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ABBREVIATIONS AND ACRONYMS

AES	Adult Education Survey	NCDs	Non-communicable diseases
BEEPs	Business Environment and Enterprise Performance Survey	NEETs	Neither employed nor in education or training
BERD	Business expenditure on R&D	NPLs	Non-Performing Loans
CAR	Capital Adequacy Ratio	OECD	The Organisation for Economic Co-operation and Development
CCA	Croatian Competition Agency	PIACC	Program for the International Assessment for Adult Competencies
CEE	Central Eastern Europe	PIM	Public Investment Management
CEPEJ	European Commission for the Efficiency of Justice	PISA	Programme for International Student Assessment
CERP	Restructuring and Sale Center	PMR	Product market regulations
EBRD	European Bank for Reconstruction and Development	PPP	Purchasing Power Parity
EC	European Commission	PTSD	Prevalence of post-traumatic stress disorder
ECA	Europe and Central Asia	R&D	Research and Development
ECEC	Early childhood education and care	RCA	Revealed comparative advantage
ECI	Economic complexity index	RIA	Regulatory impact assessment
EIF	European Structural and Investment Funds	SAFE	Access to Finance of Enterprises
EU	European Union	SAOs	State Attorneys Offices
FDI	Foreign direct investment	SCD	Systematic Country Diagnostic
GDP	Gross Domestic Product	SCIs	Sites of community interest
GEM	Global Entrepreneurship Monitor	SOE	State-owned enterprises
GERD	Gross domestic expenditure on R&D	SPAs	Special protection areas
GFKF	Gross fixed capital formation	STEM	Science, technology, engineering and mathematics
GVCs	Global Value Chains	TIMSS	Trends in International Mathematics and Science Study
LGBTI	Lesbian, gay, bisexual, transgender, intersex	TFP	Total Factor Productivity
MoSE	Ministry of Science and Education	TFPR	Revenue Total Factor Productivity
MPK	Marginal Product of Capital	TVET	Post-secondary vocational training
MPL	Marginal Product of Labor	USD	United States Dollars
MST	Minimal Spanning Tree	ZSE	Zagreb Stock Exchange

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EXECUTIVE SUMMARY

I. INTRODUCTION

Croatia has made remarkable progress in economic reforms and living standards since independence. In the couple of decades since peace was restored, Croatia created a liberal democracy, established a market economy, achieved the status of upper-middle income country, and on July 1, 2013 joined the European Union (EU). Gross Domestic Product (GDP) increased by more than 4 percent a year from 1992 to 2008, and GDP per capita (in PPP nominal terms) reached US$22,000 or 63 percent of the EU28 GDP per capita level. During the same period, all income groups experienced welfare improvements, with the growth rate for the bottom 40 of the income distribution being higher than for the total population. Among the bottom 40, however, the increase benefitted mostly the second quintile, while the first quintile (the bottom 20 percent of the income distribution) did not experience significant improvements and poverty incidence remained largely unchanged at some 4.2 percent of the population.

The global economic crisis ushered in a severe, lengthy recession and derailed convergence towards EU living standards. Growth prior to the 2008 crisis was driven by an increase in aggregate demand, fueled by an expansionary fiscal policy, capital accumulation and household consumption, financed by abundant liquidity in the global financial markets. The current account deficit, along with the debt of households, firms, and the public sector, rose sharply. With the onset of the crisis, borrowing costs shot up, capital flows plummeted, and external demand for Croatia's exports fell. Households and firms reduced their purchases to limit the deterioration in balance sheets, so that investment and private consumption collapsed. Unemployment increased sharply, further depressing demand and reducing business and consumer confidence. The recession lasted for six years, reducing output by 12 percent. Income levels of the bottom 40 percent decreased by more than 2.3 percent per year in 2009-14, whereas incomes for the total population decreased by 2.4 percent. The share of the population living on less than US$10 PPP 2005 (in poverty or vulnerable) increased from 26.6 percent in 2009 to 33.4 percent in 2014. The severity of the Croatian recession, and the slowness of the recovery since 2014, has meant that Croatia is falling further behind the income levels of its Eastern European peers, driving public discontent and contributing to high levels of emigration of young and skilled workers, which has reduced productivity and the size of the labor force.

Slow growth in Croatia is driven by limited productivity gains. Rapid growth prior to the crisis reflected rising labor force participation and massive investment, rather than increases in Total Factor Productivity (TFP). Total factor productivity made a significant, negative contribution to growth from 2002 to 2014, and only a small positive contribution in 2015-16. By contrast, in the same period growth in Croatia's Eastern European peers, was mostly based on rising productivity. The decline in Total Factor Productivity during the recession largely reflected a slowdown in productivity performance of the most productive firms. This was driven by the tightening of credit conditions and policy uncertainty which depressed investment, and a poor business environment which impaired product market competition and limited the growth of more productive firms. For individuals, the sharp increase of poverty (measured at the household level) during the crisis and the modest reduction of poverty even during the period of high economic growth points towards limited labor force participation and wage growth of the bottom 20 and lack of resilience to economic shocks.

Limited productivity improvements are reflected in Croatia's lackluster export performance. The reforms undertaken for EU accession led to a significant rise in Croatia's export market shares once the global recovery was underway. Most of Croatia's leading export sectors have achieved increasing shares in global exports in 2011-15. Nevertheless, export growth from 2006 to 2016 remained significantly

below that of regional peers, and much of the rise in exports has been to lower-income EU members rather than to higher-income markets. Croatia remains at the margin of global value chains, thus missing important opportunities for raising productivity through learning. Services exports continue to be dominated by the tourism industry, which has picked up strongly since 2015 helped by difficulties facing competitors in North Africa and Turkey. The relatively high weight of the tourism sector, an industry which compared to knowledge-intensive services is less innovative and has fewer backward and forward linkages to other domestic industries, hampers the prospects of competitiveness enhancements in the rest of the economy.

Transforming the role of the state is paramount to reignite the process of economic and social convergence. The success in reshaping how enterprises, individuals and the state interact will very much depend on the determination of the policy makers to balance the role of the state. This particularly refers to its role of the regulator, to steer competition, and the fine line to determine where in the public sector it should stay in charge and where it would do better by withdrawing. There will be specific areas where the state's involvement is fundamental, such as in protecting the vulnerable and work on their integration. Ultimately, Croatia has an opportunity and an obligation to not only compare with its EU peers, but also to outperform where possible, in organizing a state that excels in service provision to its citizens, in the major public service areas, from judiciary and business environment to education and human development.

II. ENTERPRISES

Firm productivity patterns in Croatia show evidence of a lack of dynamism which hinders the process of industrial renewal and aggregate productivity growth. Firm exit is contributing to reduce aggregate productivity in most sectors, suggesting that more productive firms are exiting the market or that incumbents become less productive. Simultaneously, the contribution of firm entry, generally a key contributor to aggregate productivity growth, remains limited. In addition to global market conditions and policy uncertainties, these patterns are generally associated with a cumbersome business environment, constrained access to finance, low levels of product market competition, lack of competitive neutrality, and weak firm innovation capabilities.

Despite improvements in recent years, a cumbersome business environment continues to burden firms, inhibiting private sector investment and distorting resource allocation. Croatia lags best performers in various Doing Business indicators. The key challenges faced by firms include regulatory instability, a high administrative burden, low transparency and predictability of administrative bodies, and long judicial procedures. In its action plan for 2017 the Government has identified a set of 104 measures to improve the business environment, including steps to reduce redundant administrative costs and to improve competition in the professional services market, which are expected to save up to 1.5 billion kuna for enterprises.

Inefficiency, unpredictability, and delays in court processing cases are among the greatest impediments to business. Courts of general jurisdiction and commercial courts are generally perceived as too slow in processing cases. The World Economic Forum ranks Croatia 135th out of 137 economies in terms of the efficiency of the legal framework in settling disputes, a ranking that continues to slide as other economies reform to become more competitive. The number and disposition time in litigious civil and commercial cases remain among the highest in the EU. The extensive demands on judicial services are compounded by the provision of non-litigious administrative services (e.g. company registration, land ownership registration, etc.) and the lack of an effective fast-track procedure for resolving minor disputes.

Firms face difficulties in accessing finance. Croatian firms view access to finance as a more binding constraint than the average in the European Union (EU). The numerous government programs to support access to finance appear to be poorly coordinated, and targeted segments and financial products overlap substantially. Most programs also lack adequate monitoring and evaluation mechanisms. Moreover, equity markets are underdeveloped, constrained by small market size and little local institutional investor appetite. The limited availability of risk capital particularly affects new, innovative firms due to information asymmetries and appropriation risks, and is exacerbated by a cumbersome insolvency framework and an incomplete regulatory framework for the venture capital industry.

The competitive environment is weaker than in many Europe and Central Asia (ECA) countries. The core elements of the competition law are broadly in line with EU practices, and Croatia has a solid competition policy enforcement mechanism. However, the regulatory framework appears to be less conducive to competition than in many ECA countries. The Organisation for Economic Co-operation and Development (OECD) finds that product market regulations (PMR) in Croatia are more restrictive than in peer countries. Regulatory restrictions appear particularly burdensome in the services sector, notably in network economies and professional services, although legal changes since the PMR scores were collected in 2013 may have eased some restrictions. Perceptions of the effectiveness of anti-monopoly policy in Croatia are far below the ECA average, calling in question the effectiveness of the Croatian Competition Agency (CCA). A still-inefficient insolvency framework obstructs exit and re-entry of business into markets, impairing the efficiency of resource allocation among firms.

The large role of the state in commercial activities limits competition. Enterprises either partially- or wholly-owned by the central government operate in numerous sectors, including rail, road and air transport, hotels and restaurants, food processing, pharmaceuticals, water supply, financial services and services of motor vehicles. Nearly 700 companies report to sub-national, regional and municipal authorities. The State-Owned Enterprises (SOEs) account for over 10 percent of employment, a fifth of total turnover and a third of total assets. SOEs contribute directly to government deficits, with a net average borrowing of 0.6 percent of GDP between 2011-2014. The resources diverted to maintain the survival of SOEs may be better applied towards more efficient uses. Non-financial SOEs have a 40 percent higher leverage ratio than private firms but are less profitable: in 2014, the average return on equity was 4.5 percent for private companies but almost zero for SOEs. Rates of return on assets are below that of SOEs in other CEE countries, and the rate of state subsidies is higher than the EU average. SOEs affect factor returns, influence output prices through product market competition and impair market incentives to become competitive. There is some indication that high SOE presence impairs growth, as productivity and allocative efficiency are higher in sectors with low state presence. Finally, rigid wage setting practices in SOEs, where wages are higher (controlling for employee characteristics) than in private sector firms, may distort wage setting in the private sector.

Innovation in Croatian firms is limited. Croatia is a moderate innovator and was ranked 32nd out of 36 countries in the 2016 European Innovation Scoreboard, and 106th out of 137 countries for the innovation pillar of the 2017-2018 Global Competitiveness Index. Both rankings have been on a declining trend in recent years. Croatia is also falling behind its peers in the level of gross domestic expenditure on research and development (GERD), which has yet to recover the level of 2008. The share of Croatian enterprises engaged in innovative activities is below the EU average, and they tend to favor non-R&D versus R&D innovation activities. In line with peers, Business Expenditure on R&D (BERD) is also concentrated in large companies (mainly pharmaceutical, telecommunications, agricultural, and food and beverage industries). Croatia also stands out for the small share of R&D expenditures by small firms. Key factors explaining the low level of R&D-driven innovation, especially among medium and small firms, include limited access to internal and external resources (both funds and qualified personnel), limited

information on technology and markets, the concentration of tax incentives with large firms, modest research excellence, barriers to science-industry collaboration, and pervasive weaknesses in the innovation ecosystem governance. The weak performance of the innovation ecosystem is reflected in the limited complexity of Croatia's goods export basket.

III. INDIVIDUALS

Higher participation of the labor force and better skills among working-age individuals are fundamental to raise the growth potential of Croatian economy. Disincentives to labor market participation, low educational attainments and skill gaps, deficits to lifelong learning, and the relatively high prevalence of chronic and non-communicable diseases among the working population, undermine the capacity of individuals to contribute to economic and social development and to prosper.

Disincentives to work reduce labor market participation for various groups. The need to pay additional income taxes and social security contributions, coupled with losing various social benefits, impose a marginal tax rate for poor individuals that is roughly comparable to the EU average. However, the marginal effective tax rate is particularly high for potential low-wage single earners with children. Generous eligibility criteria and the co-existence of multiple pension schemes, early retirement pensions, survivor's pensions, long-career, or disability pensions can trigger an early exit from the labor market, and high payments through disability insurance reduce participation. The limited formal care for children and the elderly, coupled with low flexibility in working arrangements (only 6 percent of Croatia's employed population worked part-time in 2016, compared to nearly 20 percent in the EU as a whole) create a particular burden for women in reconciling work and family responsibilities.

Greater efforts are necessary to boost labor market participation by older workers. Continuous delays in the drafting and implementation of new legislation have impeded retraining of an aging work force**,** including (long-term) unemployed and inactive workers. Life expectancy is higher than EU peers with similar income levels. Nevertheless, greater emphasis on preventative health services could reduce the incidence of chronic and non-communicable diseases, which is 45 percent higher than the EU average, enabling individuals to work longer and more productively. The working age population (aged 15 to 64) is projected to decline by 30 percent by 2050, hence promoting healthy aging is critical to moderating the fall in the workforce. Croatia's hospital-centric health system and services delivery network is not well suited to the greater emphasis required on preventative services.

Labor market reforms have facilitated a rise in temporary employment. The share of individuals with temporary contracts increased to 19.3 percent of those employed between 15 and 64 years in 2016 (the EU average is 12.0 percent). The share of temporarily employed was highest among poorer working-age individuals. More than 60 percent of all unemployed who transitioned into a job worked under temporary contracts, which illustrates how labor market deregulation can provide an entry path into permanent employment. However, the rise in temporary employment also risks segmenting the labor market.

Deficiencies in education and training systems hamper the development of human capital and contribute to slow productivity growth and limit social mobility. Low PISA and TIMSS scores compared to some peer countries, particularly in mathematics and science, reflect quality gaps in schooling. The number of tertiary education graduates in science, technology, engineering and mathematics (STEM) is low due to limited attention to STEM classes in the curriculum throughout the education pipeline and deficits in training for teachers. Only 29 percent of 30-34-year-olds had tertiary education in 2016, far below the EU average of 39 percent. While participation in post-secondary vocational training (TVET) is high, the training curricula do not always reflect employers' demand for skills, so that nearly half of those with vocational training work outside of their field of specialization. The divide between the skills

demanded by firms and those provided by the workforce is magnified by the limited private sector input into programming and funding for TVET programs. Only 3 percent of adults between 25 and 64 years participate in some form of workforce education or training, far below many peers in the EU, which limits employability in a quickly changing labor market. Planned curricula reforms for early childhood education, primary to tertiary education, and TVET have been delayed due to lack of coordination, cooperation and commitment among stakeholders and limited policy effectiveness. A pilot phase of implementation is now expected to begin in September 2018.

Social assistance was insufficient to avoid a sharp rise in poverty following the crisis. The share of the population living on less than US$10 PPP 2005 (in poverty or vulnerable) increased from 26.6 percent in 2009 to 33.4 percent in 2014. General government spending on social protection accounts for 14.2 percent of GDP, which is in line with other Member States in the European Union. However, Croatia spends a higher fraction of social protection on contributory social insurance benefits, including disability pensions, sickness benefits and old age pensions. This reduces the available budget for transfers to families and children, and for other non-contributory social assistance programs. Thus, the coverage of the bottom 20 percent through social assistance (around 56 percent) is below the average for the European Union. Fragmentation of public transfer programs, different sets of eligibility criteria for different services, the lack of monitoring and information systems, and weak coordination between agencies at the central and regional level also limit the effectiveness of social protection spending.

Regional differences in incomes and labor market outcomes are substantial and persist, with no sign of convergence. The share of the population living below the US$10 PPP threshold in 2013 was 45.2 percent in rural areas but only 28.6 percent in urban areas. Employment rates in the 15 to 64 age group are lower, unemployment rates are higher and poverty rates are higher in the eastern part of the country. Convergence in labor market outcomes between regions might be expected as workers leave high-unemployment/low-wage areas to improve their job prospects. However, workers in lagging regions often face high transactions costs in moving, given Croatia's limited rental market and declining property prices in lagging regions following the crisis. The scarcity of rentals in prosperous regions also encourages external rather than internal migration, particularly given the large wage gap between Croatia and the traditional countries of destination for migration (including Germany and Austria) and social networks in these countries that encourage external mobility. Partially as a result, internal migration is below the EU average, while external migration is among the highest in the EU. Declining population in some rural areas also impairs the sustainability of social services, given the high fixed costs.

IV. THE STATE

Successful public policy making and implementation is hampered by ineffective public sector institutions. Croatia's public sector performance lags EU peers across most governance indicators. The frequent changes in government are accompanied by changes in technical staff, making it difficult to carry through with consistent policies and reducing the ability of the authorities to exercise their oversight functions for SOEs. Insufficient coordination and cooperation between agencies and levels of government impairs policy coherence. Poor legislative quality has led to frequent amendments to address shortcomings, increasing uncertainty and raising the costs of compliance. Public sector is particularly weak at the local and regional self-government units level, where high fragmentation raises costs and reduces the quality, effectiveness and sustainability of services delivery.

Powerful groups, and perhaps public attitudes, have obstructed reforms. A substantial number of autonomous, self-organized groups have considerable ability to prevent generally beneficial changes that threaten their privileges. The deep politicization of the civil service, the prevalence of the SOE sector and weak governance structures provide a terrain favorable to clientelism and capture. Croatia receives low scores in the institution indicator in the Global Competitiveness Report of the World Economic Forum.

In addition, the 2016 Life in Transition III survey suggests that public support for a market economy is among the lowest in ECA, and the Global Entrepreneurship Monitor for Croatia 2016 (GEM) finds that successful entrepreneurs do not hold high social status and their activities are mostly not covered by the media. These attitudes may play a role in undermining support for reform.

Fiscal weaknesses threaten sustainability and impair growth. The level of public debt, which has practically doubled since 2008, peaked at some 86 percent of GDP in 2014. While the reduction of the fiscal deficit and economic recovery are reducing the debt-to-GDP ratio, it is projected to remain close to 80 percent in 2018. The bulk of the debt accumulated during the crisis was either issued abroad or issued domestically in or indexed to the euro, although currency risk exposure is mitigated by the tightly managed float of the kuna's exchange rate against the euro. Credit default swaps for Croatia is higher than for most of its peers, indicating the precariousness of Croatia's sovereign borrowing conditions. The recently adopted strategy for debt management ignores the financing needs of extra-budgetary entities, which have contributed to a large extent to the build-up of debt. Croatia's debt position could be eased, and growth-supporting expenditures increased, by a reduction in the levels of subsidies and public wage bill. Current expenditures are significantly higher than most EU peers, perhaps reflecting inefficient consumption of inputs (e.g., energy consumption, space renting) or higher unit prices due to insufficiently competitive public procurement.

The quality and sustainability of public infrastructure raises concerns. Croatia made large infrastructure investments during the 2000s in response to the need for a visible integration of Croatian territory after independence, efforts to spur industrial growth and tourism, and the desire to integrate into the broader European network. Despite heavy investments in the road network, as well as some improvements in ports and airports, Croatia underperforms all EU peers in the World Bank Logistics Performance Index. This is largely due to underdeveloped infrastructure such as port-rail interfaces, slow and unreliable rail operations, and cooperation and communication failures among stakeholders. In addition, the impetus to develop public infrastructure often led to over-investment, with design based on high standards which result in high maintenance costs as the infrastructure ages. The need to complete important EU transport network, and comply with EU environmental standards especially in the solid-waste and wastewater sector, poses a clear fiscal burden unless utilities reforms are accelerated and adequate design, taking into account efficiency and cost-recovery concerns, are introduced to avoid excessive costs. The situation is compounded by weak corporate governance, low profitability, and high indebtedness of infrastructure SOEs. The road sector, in particular, faces high debt stock relative to earnings, which result in ratios of debt to cash flow available for debt service exceed industry averages. The companies have limited access to long term financing, leading to a mismatch between short debt tenor and the long life of road assets. They also face large currency risks, with the bulk of the debt denominated in euros. Measures are needed to adjust the level of service to correspond to demand, and reestablish operational efficiency and sustainability.

