy, for example, one important, contribution to social equity relates to the prevention of crises. Macro-financial crises are almost invariably highly regressive because the costs of their resolution, in the form of resource transfers to better-off investors, end up being borne by all taxpayers; furthermore, the poor often are the most adversely affected at times of crises because they lack the assets to smooth out adverse income shocks. Excessive public indebtedness and procyclical fiscal policies have been key factors behind the region's vulnerability to crises. This means that fiscal prudence, possibly guided by formal fiscal rules that allow the operation of counter-cyclical policies – and particularly of counter-cyclical social expenditures -- is also an essential part of a fiscal agenda to reduce inequality in Latin America.

References

Abed, G. and H. Davoodi (2000); "Corruption, Structural Reforms, and Economic Performance in the Transition Economies," IMF Working Paper No. 00/132

Acemoglu, D. S. Johnson and J. Robinson (2001); "The Colonial Origins Of Comparative Development: An Empirical Investigation," *American Economic Review*, (91):1369-1401.

Alesina, A., and D. Perotti (1996); "Income distribution, political instability, and investment," European Economic Review 40(6), 1203-1228.

Alesina, A. and D. Rodrik (1994); "Distribution Politics and Economic Growth," *Quarterly Journal of Economics* 109(2):465-90.

Azariadis, C. and J. Stachurski (2005): "Poverty Traps", in P. Aghion and S. Durlauf (eds.), *Handbook of Economic Growth*. Volume 1B. North Holland Elsevier.

Birdsall, N., and A. de la Torre (2001); *Washington Contentious: Economic Policies for Social Equity in Latin America*. Washington: Carnegie Endowment for International Peace and Inter-American Dialogue.

Bourguignon, F. (2004); "The Poverty-Growth-Inequality Triangle", mimeo, The World Bank.

Breceda, K., J. Rigolini and J. Saavedra (2006); "Taxes and Transfers in Latin America," mimeo, The World Bank.

Caballero, R. and S. Panageas (2005); "Hedging Sudden Stops and Precautionary Contractions, forthcoming in *Journal of Development Economics*.

CEPAL (2006); "Cantidad sin Calidad: Un Informe del Progreso Educativo en América Latina"

Chu, K, H. Davoodi, and S. Gupta (2000); "Income Distribution and Tax and Government Social Spending Policies in Developing Countries" ," IMF Working Paper WP/00/62.

de Ferranti, D., G. Perry, I. Gill, and L. Servén (2000); *Securing Our Future in a Global Economy*. The World Bank.

de Ferranti, D., G. Perry, F. Ferreira and M. Walton (2004); *Inequality in Latin America & the Caribbean: Breaking with History?* The World Bank.

Deininger, K. and P. Olinto (2000); "Asset distribution, inequality, and growth," Policy Research Working Paper Series 2375, The World Bank.

Dethier, J. J. (2007); "Social Security: What Can Developing Countries Learn from Developed Countries?" 2020 Focus Brief on the World's Poor and Hungry People. Washington , DC: IFPRI.

Eichhorn, Ch. (2006); "Optimal Policies in the Presence of Tax Evasion," Inaugural-Dissertation, University of Munich.

Engel, E., A. Galetovic and C. Raddatz (1999); "Taxes and income distribution in Chile: some unpleasant redistributive arithmetic," *Journal of Development Economics* (59)155-192.

Engerman, S. and K. Sokoloff (2000); "Institutions, Factor Endowments, and Paths of Development in the New World," *Journal of Economic Perspectives* (3):217-232

Fatás, A. and I. Mihov (2005); "Policy Volatility, Institutions and Economic Growth," Centre for Economic Policy Research Discussion Papers 5388.

Fullerton, D. and D. Rogers (1993); *Who Bears the Lifetime Tax Burden?* Washington, D.C.: Brookings Institution.

Gavin, M., and R. Perotti (1997); "Fiscal policy in Latin America", NBER Macroeconomics Annual, MIT Press.

Gomez-Sabaini (2005); "Evolución y situación tributaria actual en América Latina: Una serie de temas para la discusión," mimeo, Economic Commission for Latin America and the Caribbean.