Croatia needs to enhance the efficiency and growth impact of public infrastructure funds, including the projected large inflow of EU funds. Measures to enhance the efficiency and growth impact of public infrastructure funds, including the projected large inflow of EU funds, involve strengthening of public investments management (PIM) planning, contracting, and implementation capacities, along with better strategic planning and establishment of a medium-term budgeting framework. Dispersion of public investment across various levels of government and SOEs pose additional challenges in terms of coordination, rationalization and effectiveness of investment decisions.

The government also faces challenges in ensuring the preservation of natural capital, which is critical to growth. Including indirect income effects, the contribution of tourism to GDP rose to over 25 percent in 2016, and is projected to reach 32 percent of GDP by 2027. The increase in visits to the major national

parks will require an increase in their carrying capacity. Internal population growth and/or migration to areas that have greater economic benefits (i.e. protected areas) also is placing additional pressure on local resources. Only 18 percent of municipal waste is being recycled, so substantial efforts are required to meet the EU recycling target by 2020 of 50 percent. The expected completion of new waste management centers has been delayed from 2018 to 2023, complicating the planned closure of unsanitary, illegal landfills. Resilience to natural hazards poses further challenges, especially for the agriculture and tourism sectors which are the most exposed to the impact of climate change and occurrences of extreme weather events.

V. CONCLUSION

A comprehensive reform program is essential to raise productivity growth. Without a step-up in productivity, Croatia could experience a deterioration of social conditions and prolonged economic stagnation or deterioration. Emigration could accelerate as the most qualified workers take advantage of their mostly free access to richer and faster-growing economies elsewhere in the EU. Population aging (by 2050, the working age population, aged 15 to 64, is expected to decline by 30 percent) could further depress output. Dissatisfaction with limited economic prospects and continued barriers to social mobility could increase political and social tensions. Institutional weaknesses and the inability to achieve the necessary reforms to continue rapid growth limits development in many formerly successful economies, and is often referred to as the 'middle-income trap'.

Transforming the role of the State to set the right incentives for individuals and enterprises to be productive and prosper, while guaranteeing the long-term sustainability of its distributive goals, is the cornerstone of the reform agenda. Building 'efficiency-enhancing' institutions will require changing how the government provide for public services and how it regulates the capital, product and labor markets. The need for public sector transformation is compounded by today's world of rapid change, which poses renewed and complex challenges. The key priority reform areas, retained based on the analysis presented in the report and their critical role to allow Croatia to resume and sustain convergence towards living standards in the European Union and summarized in the Table below, can be articulated around the following three objectives: (A) Enabling the emergence of a dynamic enterprise sector; (B) Boosting participation and contribution of individuals to economic and social development; and (C) Enhancing the sustainability and performance of the public sector.

Time is pressing. Rapid technological change is increasing the returns to skills and boosting productivity in more successful and sophisticated economies. The longer the delay in improving skills and enabling Croatian firms to participate effectively in innovation-led productivity growth, the more difficult it will be to catch up. Government's objective to adopt the Euro in the next 7 to 8 years offers an opportunity to accelerate the structural reform agenda and, beyond the macro-fiscal convergence criteria, strengthen Croatia's institutional capacities and address domestic competitiveness constraints and achieve resilient convergence.

Greater efforts should be made to generate public support for the reform program. High public debt, an aging population, low labor force participation, high levels of emigration, strict rules controlling in-migration, and an institutional and policy framework which is fragmented and that impairs productivity and limits social mobility threaten the considerable economic and social progress achieved over the past few decades. Powerful groups and frequent political changes that have undermined the continuity and effectiveness of policy have limited reforms that are essential to growth and development. Transparent communication, as well as greater attention and resources devoted to explaining the benefits of reform could increase public understanding of the policy changes that would maintain the sustainability of the economic and social system.

Summary of key objectives and related priorities

Objective A: Enabling the emergence of a dynamic enterprise sector	Objective B: Boosting participation and contribution of individuals to economic and social development	Objective C: Enhancing the performance of the public sector
Priority 1. Foster a more competitive environment	**Priority 4.** Improve learning results and skills of the workforce	**Priority 7.** Pursue efforts to reduce fiscal and debt vulnerabilities
Priority 2. Boost justice system performance	**Priority 5.** Foster labor market participation	**Priority 8.** Improve quality and efficiency of public administration
Priority 3. Unleash firm innovate capabilities	**Priority 6.** Ensure productive aging through lifelong learning, healthy aging and promotion of longer working lives	**Priority 9.** Ensure the preservation of natural capital

Note: Table 3 in the main text details specific actions that would help to achieve objectives and priorities summarized here.

1. INTRODUCTION [1]

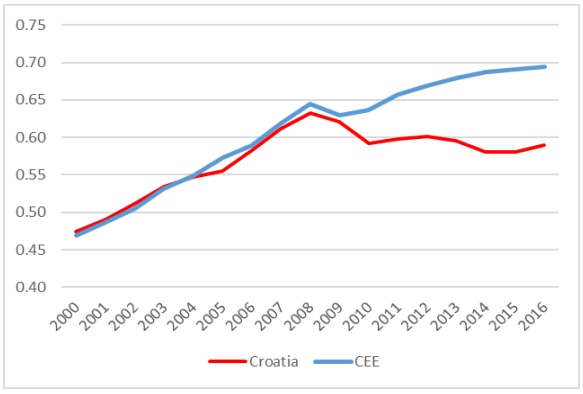
1. **Croatia has made remarkable progress since independence, but daunting challenges impede the reforms required for sustainable development.** In the space of a couple of decades since independence and its subsequent destructive war, Croatia has established a liberal democracy and a market economy, and achieved upper-middle income country. EU accession played a key role in these accomplishments by supporting legislative improvements, strengthening institutions and increasing the availability of funds. Nevertheless, implementation of the reform program continues to face significant obstacles. Capture of public institutions by powerful interest groups has limited the effectiveness of reforms. And frequent changes in government, each accompanied by changes in technical staff in public administration, have reduced momentum for reform and the consistency of government policies over time.

2. **The global economic crisis started for Croatia one of the longest economic recessions in modern European history.** The boom prior to 2008 was supported by large capital inflows that financed a sharp rise in investment and private consumption, while productivity deteriorated, external imbalances widened, and the liabilities of households, firms and the public sector increased. The boom ended abruptly with the crisis, as global demand fell and capital inflows dried up. Households and firms sharply reduced expenditures in the face of declining revenues, large levels of debt and rising borrowing costs. Over the next six years, GDP fell by 12 percent, household incomes dropped across the income distribution, and poverty and vulnerability increased sharply. The recovery since 2014 has been slow, and, unlike Central and Eastern European peers[2], Croatia has yet to resume convergence with EU income levels (**Figure 1**).

3. **The recession had a profound impact on public sentiment and shapes low expectations of improved living standards** Perceptions with regards to present and future welfare and socioeconomic mobility are notably pessimistic, consistent with other countries in the European Union.[3] When asked to place themselves on a ten-step welfare ladder today, four years prior, and four years into the future, more than half of respondents feel that their welfare has remained unchanged since 2012 and will remain the same in 2020. And less than 5 percent believe that their welfare has improved since 2012 and will continue to improve through 2020. Croatia is among the five EU countries in the sample with the lowest level of perceived welfare improvement over time.

Figure 1: Stagnant Convergence with the EU

GDP per capita at EU28 at Purchasing Power Standards



Source: WB staff calculations using Eurostat, WEF data.

4. **Lack of convergence with the EU threatens to increase public dissatisfaction.** Many Croatians tend to see Western Europe as their reference point, reflecting close links through large migrant communities in Austria and Germany. Unless the Government can deliver on people's aspirations for income levels that converge with those of Western Europe, emigration may rise further, given Croatians'

[1] The Report relies on the data available until November 2017.

[2] CEE peer group countries: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia.

[3] Upcoming EU flagship on inclusive growth.

unlimited access to working in EU countries. Fostering the creation of new and sustainable jobs and enhancing the public sector's performance will thus be critical to earn public trust and avoid the risk that net emigration and slower convergence generate a vicious circle, undermining prospects for sustained growth.

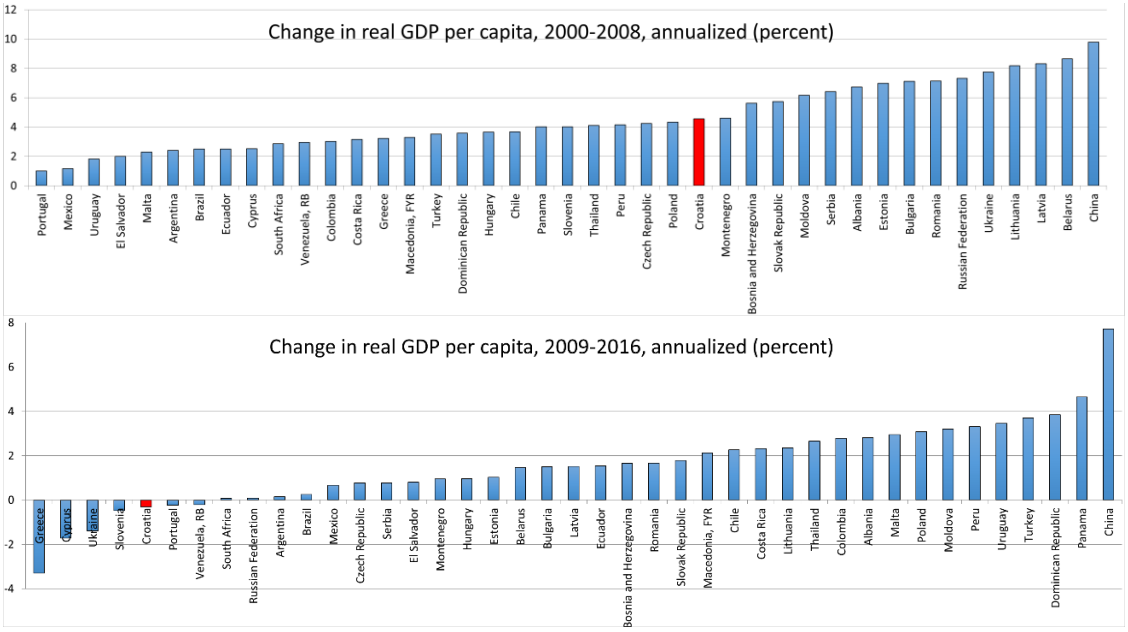
5. **This Systematic Country Diagnostic (SCD) provides an assessment of where Croatia stands in terms of poverty reduction and shared prosperity (namely the twin goals), and how it could maximize progress towards these goals.** The SCD's purpose is not to assess the Government's development plans but rather to articulate an independent identification of, and rationale for, priorities for achieving the twin goals. The analysis is meant to inform subsequent engagement between Croatia and the World Bank Group on the Country Partnership Framework. The document is structured as follows: chapter 2 presents key determinants and constraints of growth; chapter 3 presents determinants and constraints for enhancing inclusion; chapter 4 discusses financial, social and environmental sustainability, and identifies key sustainability-related constraints on achieving the twin goals over the longer term; and Chapter 5 presents the priorities for reform and concludes.

2. BOOSTING OUTPUT GROWTH AND PRODUCTIVITY

A. Recent economic performance

6. **Building on the market-oriented structural reforms introduced during the 1990s and regained stability, Croatia enjoyed a period of sustained economic growth before the global economic crisis.** GDP per capita rose by 4.2 percent per year at constant prices from 2000 to 2008, and GDP per capita (in Purchasing Power Parity (PPP) nominal terms) more than doubled to above US$22,000 reaching 63 percent of the EU28 GDP per capita level (at PPS).[4] This performance was modest, though, compared to many middle-income countries as well as Eastern European peers, including some with similar or higher initial income levels. This relative underperformance has worsened since the global financial crisis, as Croatia was not only hit severely but faced a longer recession period than most peers (**Figure 2**).

Figure 2. Croatia's growth after the crisis was worse than most middle-income countries



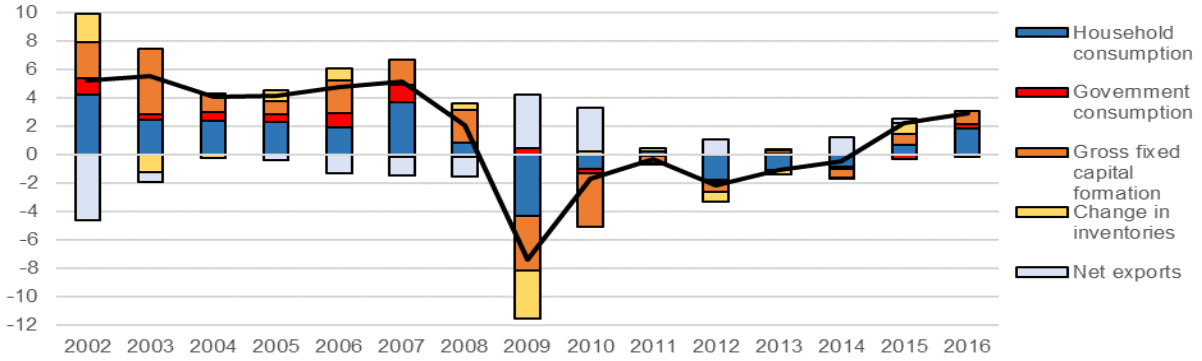
Source: WB staff calculations.

[4] Refers to purchasing power standard, according to the Eurostat methodology.

7. **Economic growth between 2000 and 2008 was driven mainly by domestic demand, fueled by large capital inflows.** The main drivers of expansion were capital accumulation and private consumption (**Figure 3**). Capital accumulation, proxied by the ratio of gross fixed capital formation (GFKF) to GDP, averaged 25 percent, which compares favorably with upper middle-income countries and other fast-growing economies in the region. Rapid growth of domestic demand triggered an import surge, which explains the negative contribution of net foreign demand throughout the period, and resulted in a fourfold increase of the current account deficit (**Figure 4**). External funding relied mainly on debt financing, which led to an increase in gross external debt (**Figure 5**).

Figure 3. Investment and private consumption drove growth before the crisis

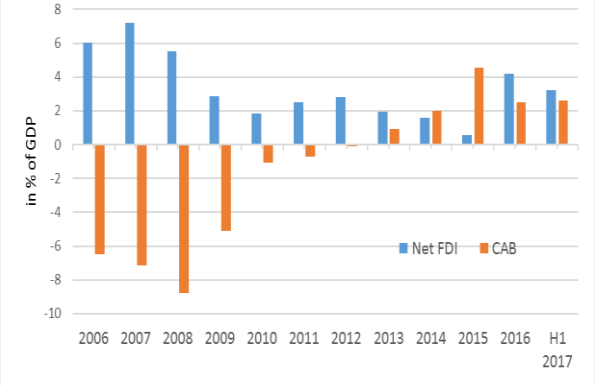
(Contribution to GDP growth in percentage terms, 2002-2016)



Source: CBS, and WB staff calculations.

Figure 4. External balances deteriorated before the crisis

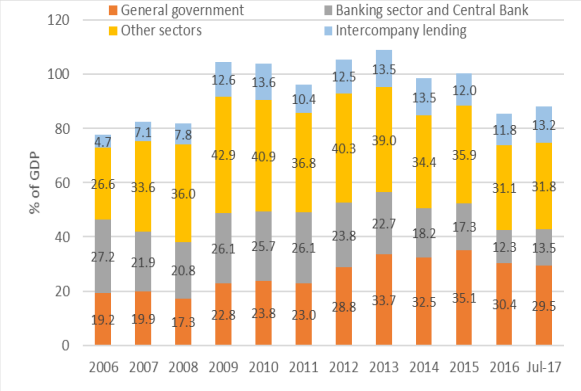
(Percent of GDP 2006-16)



Source: WB staff calculations.

Figure 5. External debt continued to rise well after the crisis hit

(Percent of GDP, 2008-16)



Source: Croatian National Bank.

8. **The composition of GFKF, however, was biased towards non-tradable sectors rather than the tradeable and productivity-enhancing manufacturing sector.** The share of total GFKF devoted to manufacturing from 2002 to 2015 was well below the EU average, while the share of GFKF in non-tradeable sectors was among the highest in the EU (**Figure 6**). Croatia had the second-highest share of GFKF in construction and the highest share of GFKF in finance, insurance, accommodation and restaurant services. The low share of GFKF going to manufacturing may indicate that opportunities for productivity growth are being missed.

Figure 6. Investment in Croatia went to construction and services more than in other EU countries

(Gross fixed capital formation in selected sectors, 2002-2008 and 2009-2015)

Note: Average of the GFKF share of GDP is taken over the two periods, 2002-08 and 2009-15. Some countries do not have the data for 2014 and 2015 and the average is taken from 2009 to the latest years. *Source:* Eurostat and Croatia Bureau of Statistics.

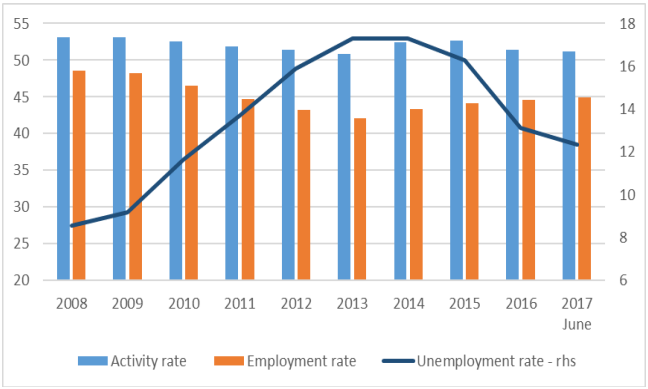
9. **The global crisis exposed fundamental weaknesses of this growth pattern and pushed Croatia into a prolonged recession.** Borrowing costs increased, capital inflows dried up, and external demand for Croatia's exports dropped, leading to a sharp fall in investment and credit-driven private consumption. The economy was pushed into a vicious circle of a sharp contraction in employment, private sector illiquidity and eroding business and consumer confidence. A six-year long recession reduced output by 12 percent and investment by 33 percent, while unemployment doubled to 17.3 percent by 2013 and youth unemployment reached 50 percent.

10. **A more favorable external environment, with low energy prices and more global liquidity, along with EU accession, helped turn the tide.** A strong contribution of exports–underpinned by a good tourist season and recovery of merchandise exports to neighboring countries–and a pick-up of capital investment and private consumption–boosted by low energy prices, income tax cuts, and the conversion of Swiss franc denominated loans–led to the return of positive GDP growth (2.3 percent) in 2015. GDP growth, which is spread across sectors, is estimated at 3.0 percent in 2016, 2.8 percent in 2017 and projected at 2.6 percent in 2018. Private consumption and exports of goods and services are expected to remain the key drivers of aggregate demand in coming years. Gross fixed capital accumulation is also expected to gradually increase and support GDP growth, although its contribution will likely remain lower than during the pre-crisis period. The contribution from government spending to growth is expected to remain subdued in the context of efforts at fiscal consolidation.

11. **Unemployment rose sharply during the crisis, but has begun to decline.** The Croatian labor market adjusted more slowly to the fall of economic activity during the crisis than in other EU States from Central and Eastern Europe.[5] The lack of flexibility in nominal and real wages led to major labor shedding and a surge in unemployment, which had doubled by 2013 to reach 17.3 percent of the labor force (**Figure 7**). Employment contraction affected most sectors and was especially pronounced in sectors, such as construction and retail, which are dependent on buoyant domestic demand. Employment levels in economic activities dominated by the public sector remained stable (for public administration and education) or even increased slightly (for health and social work). Labor market outcomes have begun to improve, as total employment rose, and the unemployment rate fell sharply in 2015. However, the decline in the unemployment rate since 2013 is more due to early retirement, population aging and net migration outflows than the modest increase in the number of individuals employed. At about 65 percent, the labor force participation rate remains some 8 percentage points lower than the EU average.

Figure 7: Unemployment shot up with the crisis

(Percent of working age, 15-64)



Note: June 2007 is the average of four quarters to June. *Source:* Croatian Bureau of Statistics.

12. **Labor market reforms supported a recovery in employment levels.** In an effort to facilitate labor market adjustment, authorities introduced reforms to the Labor Code in 2013 to increase flexibility in the use of temporary contracts and in 2014 to reduce rigidities in employment protection for regular contracts. The rebound in employment observed from 2014 has been largely driven by an increase in

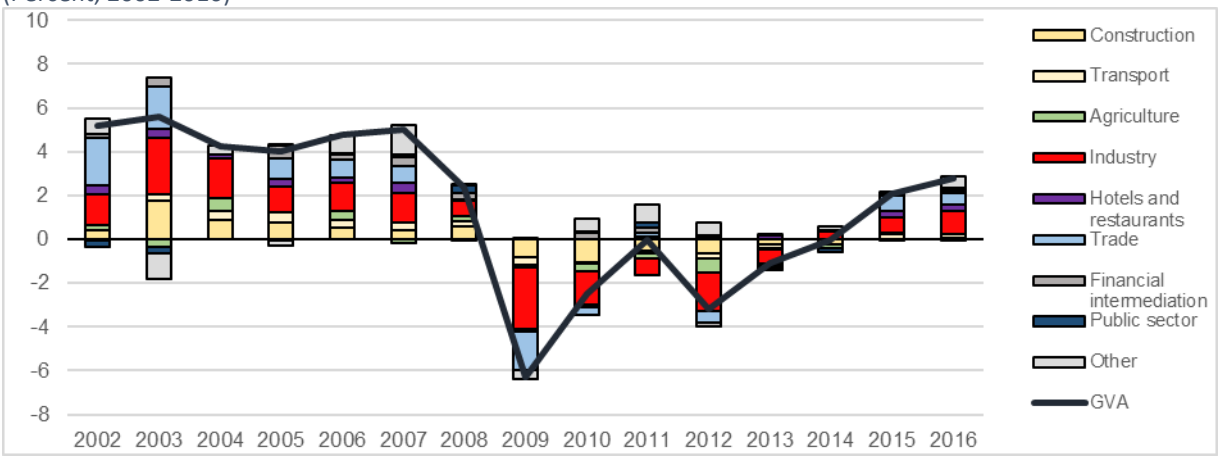
[5] Orsini and Ostojic (2015).

temporary contracts. The extent to which this trend will continue and lead to a segmentation of the labor market along permanent/temporary contract lines remains unclear. The increased flexibility in the use of regular contracts introduced in 2014 might lead firms to increase hiring on a permanent basis once economic activity and confidence strengthen further.[6]

Sectoral and sub-national patterns

13. **Overall, structural transformation since 2000 has remained modest, with a slight increase of the contribution of the services sector to total value added matched by the progressive decline in relative contribution of agriculture.** Services sectors accounted for about 70 percent of VA in 2016, with agriculture and industry representing respectively 4 and 21 percent of the total. Industry, construction and trade have been the key sectoral drivers of gross value-added variations, with large contributions to growth prior to the crisis and a sharp contraction during 2009-2013. The recovery after 2015, appears broad-based with a surge in export-oriented industry, and a recovery of trade and hotel and restaurant services, boosted by a robust tourism performance (**Figure 8**).

Figure 8: Gross Value-Added decomposition,
(Percent, 2002-2016)



Source: CBS, and WB staff calculations.

14. **Employment by sector reflect these trends, with the highest shares of employment corresponding to the industry, the trade services, and the public administration and social services.** The employment in Public administration and social services account for a disproportionate share of the total and is the only sector wherein the absolute number employed grew in the immediate aftermath of the crisis. The number of employees in agriculture, while low in absolute terms, was cut in half between 2000 and 2016, reflecting a transition of unskilled workers to more industrial activity throughout the period. Meanwhile, wages have been highest in the services sector since 2000, though these observed a disproportionate drop at the onset of the crisis after observing an increase of nearly 50 percent between 2000 and 2008. Wages in industry have remained relatively low, but have grown steadily since 2000 in spite of the crisis. Wages in public administration, while declining after the crisis, appear to have been less sensitive to the crisis.

15. **Income levels and labor market outcomes differ greatly among regions.** GDP per capita averaged 10,228 euros in 2014, with regional estimates ranging from less than 6,000 Euros in Virovitica-Podravina and Slavonski Brod to nearly 18,000 Euros in the City of Zagreb (**Figure 9**). GDP per capita in the eastern part of the country is at least half the level in the capital city, and poverty rates are higher.

[6] Brkic (2015).

Disparities in the level of economic activity (**Figure 10**) reflect differences in the structure of the economy but also point towards lower levels of education and lower employment rates in some parts of the country. For example, the share of the adult population (24-64 years of age) with tertiary education is twice as large in Zagreb and surrounding areas than in Slavonski Brod and surrounding areas. Employment rates (**Figure 53**) and unemployment rates (**Figure 54**) of working-age individuals (between 15 and 64 years of age) also differ substantially across the country. The three counties with the highest sales value of industrial production combined are home to 33 percent of the population, yet generate 44 percent of total production in the country.

Figure 9. GDP per capita varied across counties
(Euros, 2014)

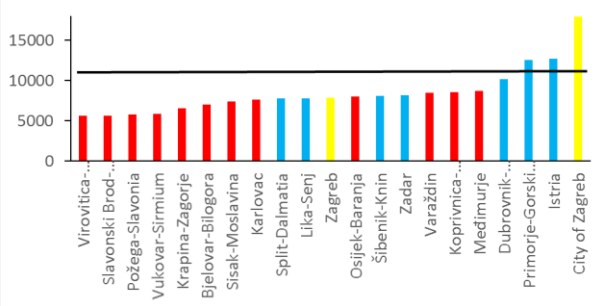
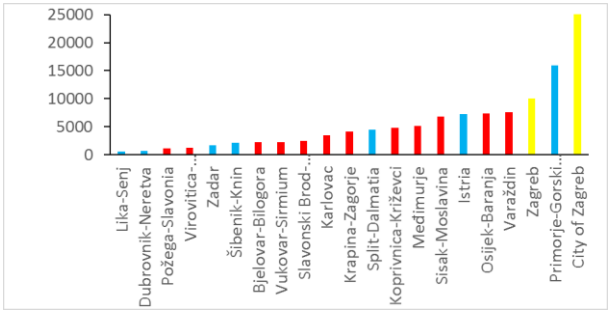


Figure 10. Industrial production is highly concentrated
(Million of Kunas, 2014)



Note: GDP per capita and the total value of industrial production are reported at the county level (21 counties in Croatia, NUTS3). Horizontal line on left panel refers to national (population weighted) average. Yellow bars represent Zagreb and Zagreb City, red indicates continental Croatia (without Zagreb), and blue indicates Adriatic Croatia. *Source:* WB staff calculations using Croatian Bureau of Statistics data.

Figure 11. Richer counties grew slightly faster than poorer counties
(GDP per capita, levels in 2000 and growth between 2000 and 2014)

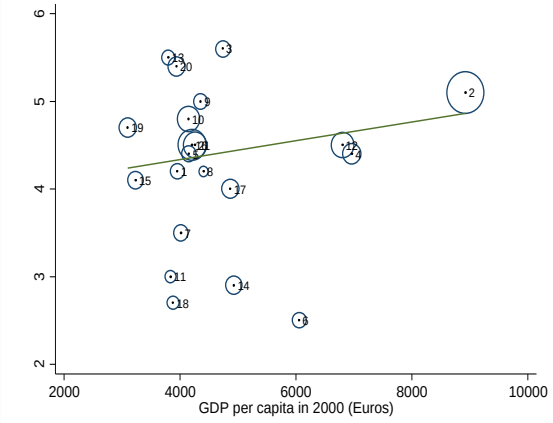
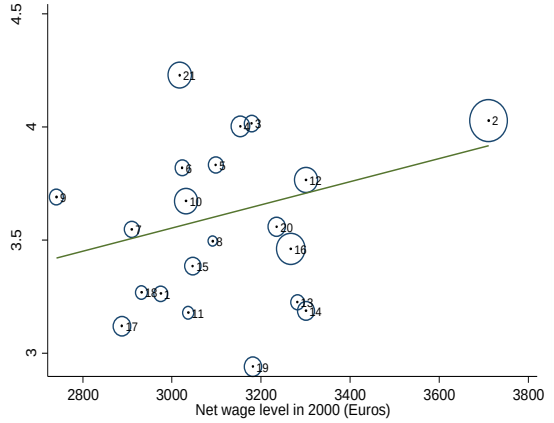


Figure 12. Wages grew faster in counties with already higher wages
(Net wages, levels in 2000 and growth between 2000 and 2014)



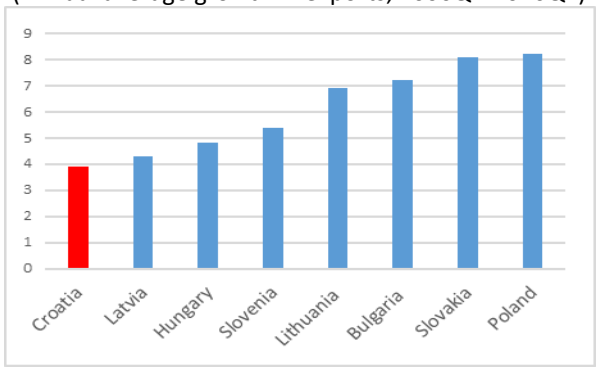
Note: GDP per capita and net wages are reported at the county level (21 counties in Croatia, NUTS3). Bubble size is proportional to population size. Fitted (weighted) line in black. Numbers to identify counties: Bjelovar-Bilogora 1, City of Zagreb 2, Dubrovnik-Neretva 3, Istria 4, Karlovac 5, Koprivnica-Križevci 6, Krapina-Zagorje 7, Lika-Senj 8, Međimurje 9, Osijek-Baranja 10, Požega-Slavonia 11, Primorje-Gorski kotar 12, Sibenik-Knin 13, Sisak-Moslavina 14, Slavonski Brod-Posavina 15, Split-Dalmatia 16, Varaždin 17, Virovitica-Podravina 18, Vukovar-Sirmium 19, Zadar 20, Zagreb 21. *Source:* WB staff calculations using Croatian Bureau of Statistics data.

Trade performance

16. **Croatia's export performance remains lackluster.** Exports grew at 3.9 percent per year from 2006Q1 to 2016Q2, well below the rate of regional peers (**Figure 13**). Croatia's share of the world export market–a measure of export competitiveness–increased by only 0.3 percent over that period. Croatia did achieve some improvement in trade performance compared to the global average: by 2014-15 Croatia's exports as a share of GDP had risen to slightly above the expected level, given its per capita income (**Figure 14**). However, Croatia's Eastern European peers achieved much higher levels of exports. Also, this measure does not control for size of the economy, and a small economy such as Croatia is expected to have higher trade openness, to finance the variety of goods that cannot all be produced domestically at efficient scale.

Figure 13. Croatia's exports increased more slowly than peers

(Annual average growth in exports, 2006Q1-2016Q2)

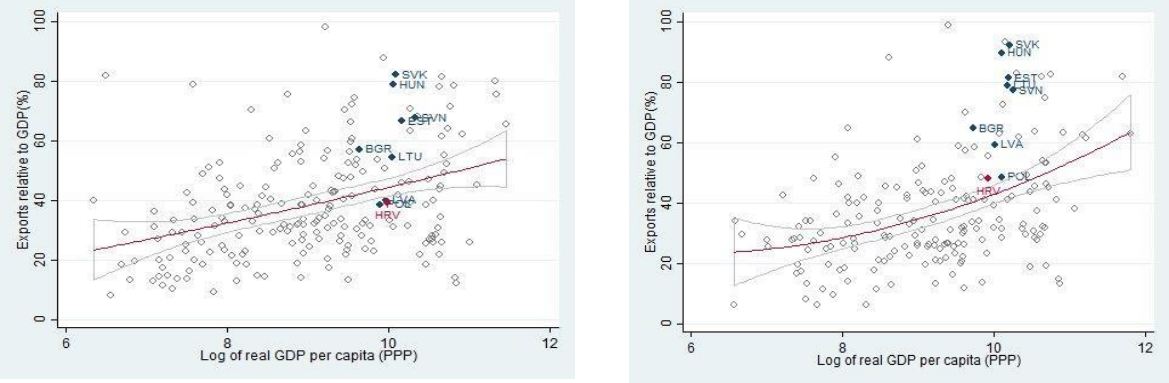


Source: WB staff calculations using UN Comtrade.

17. **Accession to the European Union has helped boost export growth.** Croatia's reform program before EU accession increased the country's supply-side export capacity (last column of Table 1). However, the country's export market share fell from 2006 to 2012 due to both price-related factors, and most significantly, a fall in demand from Croatia's core export markets in the Eurozone with the global crisis. The pay-off to improved export capacity came with global recovery, as export market share increased by almost 5 percent in the three years following EU accession. Much of the rise in exports since 2005 has been to lower-income EU members (countries who joined the EU after 2004), whose share of Croatia's exports rose from 15 percent in 2005 to 23 percent in 2015 (**Figure 15**). Croatia has been successful in these countries thanks to a small set of strong, multi-product exporters, both in traditional sectors and new activities. These exporters have also invested in production facilities in South Eastern Europe establishing themselves not only as successful exporters but also as regional multinationals.

Figure 14. Export performance has improved

(Export/GDP versus per capita GDP, 2007-08 and 2014-15)

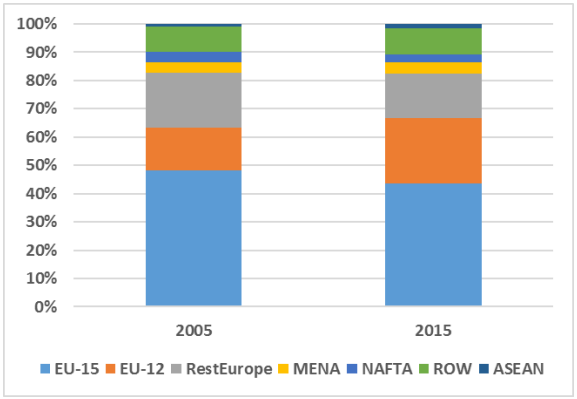


Source: World Development Indicators.

18. **Growth in world imports in sectors of Croatia's specialization is picking up pace.** Most of Croatia's leading export sectors have achieved increasing shares in global exports in 2011-15. The majority have seen increased shares in global exports in sectors where global imports are increasing. These sectors include pharmaceuticals products, electrical machinery, vehicles, apparel, footwear and wood products. Only a few of Croatia's top 20 export sectors have both lost market share in world exports and faced lower import demand. In addition, Croatia had a few products – aluminum, electrical machinery and equipment and plastics – with growing world demand and declining world market export shares. These results suggest a remarkable change from 2008-12, when the majority of Croatia's top exports were in declining sectors and Croatia's main export markets in the EU experienced both a deeper and more protracted recession than the rest of the world (including the US, and particularly the emerging economies of Asia, Africa and Latin America).

Figure 15: The rise in exports has mainly been to the EU12

(Share of exports, percent)

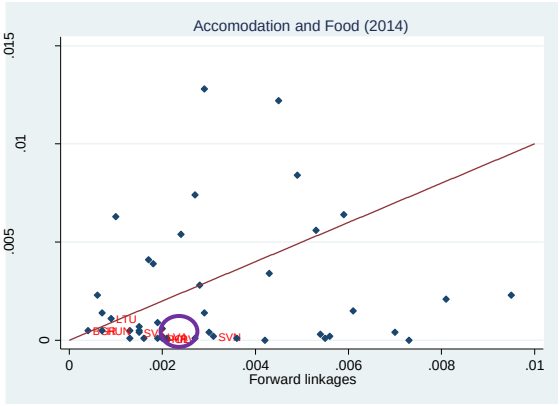


Source: WB staff calculations using UN Comtrade data.

19. **Croatia has larger services exports and a greater share of travel and tourism services than its peers.** Croatia's services exports are larger in value to its merchandise exports. Two-thirds of Croatia's services exports are travel and tourism, while communication and transport services exports only make up a small share and financial services exports are marginal. Among peers, Bulgaria is the only other where travel makes up more than half of total services exports. By contrast, transport services exports play a larger role in most other peers, particularly in Lithuania, Estonia, and Latvia. The strong performance of the tourism sector in recent years is reflected in the marked increase in the revealed comparative advantage (RCA) index for personal and recreational services (which includes tourism), while the RCA indices for other services sectors generally associated with higher value added, such as financial, telecom, or other business services, have remained stagnant. The importance of the tourism sector is one reason why the sophistication of Croatia's services exports remains largely behind that of peers' services exports.

20. **The tourism sector's limited of integration with the local economy suggests that the sector may not enhance Croatia's competitiveness.** The tourism sector earns foreign exchange and provides jobs, especially to the low- and medium-skilled, who tend to be more vulnerable to unemployment. However, Croatia's hotels and restaurants sector sells few intermediate inputs to other sectors (forward linkages), and only produces final products. Moreover, Croatia's tourism sector purchases fewer inputs from other sectors (backward linkages), compared to the level of purchases by the tourism sector in other countries

Figure 16: Croatia's tourism sector purchases few inputs from other sectors



Note: Indirect forward and backward linkages in export value added as a share of total exports. *Source*: WB staff calculations using World Input-Output Database.

(Figure 16). Finally, note that the heavy reliance on one single sector can expose the entire economy to considerable risk.

Table 1: EU accession improved Croatia's ability to export

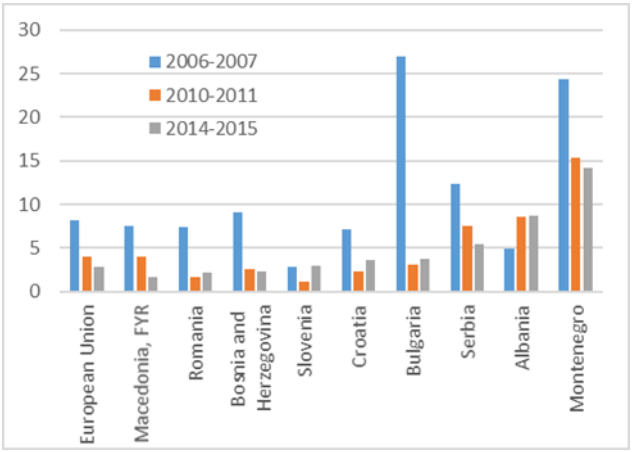
	Export market share change	Pull factor		Push factors		
		Geographical	Sectoral	Values	Price	Volumes
2006Q1 –2008Q4	**0.26**	1.65	-0.51	-0.88	0.69	-1.57
2009Q1 –2012Q4	**-3.69**	-4.59	-0.08	0.98	-1.58	2.55
2013Q1 –2016Q2	**4.78**	-0.65	1.01	4.42	-0.40	4.82

Note: Indicators are expressed in log-difference form, which allows for additivity across indicators. *Source*: World Bank Measuring Export Competitiveness Database.