Halac, M. and S. Schmukler (2004); "Distributional Effects of Crises: The Financial Channel," *Economía*. 5(1):1-67.Brookings Institution Press.

Hnatkovska, V., and N. Loayza (2005); "Volatility and Growth," in *Managing Volatility*, edited by Joshua Aizenmann and Brian Pinto. Cambridge University Press. 65-100.

IADB (1995); "Hacia una Economía Menos Volatil," in *Economic and Social Progress in Latin America* (IPES). Inter-American Development Bank.

Jones, F (2006), "The effects of taxes and benefits on household income, 2003-04", Office for National Statistics, UK

Kuczynski, P. and J. Williamson (2003); *After the Washington Consensus: Restarting Growth and Reform in Latin America.* Washington: Institute for International Economics

Lindert, K., Skoufias E. and J. Shapiro (2005); *Redistributing Income to the Poor and the Rich: Public Transfers in Latin America and the Caribbean*, The World Bank.

Lopez, H. and L. Serven (2006a); "A normal relationship? Poverty, growth, and inequality," Policy Research Working Paper Series 3814, The World Bank.

Lopez, H. and L. Serven (2006b); "Too poor to grow," mimeo, The World Bank.

Lopez, H. and L. Serven (2006c); "Why is it so difficult to reduce income inequality through the tax structure?", mimeo, The World Bank.

Martner, R. and E. Aldunate (2006); "Política fiscal y protección social," Gestion Publica N. 53, Economic Commission for Latin America and the Caribbean.

Musgrave, R. (1959); *The Theory of Public Finance: Study in Public Economy*. New York. McGraw-Hill.

Montiel, P. and L. Servén (2006); "Macroeconomic Stability in Developing Countries: How Much Is Enough?," *The World Bank Research Observer* 21(2):151-178

Pechman, J. (1985); *Who Paid the Taxes: 1966-85?* The Brookings Institution, Washington D.C.

Pechman, J. (1990); "The Future of Income Tax," American Economic Review 80:1-20

Perry, G., O. Arias, H. Lopez, W. Maloney and L. Serven (2006); *Poverty reduction and growth: virtuous and vicious circles*, The World Bank.

Perry, G. and L. Serven (2005); "Argentina's Macroeconomic Collapse: Causes and Lessons." in Joshua Aizenmann and Brian Pinto, eds., *Managing Economic Volatility and Crises: A Practitioner's Guide*. New York: Cambridge University Press.

Raddatz, C. (2006). "Liquidity Needs and Vulnerability to Financial Underdevelopment," *Journal of Financial Economics* 80(3)677-722.

Shome, P. (1995); "Recent Tax Policy Trends and Issues in Latin America," in *Policies for Growth: The Latin American Experience*, International Monetary Fund.

Shome, P. (1999); "Taxation in Latin America: Structural Trends and Impacts of Administration," IMF Working Paper WP/99/19.

Smeeding, T. (2006) "Government Programs and Social Outcomes: Comparison of the United States with Other Rich Nations", in A. Auerbach, D. Card and J. Quigley, eds., *Public Policy and Income Distribution*. New York: Russell Sage Foundation.

Stotsky, J. and A. WoldeMariam (2002); "Central American Tax Reform: Trends and Possibilities," IMF Working Paper WP/02/227

Suescún, R. (2005); "Size and Effectiveness of the Fiscal Automatic Stabilizers in Latin America," mimeo, The World Bank.

Tanzi, V. (2000); "Taxation in Latin America in the Last Decade," Working Paper N. 76. Center for Research on Economic development and Policy Reform. Stanford University.

Wodon, Q., N. Hicks, B. Ryan, and G. Gonzalez (2003); "Are Governments Pro-Poor but Short Sighted? Targeted and Social Spending for the Poor During Booms and Busts". In Q. Wodon ed., Public Spending, Poverty, and Inequality in Latin America. Washington, DC; The World Bank.

World Bank (2006); *World Development Report 2006: Equity and Development*