21. **Croatia remains on the periphery of networks of global value chains (GVCs).**[7] Croatia's trade with the main centers of global trade in intermediates, China, Germany and the United States, is marginal. The EU – in particular, Italy – is the most relevant trading partner for Croatia and Croatia is the most important trade partner in intermediates goods for Bosnia Herzegovina, its close geographical neighbor. One reason for Croatia's marginal position in GVCs is the absence of an automobile manufacturing sector. The transport vehicles, parts and equipment sector is one of the most dynamic product groups in world trade, partly because of the ease of production fragmentation across borders. The sector's heavy reliance on just-in-time production and high weight-to-value ratio of auto parts and components motivates suppliers to locate closer to auto manufacturers, resulting in the creation of clusters. Croatia missed much of the foreign direct investment (FDI) from Western Europe and Asia that entered neighboring countries in Central Europe in the 1990s to build new plants or acquire old factories from the Socialist era.[8] Nonetheless, Croatia's emerging success in several industrial machinery and electronic products, where sourcing products across borders (or longer distances) is common, can provide avenues to enter new GVCs. The extent of Croatia's participation in GVCs in the non-auto industries is unclear. The country's exports of parts and components increased by a respectable 13 per cent per year in the past decade, although this is low compared to peer countries in the region such as Latvia (22.4 percent), Lithuania (17 percent), Poland (18 percent), Serbia (24 percent) and the Slovak Republic (22 percent).

Figure 17: Croatia's FDI performance is low

(FDI inflows, percent of GDP)



Source: WB staff calculations using World Bank World Development Indicators.

[7] A country's export of intermediate products can be represented in a Minimal Spanning Tree (MST). Each country's export of intermediate products can be represented in a network, where each country is linked to each other. The link weights are transformed to reflect distances between nodes, larger bilateral trade flows are portrayed by closer distances between nodes, and the most connected countries represent the roots of the tree.

[8] Example include Fiat's purchase of Poland's FSM in 1992; Volkswagen's acquisition of Skoda in the Czech Republic in 1991; and Renault's purchase of Dacia in Romania in 1998.

22. **The contribution of FDI to Croatia's trade performance is limited.** The annual average ratio of FDI inflows to GDP since 2006 has been somewhat below the EU as a whole and well below that of regional peers (**Figure 17**). The investment promotion authority in Croatia (AIK) focuses mainly on attracting greenfield projects rather than promoting brownfield investments or mergers and acquisitions (M&As). However, M&As account for the large majority of global FDI activity; international experiences of M&As in the telecommunications and pharmaceuticals sectors show that such firms both continue to absorb new technology, engage in active R&D as part of the global networks of their parent firms, and have strong export performance.

Financial sector developments

23. **Underpinned by conservative prudential policies, the financial sector, dominated by banking, has remained stable throughout the long recession.** Financial assets amounted to 172 percent of GDP in 2016, with the banking sector accounting for about 70 percent of the total financial sector assets. The remainder corresponds to pension funds (about 14 percent), insurance companies (6 percent), other financial intermediaries (4 percent), money market funds (2 percent) and other (4 percent). The banking sector is deep, well-capitalized, profitable and highly liquid. The banking sector was growing relative to the economy until 2011, but has declined since then due to the deleveraging that followed the financial crisis. Private credit equaled 65 percent of GDP in 2015, exceeding its Central European peer group average of 50 percent, albeit still below the EU average of almost 87 percent. [9] The average capital adequacy ratio (CAR) for the banking sector was 22 percent in 2016, one of the highest among CE countries. Stress testing for the banking sector from 2014 to 2015, conducted by the Croatian National Bank (CNB), indicates that the banks' capital buffers would have been sufficient even in a severe stress scenario. The banking sector was generally profitable in the period 2008-2016, with the exception of 2015 when performance was adversely affected by the legislated mandatory conversion of CHF-denominated loans. The sector recovered quickly, and in 2016 return on assets had risen to 1.6 percent. The ratio of liquid assets to deposits and short-term funding amounted to 21 percent, in line with the peer group average.

24. **Private sector debt, at corporate and household levels, and exposure to foreign currency risks remain high.** The housing boom and expectations of rapid convergence to EU average income levels fueled the surge of households' debt prior to the financial crisis. Deleveraging has been relatively slow, hindered by unfavorable labor market conditions and shrinking disposable incomes. The conversion of Swiss franc loans in late 2015 helped accelerate households' debt deleveraging. With improved labor market conditions, stabilizing real estate prices, and interest rates at historic lows, pressures on further reducing household debt have eased, even though exposure to interest and currency risks remain high. For the corporate sector, pre-crisis high investment rates led to a rapid accumulation of debt. The low level of investment since has facilitated a decline in the debt to GDP ratio by some 10 percentage points. With about 77 percent of corporate debt denominated or indexed in foreign currency, exposure to currency risks remain high, especially for companies in the non-tradable sector. As of 2016, transaction data point to a recovery of bank placements to both households and corporates. The composition of the credit portfolio has also significantly shifted since before the crisis, with credit to government and the SOE sector increasing from 9 percent of the total to 20 percent in 2016. Total credit to Government and State-owned enterprises as a percentage of GDP amounted to about 30 percent in 2015, significantly higher than the average of peer countries (18 percent) and the EU average (16 percent).

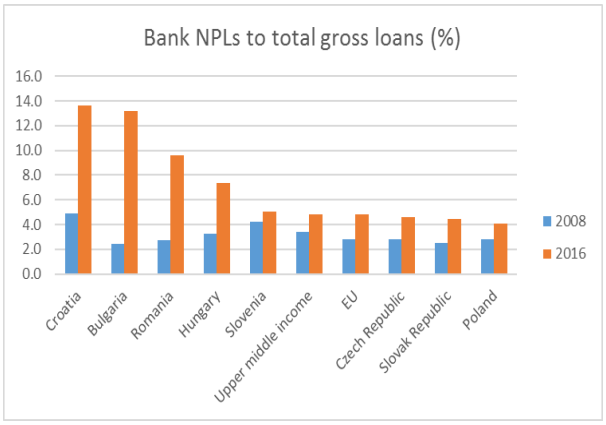
25. **The bulk of banking sector loans remains denominated in foreign currency.** Domestic currency loans picked up in 2016, supported by the negative experience with Swiss franc-denominated loans,

[9] CE peer group countries: Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovak Republic, Slovenia.

decreasing interest rates on kuna loans, and National Bank measures. Nevertheless, foreign denominated currency loans, mainly in euros, still represented 61 percent of banking sector loans as of December 2017. These loans represent a significant source of vulnerability, as most borrowers are unhedged (e.g. about 73 percent of housing loans are either denominated in or linked to a foreign currency). As of December 31, 2017, foreign currency deposits amounted to 60 percent of total deposits in the system. The exchange rate risk is mitigated by the National Bank's exchange rate policy of stable EUR/HRK exchange rate.

26. **Non-performing loans remain above pre-crisis levels and high relative to the EU average, and continue to pose a risk to financial stability.** Non-performing loans (NPLs) have been on a declining trend, with the ratio of NPLs to total loans at 13.8 percent at the end of 2016. However, the NPLs ratio is still significantly above the pre-crisis level and high compared to other EU member states (**Figure 18**). The level of NPLs is significantly higher for the corporate sector, where NPLs have been hovering at some 30 percent of total loans for the past four years. In stress tests conducted by the Croatian National Bank, the NPLs ratio is expected to reach between 15.6 and 20 percent of total loans, depending on the macroeconomic scenario and assumptions on Agrokor group's restructuring process. resolution still requires a coordinated approach by different authorities, including an improvement of the legal, regulatory, and tax regime for NPLs sales, transfers, bankruptcy and restructuring.

Figure 18: Croatia's banking sector non-performing loans are high



Source: World Development indicators.

B. Productivity patterns

Aggregate productivity

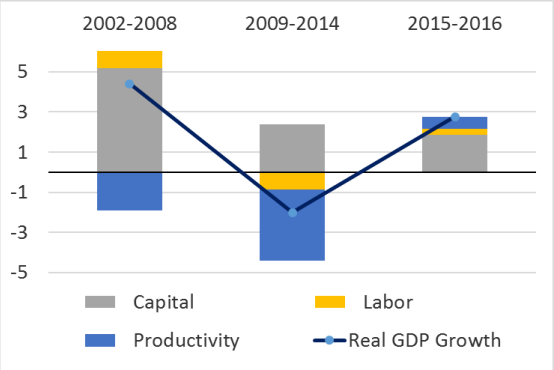
27. **Productivity has made little, or a negative, contribution to growth in Croatia over the past 13 years.** According to a growth accounting exercise, total factor productivity made a negative contribution to output growth during the period before the global crisis (2002 to 2008). By contrast, capital accumulation accounted for 5 percentage points of output growth during this period and labor about one percentage point. Falling TFP accounted for 3.7 percentage points of the fall in output during the 2009-14 recession, while the contribution of capital to growth fell as foreign capital inflows dried up, but remained positive. Finally, during the 2015-16 recovery, capital accumulation was again the principal source of growth, while the contribution of both TFP and labor turned marginally positive. (**Figure 19**).

28. **The negative contribution of TFP to growth contrasts sharply with Croatia's Eastern European peers, where growth in the years preceding and after EU accession was mostly based on productivity gains.** TFP in Croatia may have fallen because capital accumulation occurred mainly in consumption-related and inward-oriented sectors rather than in the tradable sectors, where investments are generally associated with higher productivity gains. The low contribution of labor is explained by unfavorable demographics which drove slow growth of the working age population, as well as low levels of labor market participation. The dismal TFP performance has been reflected in the slow growth in potential

output, which has consistently been at the lower range of potential output among Central Eastern Europe (CEE) peers since 2004 (**Figure 20**).[10]

Figure 19. Productivity made a negative contribution to growth

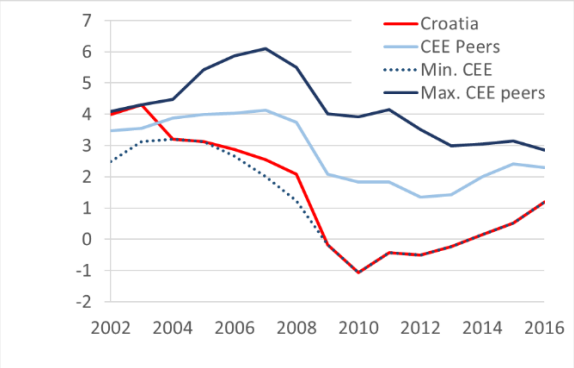
(% of GDP, 2002-16)



Source: CBS, WB staff calculations.

Figure 20. Potential output in Croatia is below CEE peers

(% of GDP, 2002-16)



Source: European Commission (2017).

Firm-level productivity analysis

29. **The median TFP level of Croatian firms fell over the period 2008-2013.** Three factors contributed to this decline, including (on the demand side) deflation due to protracted weak global demand, and (on the supply side) efficiency losses at the firm level due to lack of technological upgrading and balance sheet vulnerabilities, which encouraged firms to engage in low risk-low return investments. Several other EU countries, including the new EU member states (Bulgaria, Czech Republic, Poland, Romania and Slovenia, but not Slovakia) also experienced a decline in firms' median TFP levels.[11] Data limitation does not allow us to identify which side – prices versus marginal costs – has made a higher contribution to explaining the observed U-shaped pattern for most of the sectors.[12]

30. **Firms' median TFP levels declined in all sectors after the GFC and only began to rise in 2012.**[13] TFP levels remain lower in Croatia than in Central and Eastern European (CEE) peers in most industries. Averaging across all industries, the median TFP level of Croatian firms was estimated at about 10 percent lower than firms in CEE peers in 2014. [14] The gap was highest in manufacturing (almost 20 percent), mining and quarrying, and construction. The only industry in which Croatian firms' productivity was above the peer average was energy. Median TFP levels in Croatia, disaggregated by industry, only began to rise in 2012.

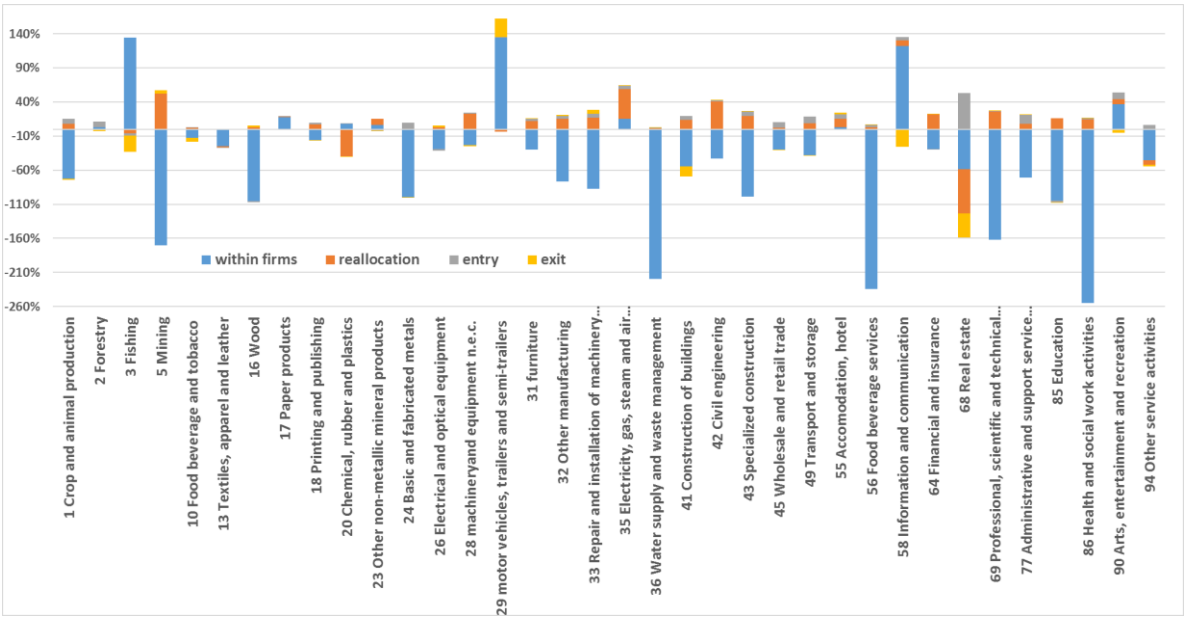
31. **Most of the reduction in TFP at the sectoral level reflects lower productivity at incumbent firms rather than misallocation of factors between firms.** The TFP growth between 2009-2015 of each sector can be decomposed into two margins: (i) the "within component", which relates to changes in productivity by incumbent firms; and (ii) the "between" component, reflecting the reallocation of factors of production and economic activity toward more efficient firms (capturing both entry/exit dynamics and

[10] Central Eastern European (CEE) peers used by European Commission in its analysis include Czech Republic, Hungary, Poland and Slovakia.
[11] Adler (2017). The global decline in TFP following the crisis is well documented (Syverson, 2017).
[12] Lack of information on firm-level product prices means that our measure of TFP does not exclusively reflect efficiency. Thus, the TFP measure used in the analysis reflects firms' profitability, and is usually known as "revenue total factor productivity".
[13] The TFP measure includes confounded factors both from the demand- and the supply-side.
[14] European Commission (2017).

the reallocation of activity across incumbent firms).[15] The TFP reductions observed in many sectors are dominated by the "within" component, which was negative in most sectors over the period 2009-15 (**Figure 21**). This is consistent with evidence from the Enterprise Survey showing that the observed reduction in TFP dispersion in Croatia is mainly driven by a slowdown in the TFP performance of the most productive firms.[16] The negative contribution of the "within" component is often associated with several factors, including: (i) limited investment due to increased policy uncertainty, (ii) a sharp tightening of credit conditions; (iii) low levels of investments in intangible assets such as R&D,[17] (iv) low levels of product market competition, which impair firms' incentives to become more competitive, and (iv) a cumbersome business environment that prevents more productive firms from growing faster than competitors. The large negative "within" contribution to TFP in the primary sector (crop and animal production) reflects outdated farming methods and low capital intensity in agriculture in Croatia. The lack of business dynamism hinders the process of industrial renewal and Croatia's productive structure is aging - the average firm age increased from 12.5 years in 2009 to about 14.5 in 2015.

Figure 21: Changes in TFP levels are driven mainly by the "within" component

(2009-2015)



Note: The decomposition of the TFP growth between 2009 and 2015 was performed using the methodology discussed in Melitz and Polanec (2011). The TFP growth is decomposed into the "within" and "between" components, as well as components related to the entry and exit of firms. *Source:* WB staff calculations using Croatian firm census.

32. **There are some signs of improved resource allocation across Croatian firms.** The dispersion of TFP levels across firms fell over the period 2008-2013, which may reflect improved resource allocation.[18] However, given the available data, this decline may also be driven by lower volatility of sales coupled with reduced adjustments costs in capital.[19] Improvements in allocative efficiency mainly reflect a better allocation of labor towards the most productive firms, which is captured by a reduction in the dispersion

[15] Melitz, M. & S. Polanec (2015).

[16] Correa, P., Cusolito, A., and P., Jorge (2017).

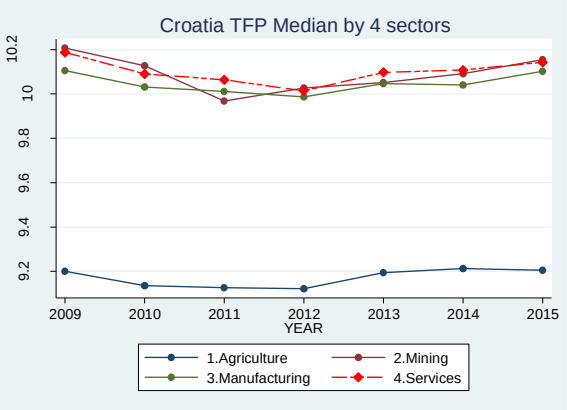
[17] Adler (2017).

[18] This interpretation requires restrictive assumptions about product demand and marginal costs, including monopolistic competition and constant marginal costs (Hsieh, C., and P., Klenow (2009)).

[19] Collard-Wexler, A., and J., De Loecker (2014).

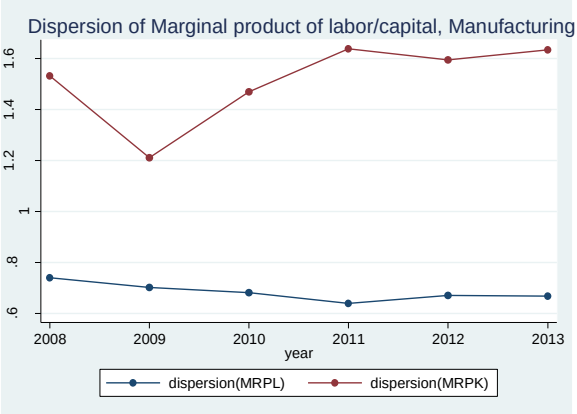
of the marginal product of labor (MPL) (**Figure 23**).[20] However, there are also signs of increased misallocation of capital, as the dispersion of the marginal product of capital (MPK) has increased since 2009. Dispersion of MPL and MPK may reflect the presence of economic distortions or heterogeneity in policy treatment at the firm level, which causes misallocation of factors of production. For example, financial frictions, such as constraints on the availability of information that leads banks to lend based on collateral rather than expected profitability, may have resulted in the misallocation of capital inflows towards firms with higher net worth that are not necessarily more productive.[21] These findings are in line with recent studies of other countries in the EU region.[22]

Figure 22. TFP decelerated in all sectors after the GFC



Source: WB staff calculations using Croatian firm census.

Figure 23: The misallocation of capital rose



Source: WB staff calculations using Orbis data.

C. Key drivers for boosting output potential and productivity growth

33. **Croatia needs to boost its output growth potential to resume and sustain economic and social convergence towards EU living standards.** Boosting Croatia's growth will require improving resource allocation and supporting firm-level productivity improvements, while increasing the supply of labor and capital. Borrowing from Schumpeterian endogenous growth theory, this can be achieved by a transition to an innovation-led growth model, involving the presence of competitive markets for both products and factors, availability of higher education and research, and capital market-based finance. In addition, government must maintain a sound macroeconomic environment while supporting strategic interventions through its public investment and research and development policy.[23] The remainder of this chapter discusses key elements to support this transition, organized around the business environment, the competition environment, the footprint of the state in the real sector, the innovation ecosystem, and higher education and skills. Complementary elements relating to sustainability of public finances and efficiency of public sector are discussed in Chapter 4.

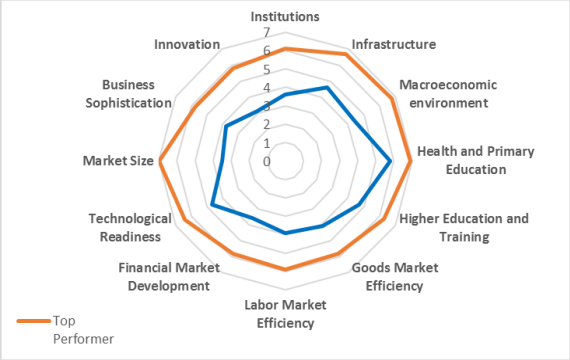
[20] Cusolito, A. and S., Tan (2017).
[21] Gopinath, G., Kalemli-Ozcan, S., Karabarbounis, L. and C., Villegas-Sanchez (2017).
[22] Gamberoli, E., Giordano, C., and P. Lopez-Garcia (2016).
[23] Aghion, P. and U. Akcigit (2015).

Improving the business environment

34. **Despite progress in recent years, companies continue to face a cumbersome business environment that inhibits private sector investment and distorts resource allocation.** Croatia continues to lag best performers in key Doing Business indicators, including access to credit, resolving insolvency, and obtaining construction permits, which show the largest distance to the frontier. While Croatia's performance in obtaining construction permits and resolving insolvency has improved in the last five years, its performance on access to credit has deteriorated. The poor performance in these indicators are reflected in Croatia's low scores in the institution indicator in the Global Competitiveness Report of the World Economic Forum, which captures the state of property rights, ethics and corruption, undue influence, public sector performance, security, and business ethics (**Figure 24**). Croatia also lags top performers in the Global Competitiveness Report in the market size and innovation indicators.

Figure 24: Croatia's institutions are far weaker than top performers

(Global Competitiveness Index, 2017-2018)

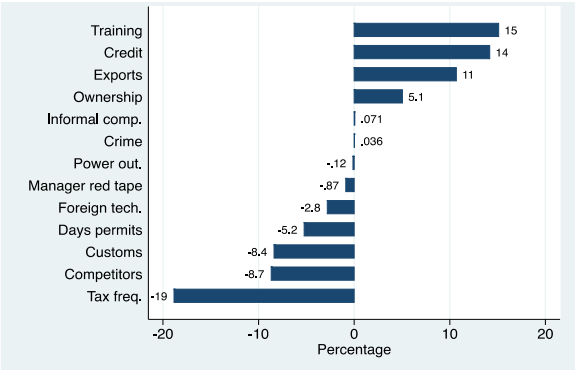


Source: World Economic Forum, Global Competitiveness Report, 2017-2018.

35. **Business environment dimensions have a diverse impact on firms' productivity.** Estimates of the marginal effect of policy variables on revenue total factor productivity (TFPR) show large dispersion, with larger negative impact for red tape-related variables (frequency of tax inspection, delays in customs, number of days to obtain permits) and for the intensity of competition (**Figure 25**).[24] Variables with a large positive impact on firms' productivity include provision of training to employees, access to credit, being an exporter, and presence of private ownership. The estimated negative impact of competition on productivity can be explained by the fact that competitive pressures affect firm's productivity through two different mechanisms, a negative price-effect, and an ambiguous efficiency-effect that depends on the composition of the universe of firms, as competitive pressures encourage leading firms to upgrade their internal capabilities to become more efficient and escape competition (positive effect), but they discourage laggard firms to engage in efficiency-enhancing investments because lower profits do not allow them to cover the fixed costs of innovating, adopting new technologies and better managerial practices (negative effect). From a policy perspective, this finding means that in the absence of government support like state-aid geared to help laggard firms, competition will reduce prices, force the exit of laggard firms,

Figure 25: Business environment has a direct impact on firm productivity

(Marginal impact on TFPR for median firm, 2013)



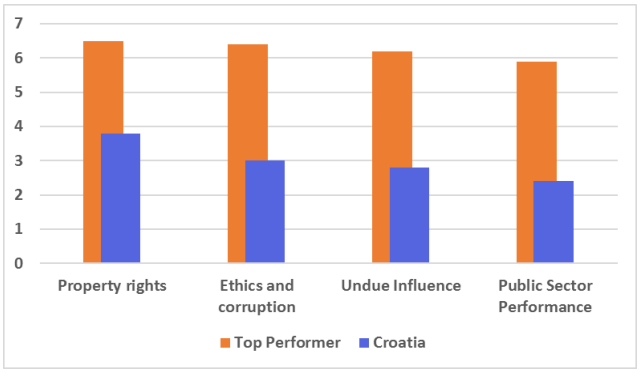
Source: Correa and al. (2017).

[24] WB staff calculations using methodology developed by De Loecker and applied to World Bank Enterprise Survey data (cf. Correa P., Cusolito, A., and P., Jorge (2017)).

encourage the entrance of productive firms, and induce the reallocation of factors of production towards the most productive firms.

36. **Weak performance of the public sector increases inefficiencies and administrative burdens facing firms.** Firms are directly affected by weak legislative planning, which reduces the quality of new regulations. In some cases, legislative quality may have been impaired by the urgent legislative procedures adopted (about 80 percent of all "harmonized" laws had only one parliamentary reading) to accomplish the huge changes required by EU accession, involving the harmonization of about a quarter of Croatia's laws, the creation of implementing institutions, and increasing financial resources and staff skills.[25] Although Croatia implemented a regulatory impact assessment (RIA) which can improve the legislative process, most legislation does not use it due to these fast track legislative processes. Even when performed, the RIA is often not properly implemented, due to weak quality control and lack of high level commitment. Poor legislative quality, in turn, leads to frequent amendments to address shortcomings and complications for SMEs. The red tape and weaknesses in public administration affect businesses mainly in the form of inconsistencies in local-level decision making and lack of strict timeframes for issuing opinions on tax issues. In its action plan for 2017 the Government has identified a set of 104 measures to improve the business environment, including steps to reduce redundant administrative costs and to improve competition in the professional services market, which are expected to save enterprises up to 1.5 billion kuna.

Figure 26: Croatia scores poorly on the quality of institutions
(2016-2017)



Note: Scores for each category is from 1 to 7 (best) and the top performers are the top score for each category. *Source*: World Economic Forum, Global Competitiveness Survey, 2016.

37. **Croatia's public sector governance indicators are worse than the vast majority of countries in the world.** Limited transparency, corruption and undue influence remain a concern, as Croatia persistently scores below the average in the Global Competitiveness Index for public institutions (**Figure 26**). Of the 137 countries ranked by the 2017 Global Competitiveness Indicators, Croatia is ranked 135th in challenging regulations, settling disputes, as well as burden of government regulation, 128th in the transparency of policy making , 122nd in the favoritism in decisions of government officials, and 114th in judicial independence.[26] Similarly, Worldwide Governance Indicators rates Croatia the worst in the EU for regulatory quality and among the worst in other key public sector governance indicators.

[25] This accelerated process stands in contrast with a more gradual approach in neighboring Slovenia, which resulted in better implementation of legislation.
[26] The Global Competitiveness Report 2016-2017, World Economic Forum, Geneva, 2016.

Figure 27. Croatia's governance is among the worst in the EU

(Percentile rank, 2016)

Source: Worldwide Governance Indicators.

38. **Inefficiency, unpredictability, and delays in court processing cases continue to be among the greatest impediments to business in Croatia**. Despite progress, the system struggles with a legacy of bureaucracy and red tape. Courts of general jurisdiction and commercial courts are generally perceived as too slow in processing cases. The number of pending cases and disposition time in litigious civil and commercial cases remain among the highest in the EU. For example, proceedings of commercial cases in first instance took on average 724 days (in 2015)[27], and more than 300,000 cases are officially backlogged (meaning that they have been pending for more than three years). Almost 64,000 cases in Municipal Courts are officially backlogged, representing approximately 25 percent of all Municipal Court cases. In commercial courts, approximately 15 percent of cases are backlogged. Unsurprisingly therefore, the Global Competitiveness Index 2017 of the World Economic Forum ranks Croatia 135th out of 137 economies in terms of the efficiency of the legal framework in settling disputes, a ranking that continues to slide as other economies reform to become more competitive. According to the Doing Business Report 2018, contract enforcement takes 650 days, which is slower than the OECD and Europe and Central Asia averages. Resolving insolvency in Croatia takes up to 37 months, much longer than the ECA average of 27 months. Similarly, the 2016 the European Commission for the Efficiency of Justice (CEPEJ) report finds that the disposition time of civil and commercial litigious cases in 2014 was 380 days, which is significantly higher than the European average of 237 days. In the 2014 World Bank Business Environment and Enterprise Performance Survey (BEEPS), a mere 15 percent of firms report that the court system is quick, less than half the ECA average of 31 percent. The extensive demands on judicial services are compounded by the sector's provision of non-litigious administrative services (e.g. company registration, land ownership registration, etc.) and the lack of effective fast-track procedures for resolving minor disputes.

[27] European Commission (2017).

Simplifying and streamlining procedures for minor disputes could have positive effects on the economy by improving access to justice for smaller firms and helping courts to diminish backlogs by resolving cases more easily.[28]

39. **Transparency, corruption, and uneven quality of justice across Croatia remain a concern and undermine users trust in the system.** In the 2014 BEEPS Survey, only 36 percent of firms in Croatia report that their court system is fair, impartial and uncorrupt. This lags the EU averages, and this view has remained unchanged for at least the last 5 years. Similarly, the WEF ranks Croatia 122nd out of 140 economies in terms of undue influence and 114th in terms of judicial independence. Excessive variation in practices across the judicial administration is also a problem in both courts and State Attorneys Offices (SAOs). Workloads are distributed unevenly between courts and between judges of the same court. The variations impair efficiency and predictability and undermine trust in the system. Clearer and stricter rules on ethical standards are needed, and should be accompanied by training and monitoring to ensure that they are mainstreamed into daily practice, and with clear sanctioning and control in courts and prosecution offices. Court presidents and heads of State Attorney Offices (SAOs), under the leadership of the Councils, have a clear role to improve the operational efficiency, but also improve the system's transparency.

40. **This low efficiency and poor quality in the justice system persist despite an over-abundance of judges and staff permanently employed in courts around the country.** According to the 2016 CEPEJ report, Croatia has 41 professional judges per 100,000 inhabitants, almost double the European average of 21 judges. In addition to the high number of judges, Croatia's judiciary employs 166.5 non-judge staff per 100,000 inhabitants, more than double the European average of 70. The average ratio of staff to judges in Croatia is 4:1, more than 20 percent higher than the CEPEJ average. Their cumulative effect is to create a bloated wage bill that crowds out other expenditures, leaving little room for much-needed investments in innovation, ICT and training. The bloated size of the sector relative to other European states and the sub-optimal performance suggest that there are serious inefficiencies in the system. Efficiency gains can be achieved though improvements in processes and performance measures at each level of the system and a reduction of the scope of judicial competences in areas that are administrative in nature. Such reforms could both improve performance and ease budgetary pressures.

41. **The private sector also appears to face greater difficulty in obtaining finance than in European peers**. About 15 percent of SMEs identified access to finance as the most pressing constraint, compared to 9 percent on average for the EU. Similarly, 26 percent of Croatian SMEs did not manage to get the full bank loan financing they had planned, higher than the EU average (18 percent), and only 15 percent of SMEs use trade finance compared to 35 percent in the EU.[29] According to the Global Entrepreneurship Monitor survey of 2014, lack of access to finance was the second largest cause for cessation of business activity, responsible for 23 percent of the cessation cases (twice the average level for the EU). Croatian firms also rely more on retained earnings for financing their operations (37 percent of firms compared to 27 percent on average for the EU), as well as grants and subsidized loans (40 percent compared to 32 percent in the EU).

42. **There are numerous government programs in support of access to finance, albeit their impact and efficiency remain largely unclear.** These programs, which amount to some 2 percent of the total budget in 2017, appear to be poorly coordinated and to have substantial overlaps, including with respect to target segments and financial products offered.[30] Most also lack regular and systemic monitoring and

[28] See *Fast-tracking the Resolution of Minor Disputes: Experience from EU Member States*, World Bank, 2017.

[29] European Central Bank, Access to Finance of Enterprises (SAFE) survey (https://www.ecb.europa.eu/stats/ecb_surveys/safe).

[30] There are over 40 government programs which support access to finance, mostly for SMEs, and which are administered through 7 ministries (Ministry of Finance, Ministry of Economy Entrepreneurship and Crafts, Ministry of Tourism, Ministry of

evaluation mechanisms. Given the scale of existing programs and the availability of vast EU funds, improving coordination and monitoring mechanisms is critical to enable the private sector to fully benefit from such programs. In the latest SAFE survey, SMEs mentioned that improving access to public funds would be the most critical factor in their companies' financing in the future.

43. **Equity markets are constrained by small market size, limited local institutional investor appetite, limited new capital market issuances and low free float of listed companies.** The corporate bond market remains underutilized and is limited to a few large issuers. As of the first half of 2017 there were 13 corporate bonds listed on the Zagreb Stock Exchange (ZSE), with total amount outstanding (market capitalization) amounting to about 26 percent of GDP and turnover equal to only 0.1 percent of GDP. The European Commission's Capital Markets Union framework provides a good anchor to implement institutional reforms and upgrade infrastructure for capital market development.

44. **Access to start-up financing is key to encouraging innovative firms and achieving levels of business R&D to GDP closer to that of Croatia's peers.** Innovative firms tend to be underfinanced due to information asymmetries and appropriation risks. This affects in particular new entrants, which lack a track record of performance and collateral. The limited availability of risk capital financing in Croatia is exacerbated by a cumbersome insolvency framework which discourages risk taking, as well as an incomplete regulatory framework for the venture capital industry.

45. **Despite large infrastructure investments, Croatia's logistic performance remains low.** Croatia has one on the highest density motorway networks in Central and Eastern Europe. This network was developed during the 2000s in response to the need for a visible integration of Croatian territory after independence, efforts to spur industrial growth and tourism, and the desire to integrate into the broader European network. While the bulk of public infrastructure was devoted to roads, significant investments were also launched for the main passenger and commercial ports, and the Zagreb international airport was concessioned out to a private consortium. Croatia's geographical location at the crossing of major European corridors makes it well positioned to become a logistics hub for Central and South-Eastern Europe. Rijeka port has evolved from a feeder port for small vessels to a port of call for containers, resulting in a tenfold increase in container throughput between 2002 and 2015. Yet Croatia's logistics performance remains lackluster – ranked 51 out of 160 countries and underperforming all EU peers in the World Bank Logistics Performance Index – largely due to underdeveloped infrastructure such as port-rail interfaces, slow and unreliable rail operations, and cooperation and communication failures among stakeholders.

46. **While Croatia has relatively good broadband internet connectivity, the price and affordability of broadband internet lags other EU countries.** The fixed broadband coverage and take-up in Croatia approaches the EU-28 average and is above some peer countries, such as Romania, Poland, and Bulgaria. However, the speed of broadband internet in Croatia is one of the lowest in the EU, above only Italy and Greece, and the price of broadband internet in Croatia is one of the highest in the EU. Slow and expensive broadband internet can limit exports of ICT, financial and professional services, and impair firms' ability to integrate the internet into business operations to increase operational efficiency. As a result, the integration of digital technology into businesses in Croatia is below the EU-28 average and the use of digital technology in government services is among the lowest in the EU.

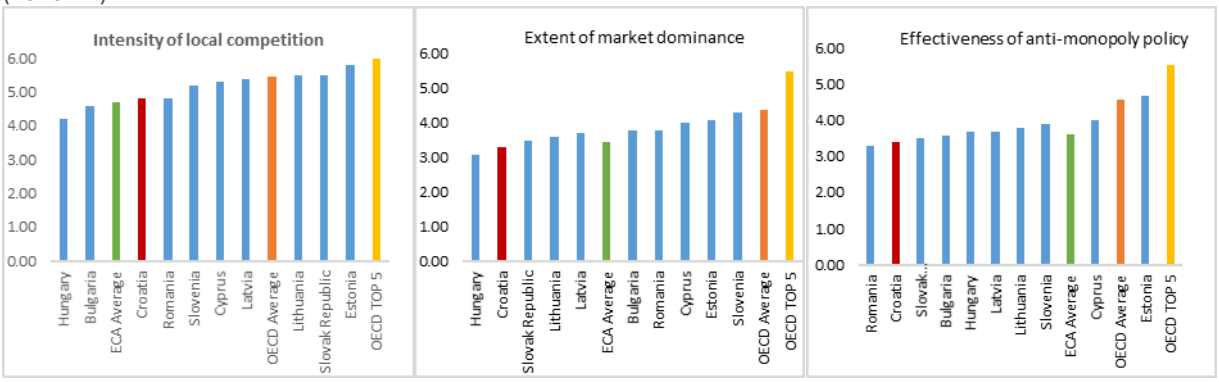
Regional Development and EU Funds, Ministry of Labor and pension System, Ministry of Demography, Family, Youth and Social Policy, Ministry of Science and Education) and three agencies (HBOR, HAMAG-BICRO, Croatian Employment Bureau).

Strengthening the competition environment

47. **Croatia has a solid competition legal framework, but a poor competition environment.** Croatia adopted a competition law in 2009 with many components in line with EU practices, and an independent Competition Agency is in place. Nevertheless, Croatia scores below the ECA average on the extent of market dominance and the effectiveness of anti-monopoly policy, and only marginally above the average for intensity of local competition, in the perception-based Global Competitiveness Report rankings (**Figure 28**). An OECD product market regulation analysis shows that Croatia has the most restrictive

Figure 28: Croatia has low competition scores compared to other ECA countries

(2016-17)



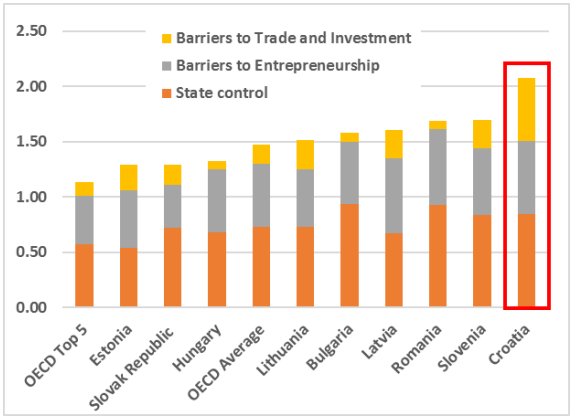
Note: Scores are normalized between 1 and 7 (best). *Source*: Global Competitiveness Report 2016-2017, World Economic Forum.

economy compared to its peer countries (**Figure 29**). The largest contribution to Croatia's product market restrictions is state control, then barriers to entrepreneurship, and, to a lesser extent, barriers to trade and investment. Exposure to competition is critical to create incentives for incumbent firms to adopt new technologies and become more productive, and increase the exit of less productive firms. [31] [32] Using the Hirschman-Herfindahl index of concentration as an indication of competition, sectors with high levels of competition (lower HHI index) have higher TFP median and lower TFP dispersion (**Figure 30**).

48. **Regulatory restrictions appear particularly burdensome in the services sector, notably in network economies and professional services.** Prices are regulated for professional services, international wholesale roaming rates, and local loop unbundling. Advertising and marketing are prohibited for the legal, engineering and architecture professions. However, the regulations on some service sectors have eased since the PMR scores were collected in 2013, due to the changes to laws regarding the conduct of engineers and architects between 2013 and 2016. Planned changes to laws regarding conduct of architects, lawyers and auditors in 2017-2019 may further

Figure 29: Croatia has more restrictive product market regulations than peers

(Economy-wide PMR score in 2013)

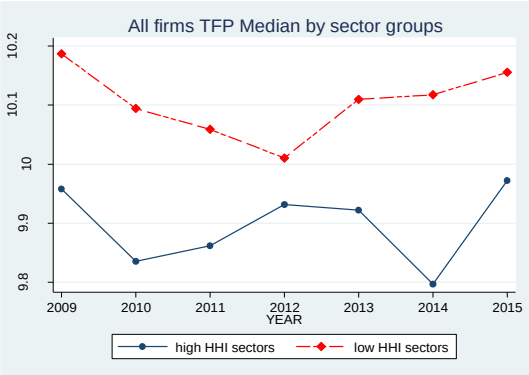


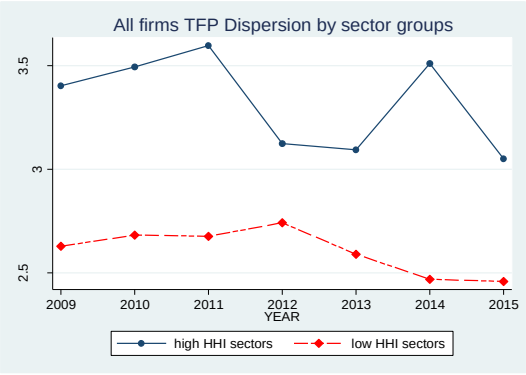
Note: OECD top 5 countries are the Netherlands, the United Kingdom, Austria, Denmark and New Zealand. *Source*: WBG/OECD PMR data 2013-2014.

[31] Aghion, P., R, Blundell, R. Griffith, P. Howitt, and S. Prantl (2009).
[32] Holmes, T. and J. Schmitz (2010).

reduce the burden of regulations in these sectors. A reduction in the stringency of services regulations would have a sizable impact on productivity. For instance, a reduction of overall restrictions in the services sector in Croatia to the average level of the three most deregulated European economies would increase the level of firm productivity by over 5 percent.[33]

Figure 30: Sectors with more competition have a higher TFP median and lower TFP dispersion





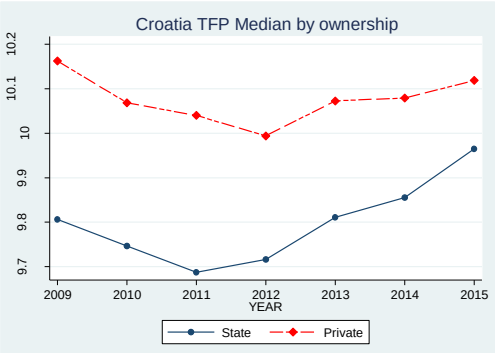
Note: HHI refers to the Hirschman-Herfindalh index, where a higher value represents more concentration in the sector. A sector is defined according to the NACE classification and a high HHI sector has a HHI above the median for each year.
Source: WB staff calculations using Orbis data.

Reducing State's footprint in the economy

49. **State-owned enterprises (SOEs) play an important role in the Croatian economy.** The central government is a majority owner of 74 companies – 39 are classified as "special state interest" or "strategic" – and it is a minority owner in 381 additional companies (with 1 being of a special state interest). Nearly 700 companies report to sub-national, regional and municipal authorities. These firms operate in 20 sectors, including sea, rail, road and air transport, hotels and restaurant, food processing, pharmaceuticals, financial services and services of motor vehicles. SOEs hire over 10 percent of the labor force, contribute a fifth of total turnover and possess a third of total assets, with the highest share in the utilities and transportation sectors.

50. **SOEs impose a large burden on the economy.** SOEs contribute directly to government deficits, with a net average borrowing of 0.6 percent of GDP between 2011-2014. Resources that are diverted to maintain the survival of SOEs may be better applied towards more efficient uses. SOEs affect factor returns, influence output prices by limiting product market competition and reduce private firms' incentives to become competitive. Private firms in sectors with low SOE presence have higher TFP levels (better performance) and lower TFP dispersion (lower misallocation of resources) than those in sectors with high SOE presence (**Figure 31**). SOEs are less productive than private firms, albeit the productivity gap has been narrowing since

Figure 31: The productivity gap between state and private firms is large but narrowing
(2009-2015)



Source: WB staff calculations using Croatian firm census.

[33] Van Der Marel, Kren and Iootty (2016).

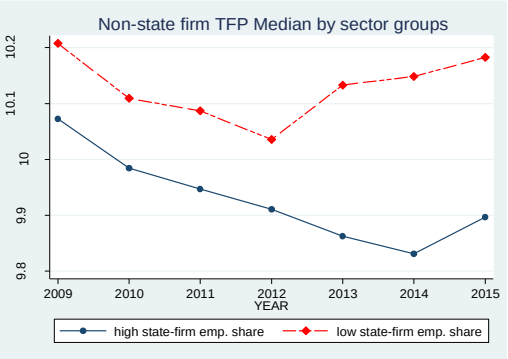
2013 (**Figure 31**). The non-financial SOEs are more indebted than private companies, with a 40 percent higher leverage ratio than private firms. Yet, SOEs are less profitable: in 2014, the average return on equity was 4.5 percent for private companies, but almost zero for SOEs. And SOEs' rates of return on assets are below that of SOEs in other CEE countries, resulting in a higher than EU average rate of state subsidies.

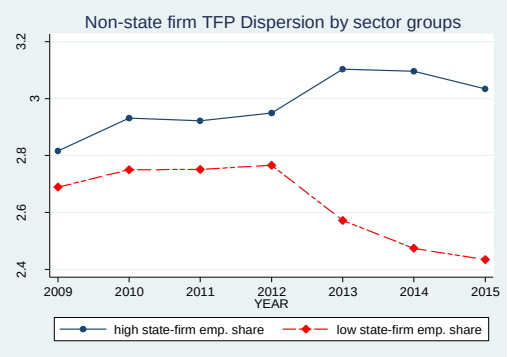
51. **SOEs and the public sector at large substantially influence wage determination in the private sector.** The average SOE is highly unionized and able to influence labor conditions, given the uncoordinated and decentralized wage bargaining system. The wage-setting mechanisms in SOEs are rigid and do not ensure alignment of workers' wages with enterprises' economic fundamentals. Wages in SOEs exceed those of private sector firms, controlling for employee characteristics, by an average of about 7 percent.[34] Rigid collective agreements and political vested interests make it difficult to downsize and rationalize operations. Close to 40 percent of total employees (excluding self-employed) work in public administration, public services or SOEs.[35] Empirical evidence indicates that public sector wages in Croatia have a larger impact on private sector wage setting than in most EU10 countries, and appear to lead long-run wage dynamics.

52. **The state-owned Croatian Bank for Reconstruction and Development (HBOR) is equivalent in assets to the sixth-largest commercial bank in the country.** HBOR focuses on infrastructure, exports, and SME financing. It operates as a second-tier financial institution and also as a direct lender (47 percent of its total gross loan portfolio as of September 2016). While HBOR appears to follow commercial banks practices, it is not subject to the same regulatory and governance structure as other banks, and does not appear to meet the highest standards of transparency, accountability, and independently exercised supervision. The board is primarily composed of Ministers and members of Parliament. The authorities conducted an asset quality review, and may consider changes in HBOR's regulatory and governance structure.

53. **Croatia has recently undertaken measures to reform the management and corporate governance of its SOEs.** The prolonged crisis and weak recovery has exposed major corporate governance weaknesses, including with respect to their planning and operational capabilities, and their accountability and governance frameworks. Corporate governance mechanisms appear particularly weak for transport sector SOEs and enterprises owned by local authorities. In 2013, Croatia adopted the Act on Management and Disposal of State Assets, which

Figure 32: Sectors with low State presence have higher productivity and allocative efficiency





Note: the presence of state firms is weighted by the employment shares of the State firms. Sector Codes correspond to NACE classification. A sector has a high state representation if the share of state firms is above the median for each year. *Source*: WB staff calculations using Croatian firm census.

[34] Nestic et al. (2014).
[35] Ibid.

created two agencies dealing with the management of SOEs: the Ministry for State Property Management (formerly the State Office for State Assets Management, DUUDI) manages the companies of special state and strategic interest; and the Restructuring and Sale Center (CERP) manages the minority-owned companies. Also, there are plans to establish registers of centrally-owned SOEs and of managerial appointments.

54. **Some progress in the privatization of public assets has been made.** Between 2009 and 2015, 257 state firms were converted to private firms. Sectors with the largest number of firms included wholesale trade (36 firms), accommodation and hotels sector (16 firms), and architectural and engineering activities sector (14 firms). However, estimates of the performance of the firms privatized during that period show no significant improvements, notably with respect to productivity, revenues, and average wages. These results may reflect the time required for productivity gains to materialize, and call for caution in projecting the short-term benefits of privatization.

55. **There is still a lack of regulatory neutrality with regards to the procurement rules for SOEs.** The Public Procurement Act, which took effect on January 1, 2017, sets a high standard for public administration. However, SOEs and legal persons other than the public authorities, which accounted for around half of the total value of public procurement for 2008-13, are subject to weaker control mechanisms under this framework.

56. **The total amount of state aid allocated by Croatian authorities has declined.** The 2005 State Aid Act and related bylaws were adopted as preparation for EU accession. The unwinding of support for and restructuring of the shipbuilding industry, carried out as a condition for Croatia's accession to the EU, is the main reason for the decline in state aid since the early 2000s. However, the railways sector has received increasing support in recent years. The use of state aid in specific sectors should be reviewed, with the goal of minimizing distortions to competition.

Enhancing the innovation ecosystem

57. **Croatia's overall innovation performance is worse than most of its European peers and has been deteriorating in recent years.** The European Innovation Scoreboard ranked Croatia 32nd out of 36 countries in 2016, surpassing only Bulgaria, FYR Macedonia, Romania and Ukraine. [36] And key sub-indicators, for example those related to measures of innovation in SMEs and linkages between stakeholders in the innovation ecosystem, have deteriorated since 2010. Indirect innovation outcome indicators, such as scientific production, new trademarks, industrial designs and patents also remain lackluster. Similarly, Croatia was ranked 103rd out of 138 countries for the innovation pillar of the 2016-2017 Global Competitiveness Index. Both rankings have declined in recent years. Whereas the overall number of Croatian publications rose by more than half over the last decade, the percentage of highly-cited publications in 2015 is below the EU average and that of most peer countries (**Figure 33**). [37] Croatia has among the lowest levels of patenting intensity, with approximately 3.43 patent applications to the European Patent Office per million inhabitants, compared to an EU average of 111.97.[38] Similarly, Croatia underperforms peers with respect to triadic patent families.[39] Croatia is also falling behind its peers with respect to the level of gross domestic expenditure on R&D (GERD) and has made no progress towards

[36] European Innovation Scoreboard 2017, http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_hr. The 36 countries included are EU28, Norway, Iceland, Turkey, Serbia, FYR Macedonia, Switzerland, Israel, Ukraine.

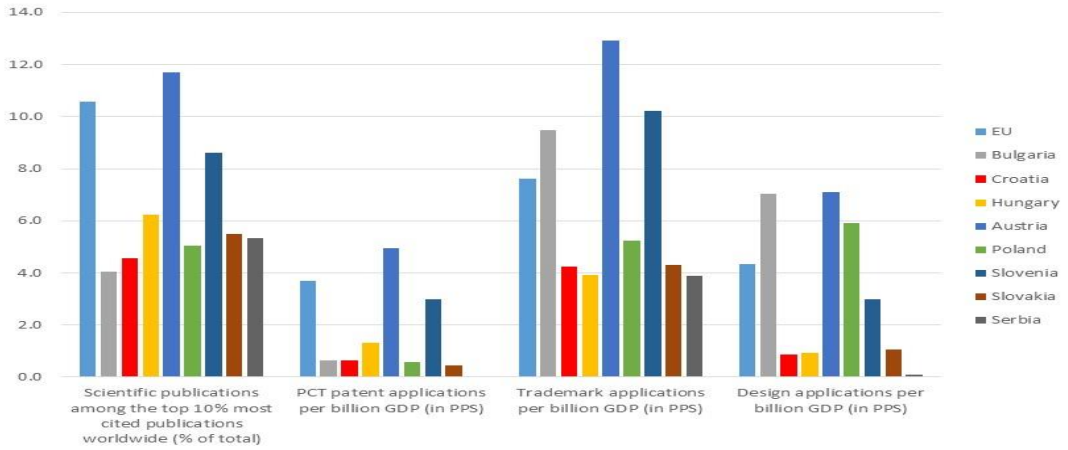
[37] According to Scopus, the number of citable documents rose from 3722 in 2006 to 5772 in 2016. http://www.scimagojr.com/countrysearch.php?country=hr

[38] Eurostat data, 2014.

[39] A triadic patent family is defined as a set of patents registered in various countries (i.e. patent offices) to protect the same invention. Triadic patent families are a set of patents filed at three of these major patent offices: the European Patent Office (EPO), the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO).

reaching its GERD target for 2020, while most of its peers have not only progressed but have set up more ambitious targets. Bulgaria, Slovakia, Hungary or Poland, which were trailing or at par with Croatia's level of GERD in 2008, have now surpassed Croatia (**Figure 33**).

Figure 33. Innovation indicators are low in Croatia (2015)

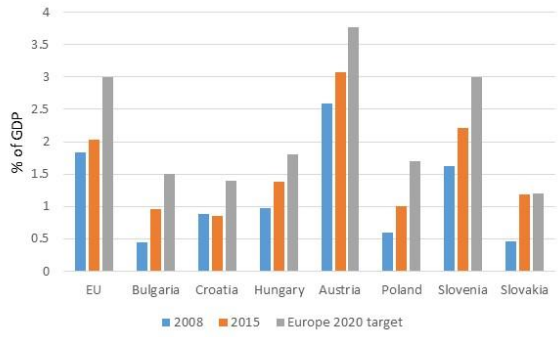


Source: European Innovation Scoreboard 2017.

58. **Croatian enterprises are not sufficiently involved in R&D.** The share of Croatian enterprises engaged in innovative activities is below the EU average and they tend to favor non-R&D versus R&D innovation activities. Non-R&D innovation expenditures equaled about 1.2 percent of turnover, compared to 0.76 percent for the EU on average. By contrast, business sector expenditures on R&D

Figure 34. GERD is low and stagnant in Croatia

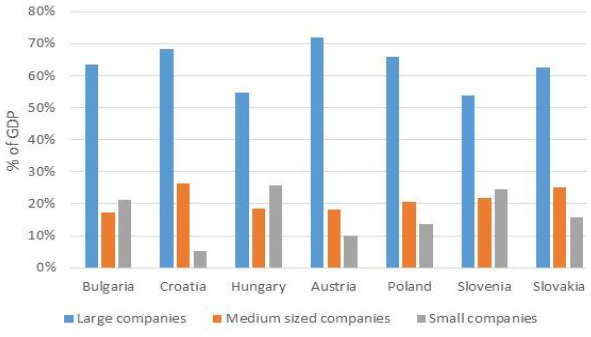
(Gross expenditure on R&D, 2008-15)



Source: Eurostat.

Figure 35. Business expenditures on R&D are concentrated in large companies

(2014)



Source: Eurostat, Community Innovation Survey.

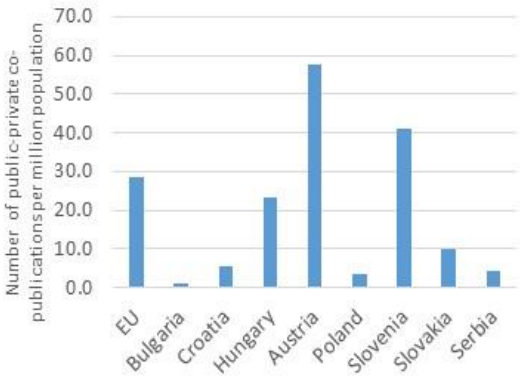
(BERD) was estimated at 0.44 percent of GDP, less than half the EU average and lower than most peers. In line with peers, BERD (Business Expenditure on R&D) is also concentrated in large companies (mainly pharmaceutical, telecommunications, agricultural, and food and beverage industries). However, Croatia stands out for the small share of R&D expenditures by small companies (**Figure 35**). Key factors explaining the low level of R&D-driven innovation, especially among medium and small firms, include limited access to internal and external resources (both funds and qualified personnel), limited information on technology and markets, the concentration of tax incentives with large firms, modest research

excellence, barriers to science-industry collaboration, as well as pervasive weaknesses in the innovation ecosystem governance.[40]

59. **The lack of public-private cooperation is a core weakness of the innovation system.** Croatia has only 5.7 public-private co-publications per million population, compared to the EU average of 28.7, and is well behind EU average and most regional peers (**Figure 36**). The lack of adequate linkages between research institutions and the business sector has been identified as a key area requiring improvement in the Croatian R&D sector.[41] The public research sector is characterized by a high fragmentation, frequent institutional changes, weak coordination, and rigid funding mechanisms, which hinder excellence and the creation of linkages with the business sector. The crisis and the resulting fall in expenditures had little impact on the structure of the sector, although the number of researchers dropped by some 15 percent between 2010 and 2014. A review of the 2014 data for the state budget expenditures by the Ministry of Science and Education (MoSE) reveals that over 90 percent of the public funds for higher education were destined to salaries and operating costs, leaving little room for project financing for research or innovation activities or performance-based supplemental funding options. The resources are allocated mainly based on number of staff, independently of performance, and institutions have limited flexibility in using the funds. The multitude of institutions coupled with funding rigidities hamper coordination efforts and limit the opportunities for linkages with industry.[42]

Figure 36. Public-private co-publications are limited in Croatia

(2015)



Source: European Innovation Scoreboard 2017.

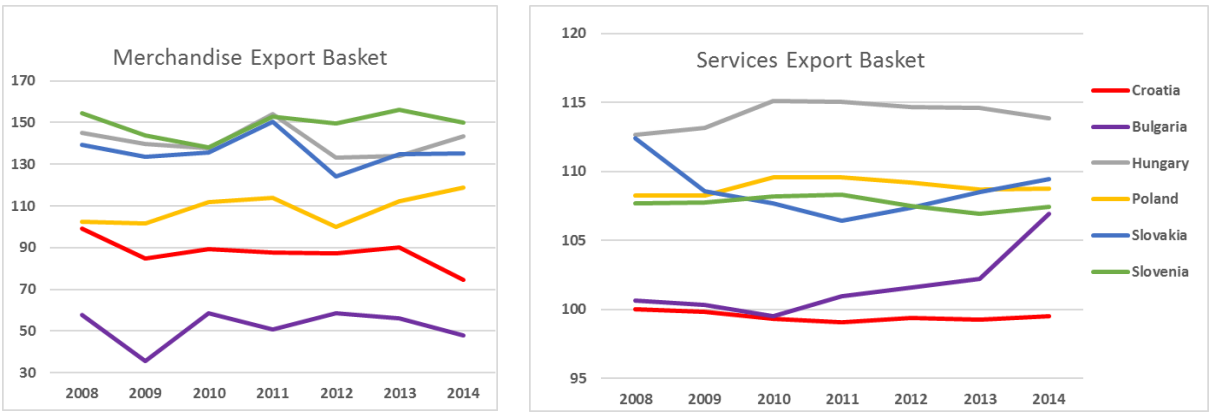
60. **The weak innovation ecosystem is likely one reason for the low level and limited improvement of the complexity of Croatia's merchandise export basket.** Croatia's Economic Complexity Index (ECI) stagnated over the past decade and still stands below peers like Slovenia, Hungary, Slovak Republic and Poland (**Figure 37**). For Croatia's four largest sectors at the SITC1 level, the quality of Croatia's exports generally exceeds that of most comparators and has improved significantly for both machinery and transport equipment and miscellaneous manufactures. Similarly, of the nearly 200 products where Croatia has a revealed comparative advantage (RCA), about half are clustered around the middle deciles of sophistication. This suggests that the low aggregate level of complexity reflects a few sophisticated products co-existing with many other exports which rank at a low to medium level. In addition, while services play a large role in Croatia's exports, the sophistication of services exports remains well below that of peers' services exports.

[40] World Bank (2015d).

[41] Rio Country Report 2015, JRC Science for Policy Report, EC.

[42] See for instance "Strategy for Education, Science and Technology" Narodne novine (2014): 124/2014. www.novebojeznanja.hr/UserDocsImages/datoteke/KB_web.pdf, and Duke, Chris et al. OECD Reviews of Tertiary Education: Croatia. OECD, 2008. <https://www.oecd.org/education/skills-beyond-school/38814548.pdf.

Figure 37. The economic complexity of Croatia's export basket is lower than peers



Note: Indices, normalized to Croatia levels in 2008. *Source:* WB staff calculations using UN Comtrade data.

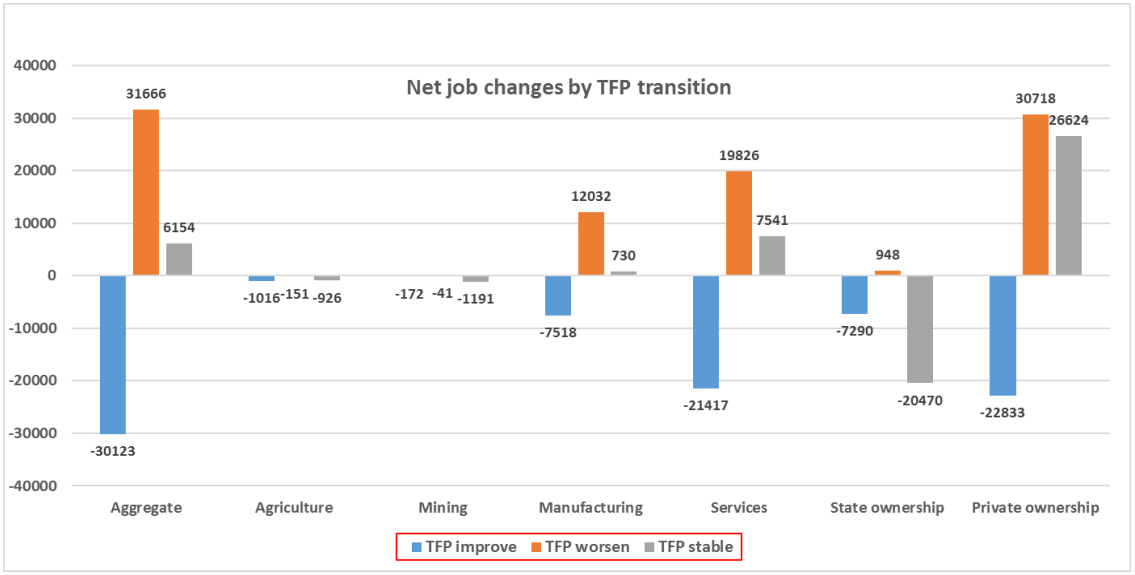
Meeting private sector skills needs

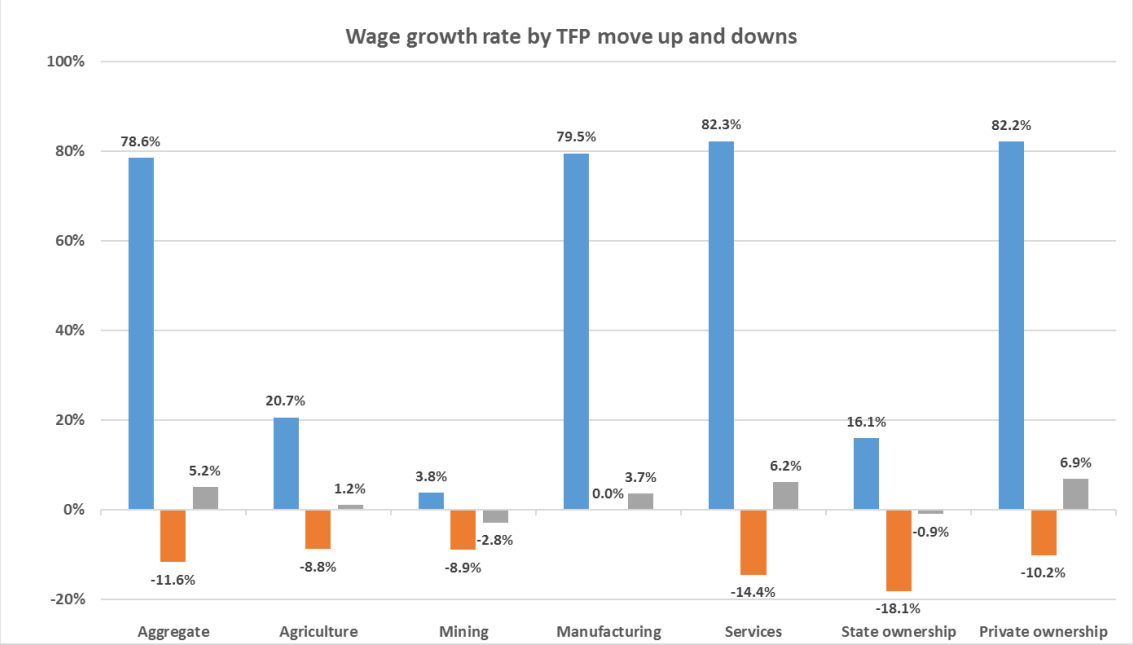
61. **Improving skills is urgent to meet the future demand for workers.** Technological improvements appear to be increasing the return to skills, as firms in which TFP is increasing more than the average are creating the lowest number of jobs and eliminating the largest amount of jobs (**Figure 38**). Correspondingly, workers in firms achieving an improvement in TFP are experiencing the highest growth in average wages.[43] At the same time, the demand for jobs with routine and non-routine manual tasks has fallen substantially, leading to lower wage growth and less employment opportunities among low-skilled workers. While the demand for routine cognitive skills has risen with the integration of the economy into global value chains in the EU, this trend has already slowed. As technological progress continues, the demand for non-routine, cognitive tasks will increase: there will be a significant number of job opportunities requiring high-level qualifications for occupations in science, engineering, healthcare, business and teaching. The share of the population working in the primary sector and utilities is expected to decline further and new jobs that require better skills will be created, mainly in the business sector and other services, and to a lesser extent in construction and non-market services. Over the medium and long term, automation and replacement of many jobs will have a disproportionally large impact on workers from poor households who are currently employed in sectors particularly affected by these developments. [44]

[43] While this evidence is a strong indication of skilled-biased technical change, it cannot be firmly established without further examination of changes in the profile of skills and tasks of workers in these firms.

[44] According to World Development Report (2016), about 60 percent of the jobs in Croatia are susceptible to automation.

Figure 38: Firms moving up the TFP distribution are reducing jobs (2009-2015)





Source: WB staff calculations using Croatian firm census.

62. **A lack of graduates in science, technology, engineering and mathematics (STEM) constrains productivity growth in Croatia.** Poor learning outcomes in math and science for students in primary and secondary education reflect limited attention towards STEM classes in the curriculum and deficits in training for teachers. For example, despite performing slightly better than peers with a similar level of GDP per capita, underachievement in mathematics and science stood at 32 and 25 percent (respectively) in 2015, compared to 22 and 21 percent in the EU.[45] Also, the performance in mathematics and science has declined since 2006. This underperformance is further reflected by the finding that relative to the top 20 percent of the socioeconomic status distribution, the bottom 20 percent scores 20 percent lower

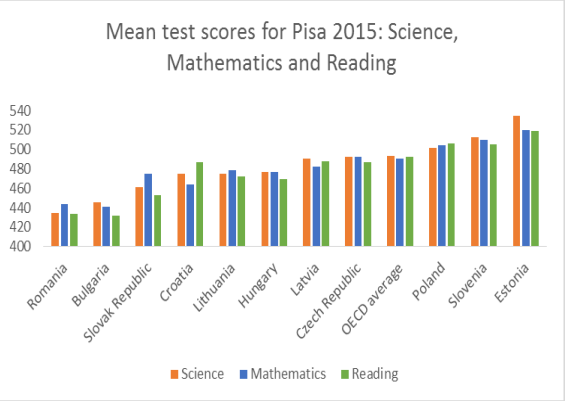
[45] European Commission (2016e); data can be accessed at https://ec.europa.eu/education/resources/key-indicators.

in science on average. Graduation from STEM fields in tertiary education is below the EU average (22 percent in Croatia versus 25 percent in the EU[46]) and shows large differences between males and females.[47] Moreover, higher wages and job security in the public sector distort career choices and draw talents away from pursuing tertiary education in STEM fields.

63. **Labor supply shortages also affect some parts of the low and medium end of the skills spectrum.** This is particularly the case in transportation, construction, shipbuilding and seasonal activities such as tourism. The reasons advanced to explain this gap relate to the limited attractiveness of seasonal jobs and frictions to spatial mobility (discussed in the next chapter) as well as outmigration flows of qualified workers.[48] Short-term solutions to address these shortages would require easing the conditions for access to the Croatian labor market from other parts of Europe, including through increasing quotas for temporary workers as requested by the tourism industry.

64. **PISA and TIMSS scores are low compared to peer countries in the European Union.** PISA scores in Croatia are particularly low in mathematics and science, but slightly better for reading (**Figure 39**). The share of top performers in at least one subject (level 5 or 6) is low compared to peer countries in the EU, and the share of students characterized as low performers (level 1 and 2) is among the highest. The PISA 2015 data also point towards performance gaps between boys and girls, and between children from poor and rich households. These knowledge gaps have a long-lasting impact on educational attainment during tertiary education and subsequent transition into the labor market.

Figure 39. PISA scores in Croatia are below peers



Source: OECD (2017): PISA 2015 Results–Excellence and Equity in Education.

65. **The share of 30 to 34 year-olds with tertiary education increased to 29 percent in 2016, but remains far below the EU average of 39 percent.** Of those in the bottom 40 percent of the income distribution, only 12.6 percent of individuals between 30 and 34 years of age had completed tertiary education in 2014, compared to 36.9 percent in the top 60 (**Figure 40**). Females have a much higher probability of graduating from tertiary education; the gender gap is almost 15 percentage points. Only half of enrolled students manage to reach their final year of studies within the planned time, and an estimated 41 percent drop out completely. The main reasons are lack of motivation and limited financial means. The situation is especially acute in traditionally underrepresented subjects, such as science, technology, engineering and mathematics, due to insufficient mathematics skills at entry and poor remedial support during their academic studies.

66. **While the participation rate in post-secondary vocational training (TVET) is high, the training curricula do not reflect the expectations and demand of employers.** Nearly half of those with vocational training work outside of their field of specialization, which partly reflects the large share of graduates who complete vocational training with the Matura exam and then move to higher education instead of entering the labor market directly. The divide between the skills demanded by firms and those provided

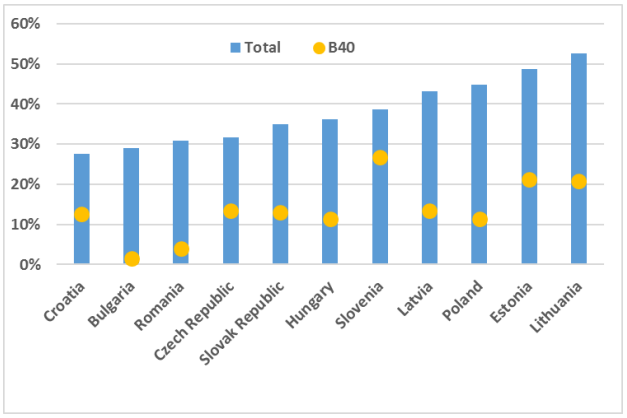
[46] EUROSTAT (educ_uoe_grad02), data from 2013.
[47] EUROSTAT (educ_uoe_grad02) allows disaggregation of the number of graduates by gender and type of study.
[48] European Commission (2017).

by the workforce is magnified by a low involvement of the private sector in programming and funding for TVET programs.[49]

67. **Lifelong learning is critical to increase employability in a quickly changing labor market.** Currently, 3 percent of adults between 25 and 64 years old participate in some form of workforce education or training, far below the participation rate in many peers in the EU. Moreover, only 0.3 percent of workers with less than lower secondary education participate in training activities, compared to 5.4 percent of workers with tertiary education. Middle-agers and workers close to early retirement show particularly low participation in training, while such programs for middle-agers can compensate for a lack of working experience, for example due to long-term unemployment.[50] Croatia did not participate in any systematic review of skills among adults (such as the Program for the International Assessment for Adult Competencies, PIACC or the Adult Education Survey, AES) which reflects gaps in monitoring and coordinating policies for lifelong learning.

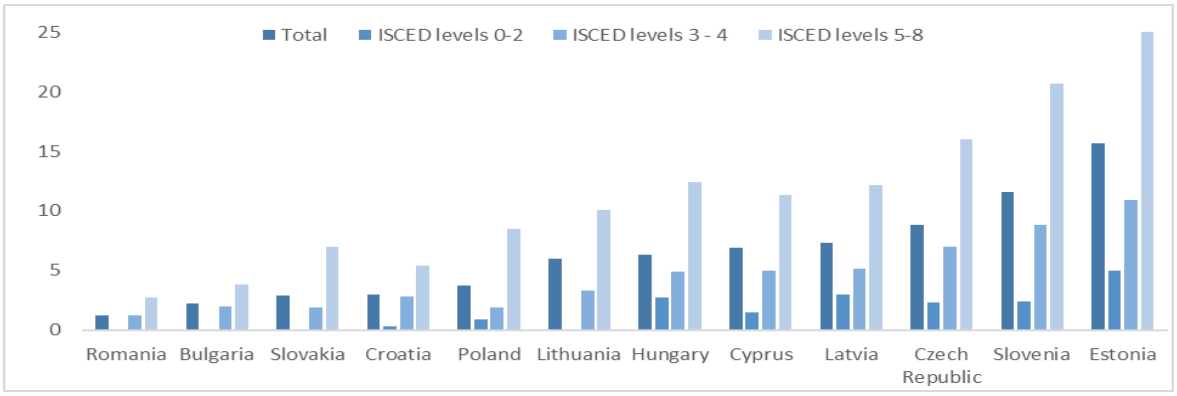
Figure 40. Tertiary education is limited in Croatia

(Percent of population aged 30-34 years, 2014)



Source: WB staff calculations using EU SILC UDB-C data (survey year 2015).

Figure 41. Participation in lifelong learning is low in Croatia



Note: Participation rate in education and training, last 4 weeks of 2016); ISCED – 0-2: Less than primary, primary and lower secondary; 3-4: Upper secondary and post-secondary; 5-8 tertiary education. *Source:* Eurostat.

68. **Curricula reforms for education and training have been delayed due to lack of coordination, cooperation and commitment among stakeholders and limited policy effectiveness.** In October 2014, the Croatian Parliament adopted the Strategy for Education, Science and Technology, designed to unite previously disconnected elements of an education reform into a coherent framework. Following ambivalent stakeholder reactions, the coordination body resigned in 2016 on claims of political interference and implementation was further delayed. The Croatian Qualifications Framework is supposed to better align educational programs with the needs of the labor market, but implementation

[49] European Commission (2016a).
[50] European Commission (2016a).

was delayed because of legal disputes regarding the responsibility of different actors and lack of an institutional mandate.

3. ENHANCING INCLUSION

A. Performance on the Twin Goals

69. **Economic growth prior to the crisis significantly increased average household incomes, but had little impact on poverty.** From 2004 to 2008, average household disposable income per capita rose by 4.4 percent annually. Employment rates decreased but pension and social insurance payments rose for all segments of the income distribution. At the same time, rising labor productivity and wages increased income from employment for the second through the fifth quintile. This resulted in per capita income growth of more than 7 percent in the second quintile, but less than 1 percent in the first, poorest quintile (overall, the bottom 40 percent of the distribution saw their incomes increase by 4.8 percent).[51] Thus, despite strong economic growth, the share of the population considered poor, or living on less than US$5 (at PPP in 2005 prices), decreased only slightly, from 4.3 percent in 2004 to 4.2 percent in 2008. [52] However, the share considered vulnerable to falling back into poverty, or living on less than US$10 per day, dropped from 27.3 percent in 2004 to 23.3 percent in 2008.

70. **The slow income growth of the poorest households, despite rapid GDP growth, reflected several factors.** Labor income makes up a smaller share of total income for households in the bottom 40 percent of the income distribution than in the top 60 percent, and this is especially true for the bottom 20 percent. Among the active population, the unemployment rate among the bottom 40 was a lot higher in 2014 (47 percent for the bottom 40 and 59 percent for the bottom 20, compared to 14 percent among the top 60). And of those employed, about 40 percent work in agriculture or manufacturing, sectors where output gains during the pre-crisis period were limited. In addition, farmer's median income declined from 2008 to 2015. In fact, labor income negatively contributed to the change in disposable income of the poorest quintile from 2004 to 2008. By contrast, income from social insurance and pensions contributed more than 4 percentage points to the change in disposable income of the poor over the period. The impact of social assistance was negligible.

71. **The global economic crisis reduced household incomes.** The decline in household disposable income per capita from 2009 to 2014 ranged from 12.6 percent in the fifth (richest) quintile to 10.1 percent in the first (poorest) quintile (**Figure 43**). All quintiles experienced a decline in income from labor markets, with the largest impact falling on the rich. Employment fell sharply from 2009 to 2013, and the unemployment rate increased from 9.2 percent in 2009 to 17.3 percent in 2014, before finally dropping to 16.3 percent in 2015.[53] The reduction of average incomes was highest between 2009 and 2010 (8.4 and 8.2 percent for the first and fifth quintile, respectively). Incomes continued to decline for most quintiles through 2014, but at a slower rate. Employment only began to pick up starting in 2014, and the unemployment rate declined to 16.3 percent in 2015.

[51] WB staff calculations using the Croatian Household Budget Surveys (HBS) for 2004 and 2008.

[52] For international comparisons, the World Bank uses absolute poverty lines which account for differences in purchasing power between countries. The relevant thresholds for Croatia are USD 5 per capita per day PPP 2005 and USD 10 per capita per day PPP 2005, which correspond to 27.91 and 55.82 Kuna per capita per day in 2015 (respectively). Commonly, the USD 5 PPP line is used to identify the share of poor households, whereas the USD 10 PPP line includes poor and vulnerable households.

[53] EUROSTAT.

Figure 42. Income growth in the poorest decile was slow before the crisis

(2004-2008)

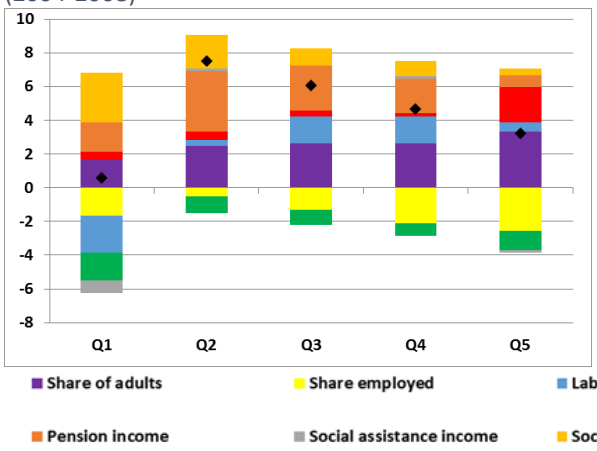
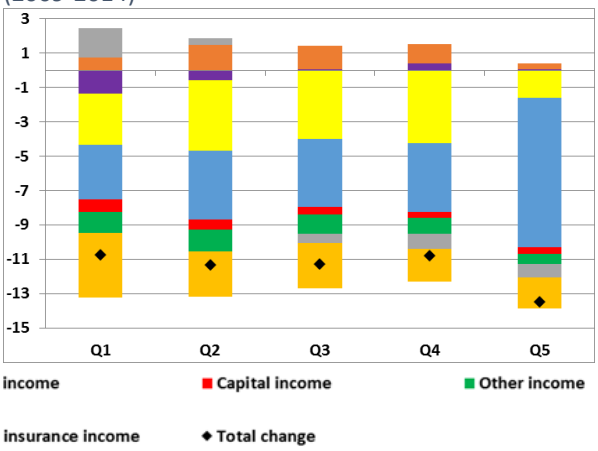


Figure 43. Rich and poor suffered declines in income following the crisis

(2009-2014)



Note: Q1 to Q5 describe the quintiles of the income distribution. Percentage changes in disposable incomes. *Sources*: WB staff calculations using HBS data (2004-2008) and EU-SILC UDB-C data (survey years 2010-2015).

72. **Poverty and vulnerability rose sharply with the global crisis.** Poverty increased from 5.9 percent of the population in 2009 to 9.4 percent in 2012, before falling to 7.5 percent in 2014. Similarly, the share of the population considered vulnerable rose from 26.6 percent in 2009 to 36.6 percent in 2013, and then eased to 33.4 percent in 2014. The poor suffered from declines in income from labor markets (as both employment and real wages fell) and social insurance, but benefited slightly from a rise in pension payments. Unlike during the pre-crisis period, social assistance played a (small) role in cushioning declines in other sources of income for households in the bottom quintile, accounting for an increase in income of about one percentage point over the period.

73. **A different measurement of welfare and social exclusion remained unchanged during the pre-crisis period and then deteriorated sharply (see Box 2 on** the **Europe 2020 goals).** The at-risk-of-poverty rate,[54] which measures poverty *relative* to the median of the income distribution (as opposed to the *absolute* measurement of poverty given above) increased from 16.7 percent in 2004 to 17.4 percent in 2008.[55] When the global economic crisis hit, the bottom of the income distribution saw a larger decrease of their incomes than the median, so the at-risk-of-poverty rate increased to 20.9 percent in 2010. Most indicators of poverty and deprivation peaked in 2012 and then declined through 2016.[56]

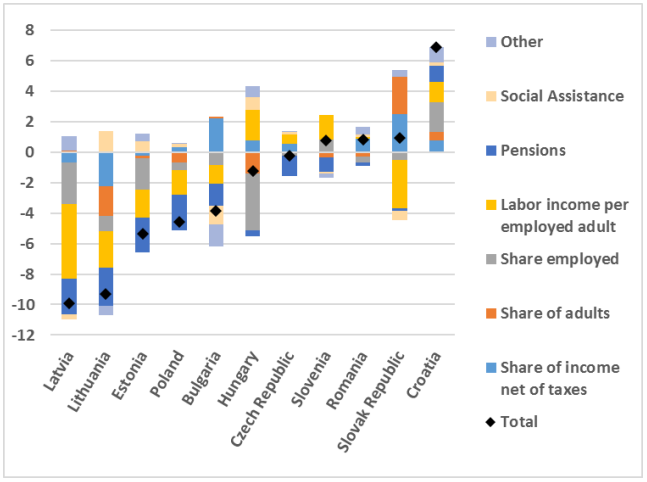
[54] For countries in the European Union, Eurostat calculates at-risk-of poverty rates which are often used by national statistics offices to estimate the national poverty rate. The threshold for at-risk-of poverty is anchored in the national welfare distribution such that any household with disposable income less than 60 percent of median equalized income is considered poor (therefore often referred to as relative line). The at-risk-of poverty line corresponds to 63.03 Kuna per adult equivalent per day in 2015 and is adjusted on an annual basis.

[55] Croatian Bureau of Statistics estimates using HBS data. Information relates to the income year, which precedes the survey year by one year.

[56] EUROSTAT estimates, accessed 2/1/17. Note that the at-risk-of poverty rate and the income measurement comes from two different instruments.

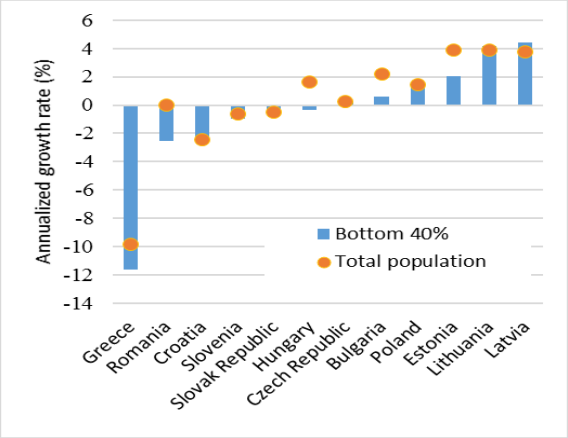
74. **The impact of the crisis on poverty was much greater in Croatia than in other new member states.** The fall in household income in Croatia was one of the largest in the EU (except for Greece and a handful of countries in southern Europe), and the largest among new member states. The share of the population living in poverty rose by nearly 7 percentage points from 2009 to 2014, compared to an increase of less than 2 percentage points in Romania, Slovenia and the Slovak Republic, and declines elsewhere (**Figure 44**). [57] By 2014, the share of the population that was poor or vulnerable (less than USD 10 PPP per day) was larger in Croatia than in peer countries, except for Bulgaria and Romania (**Figure 45**). This reflects the high share of the population living on between US$5 and US$10 a day in Croatia. The share of the population considered poor (incomes less than US$5 a day) in Croatia was not much larger than in Hungary, Lithuania and Latvia, perhaps indicating that the coverage and adequacy of social protection programs in Croatia play a stronger role in supporting the bottom of the income distribution.

Figure 44. The rise in poverty was largest in Croatia among new member states
(Contribution to changes in poverty rates, 2009-2014)



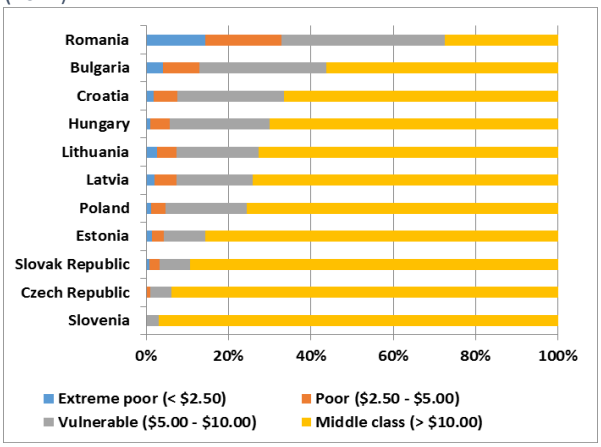
Note: Other income includes capital income. *Source*: WB staff calculations using EU SILC UDB-C data (survey years 2010-2015).

Figure 45. Incomes fell in Croatia following the crisis by more than in peers
(2009 to 2014)



Source: WB staff calculations using EU SILC UDB-C data.

Figure 46. The share of the vulnerable population is larger in Croatia than in peers
(2014)



Source: WB staff calculations using EU SILC UDB-C data.

[57] The methodology used for the cross-country decompositions is different from that in the Croatia decompositions reported in the first two figures above. Other income in Croatia is defined as income from members 15 and younger, alimony, and inter household transfers (which among other components, includes cash support from households in other countries, or remittances), and social insurance is defined as unemployment benefits, survivor's benefits, disability benefits, and sickness benefits in the Croatia figures. In the cross-country figures, other income is defined as unemployment benefits and survivor's benefits, whereas social insurance is defined only as disability and sickness benefits, and excludes the other income concepts.

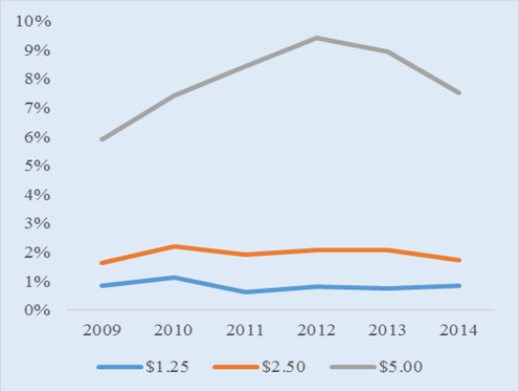
Low levels of labor income for the poor and vulnerable

75. **Labor income makes up less than 50 percent of total income for the bottom 40 percent of the income distribution (and less than one third for the bottom 10).** In part, this reflects low employment rates. The share of the adult population who participate in the labor market is almost equally high for the bottom 40 and the top 60 (54 percent versus 57 percent in 2014). However, those outside the labor market among the top 60 mostly include retirees, while those outside the labor market among the bottom 40 includes a large group of working-age individuals who are "neither in education nor employment nor training" (NEET). Only 22 percent of the working-age population in the bottom 40 is employed, compared to 50 percent in the top 60.

Box 1: New international poverty thresholds and ICP estimates

In 2017, the World Bank transitioned from using the Purchasing Power Parity (PPP) estimates based on the 2005 round of the International Comparison Program (ICP) -- a worldwide statistical partnership to collect comparative price data and compile detailed expenditure values of countries' gross domestic products (GDP), and to estimate purchasing power parities (PPPs) of the world's economies -- to those based on the latest, 2011 ICP round. Simultaneously, the World Bank has also adopted new comparable poverty threshold, that are based on country income classes, as opposed to the earlier practice of having regional poverty thresholds. Three new poverty thresholds were introduced that are relevant for Croatia: (i) a lower middle-income poverty line (US$3.2 per day in 2011 PPP), (ii) an upper middle-income poverty line (US$5.5 per day in 2011 PPP) and (iii) a high-income poverty line (US$21.70 per day in 2011 PPP). The first two thresholds roughly correspond to the previous extreme and moderate poverty lines in the Europe and Central Asia region used throughout this report (US$2.50 and US$5.00 USD per day in 2005 PPP correspondingly). Given the timing of this transition, the SCD continues to rely on the poverty thresholds based on the 2005 ICP round. However, the recent methodological changes do not greatly affect the picture of poverty dynamics in Croatia since 2009.

Poverty rates in Croatia using 2005 PPP USD per day methodology



Poverty rates in Croatia using 2011 PPP USD per day methodology

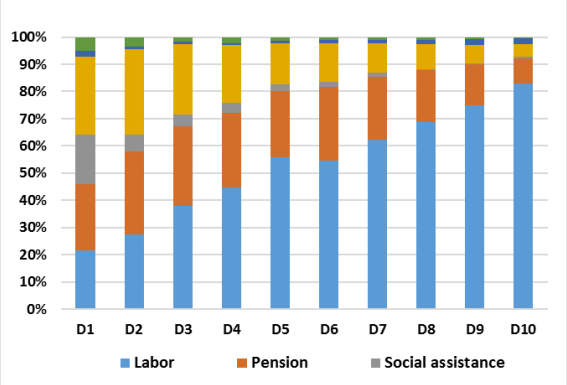
Source: WB staff calculations using EU SILC UDB-C data (survey years 2010-2015).

76. **Lower labor income of poor and vulnerable households also reflects their lower educational attainment and productivity.** Among the adult population aged 25 and older, slightly less than half of those in the bottom 20 have completed secondary education and less than 5 percent have completed tertiary education. By contrast, over 20 percent of the top 60 (of adults 25 and older) have reached tertiary education. Moreover, the gap between the bottom and top quintiles in terms of tertiary

attainment has grown slightly since 2009, suggesting that the crisis deepened the wedge between income groups and led to a further polarization between the bottom and the top.

77. **Low enrollment rates in early childhood education and care (ECEC) could also contribute to hamper labor market participation and social mobility.** Global research shows that a lack of participation in ECEC increases higher school-dropout rates, lowers participation in the labor market,[58] [59] deepens disparities depending on family background and reduces social mobility between generations. There is no entitlement to ECEC in Croatia at any age, and the national legislation only requires all six-year-olds to attend pre-primary education for at least 250 hours as preparation for school (i.e. not understood as childcare). Responsibility for ECEC is delegated to the local government level, which results in significant regional disparities in terms of availability, quality and affordability, with the lowest coverage in the poorest counties. The share of 15-year-olds from families with low levels of education who had participated in ECEC is 20 percentage points below that of families with at least one highly-educated parent (the EU average is 7 percentage points), indicating that family background shapes socio-economic outcomes at an early stage in life. [60] Compared to other countries in the EU, Croatia shows a strong link between educational attainment and labor market outcomes for parents and their children.[61] [62]

Figure 47. The share of labor income in the total is lower among the poor (2014)



Note: D1 to D10 describe the deciles of the income distribution. *Source:* WB staff calculations using EU SILC UDB-C data (survey year 2015).

78. **Training programs for the long-term unemployed and inactive workers can increase their participation in the labor market and raise their productivity and wages.** Absence from the labor market, in particular for those "neither employed nor in education or training" (NEETs) and middle-aged workers, can lead to a deterioration of cognitive and non-cognitive skills, which combined with limited work experience complicates re-entry into the labor market. Further progress in retraining the labor force, in particular the long-term unemployed with low skill levels, requires higher effectiveness and reach of active labor market policies and training activities, which are underfunded compared to other EU countries while disbursement rates for financial support available under the ESF are low.[63] Improved coordination between training activities and social assistance would facilitate a further reduction of unemployment among priority groups. However, the drafting and implementation of new legislation to improve the quality of institutions and programs for lifelong learning has been delayed.

79. **Roma in Croatia continue to show large gaps in educational attainment and still struggle with incomes below poverty thresholds, low paid work rates and poor housing conditions.** [64] Based on the EU-MIDIS II survey, the EU Agency for Fundamental Rights surveyed nine EU Member States on ethnic

[58] http://bookshop.europa.eu/en/study-on-the-effective-use-of-early-childhood-education-and-care-ecec-in-preventing-early-school-leaving-esl--pbNC0414322/.
[59] Matković (2010).
[60] Eurydice and Eurostat (2014).
[61] Doolan, Puzić and Baranović (2017).
[62] Grundiza and Lopez Vilaplana (2013).
[63] European Commission (2016c).
[64] Unofficial estimates place the Roma population at 40,000-60,000 in Croatia (World Directory of Minorities and Indigenous Peoples, 2008).

minorities and Roma.[65] The survey found high proportions of Roma without any formal education in all age groups (i.e. 46 percent amongst 45+, and 28 percent amongst the 25-44 years-old) in Croatia. However, the data also shows that participation rates in compulsory school (94 percent) are above average compared with other survey countries. Almost the entire Croatian Roma population covered by the survey (93 percent) has incomes below the national income poverty threshold, self-declares the lowest employment rates (8 percent), and 17 percent of the Roma surveyed live in households in which at least one person regularly went to bed hungry in the preceding month. Roma in Croatia also face poor housing conditions and report the highest share of people with insufficient light in their dwellings. Above 50 percent of the surveyed Roma household members declare themselves to be 'unemployed' and the paid work rate for Roma (21 percent) is the lowest in Croatia compared to Roma's average EU-28 employment rate (which was 70 percent in 2015).

Box 2: Europe 2020 social inclusion indicators

The headline *Europe 2020* indicator of at-risk-of-poverty or social exclusion (AROPE) stood at 29 percent in (income year) 2015, somewhat higher than the EU28 average (24 percent in 2014), and above the new member states unweighted average (27 percent in 2014). While the relative at-risk-of-poverty rate (AROP) dropped marginally between the 2010 and 2015, it is sensitive to changes in incomes for the bottom of the income distribution and shifts of the median of household income. Just under 13 percent were below the severe material deprivation (SMD) threshold in 2015, approximately 1 percent fewer than in 2010; this indicator (that captures absolute dimensions of well-being) initially rose after the period of the financial crisis before beginning to drop in 2013. Fourteen percent of the population under the age of 60 were residing in low work intensity (LWI) households in Croatia, which is above the EU28 and new member states levels (10.7 percent and 8.6 percent, respectively, for 2014). At the same time, more than half of the population reported an inability to face unexpected financial expenses in 2015, which is similar to the average among new member states but remains considerably above the EU28 average of 37.5 percent in 2014 (this indicator ranged from 17 percent of the population in Norway to 72 percent in Hungary in 2014).

Europe 2020 indicators, percent of population

	2009	2010	2011	2012	2013	2014	2015
AROPE	31.1	32.6	32.6	29.9	29.3	29.1	28.5
AROP	20.6	20.9	20.4	19.5	19.4	20.0	19.5
SMD	14.3	15.2	15.9	14.7	13.9	13.7	12.9
LWI	13.9	15.9	16.8	14.8	14.7	14.4	13.6
Expenses (inability)	62.3	64.4	67.4	65.1	63.7	59.8	59.2

Note: Years correspond to income years. Data for 2016 is provisional. *Source*: Eurostat.

Note: AROPE refers to at-risk-of poverty or social exclusion; AROP refers to at-risk-of poverty; SMD refers to severe material deprivation (ownership of assets); LWI refers to households with low work intensity (participation in the labor market); and expenses (inability) means the share of the population reporting an inability to meet unexpected financial expenses. For definitions of these indicators, see http://ec.europa.eu/eurostat/statistics-explained/index.php/Material_deprivation_statistics_-_early_results.

[65] EU Agency for Fundamental Rights – FRA, Second European Union Minorities and Discrimination Survey, Roma – Selected finding, 2016, (surveyed MS: Bulgaria, Czech Republic, Greece, Spain, Croatia, Hungary, Portugal, Romania, Slovakia).

Disparities across regions and by household demographics

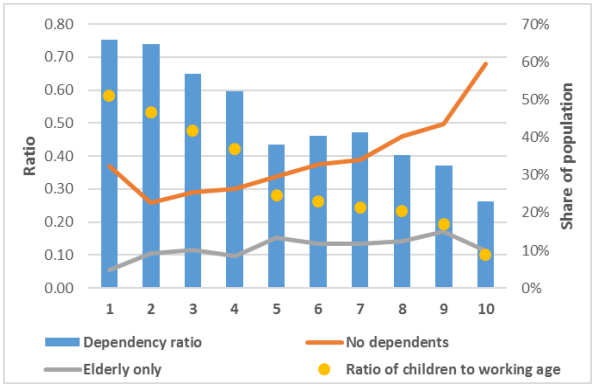
80. **The share of the population that is poor or vulnerable is higher in rural areas and the eastern part of the country.** The share of the population living below the US$10 PPP threshold in 2014 was 41.1 percent in rural areas, compared to 26.8 percent in urban areas. This gap has narrowed over time, mostly due to a rapid increase in poverty in urban areas, especially in the immediate aftermath of the global economic crisis (between 2009 and 2010, the US$10 PPP poverty rate increased from 18.0 to 24.0 percent in urban areas). Regional differences in living standards across districts are stark and reflect disparities in economic conditions and the labor market environment. The share of the population living in poor vulnerable households ranged from 12 to 28 percent for districts in the Adriatic region and 10 to 40 percent in the Continental region. In the Northwest, including the capital city Zagreb, the range was between 10 and 23 percent, and in Central and Eastern Croatia the range was 23 to 40 percent. However, most poor and vulnerable households lived in Zagreb or Split, which together account for a large share of the total population.[66]

81. **Dependency rates are higher in lower-income households.** The number of children and elderly relative to individuals of working age (the dependency ratio) is approximately 0.7 for households in the bottom 40 percent of the income distribution, compared to 0.4 for the top 40 percent. And within the bottom 40, households in the bottom 20 report a significantly higher dependency ratio than do households in the top 20. Households with children are on average 20 percentage points more likely to live in poverty and vulnerability compared to households without children. The share of elderly-only households, while low overall, is highest in the top half of the income distribution.

82. **In addition to demographics, labor market outcomes and gender are key determinants of poverty and vulnerability in Croatia.** Absolute poverty is highest in households where none of the working age adults earn labor income**.** Among households with no working age adults earning labor income, the share of the population living on less than US$10 PPP is 64 percent, half of which subsist on less than US$5 PPP. The poverty rate is also disproportionately higher in households where a female is the primary breadwinner and no working-age males earn labor market income. The fact that hourly wages for women are estimated to be 17 to 19 percent lower than wages for men (after controlling for levels of education, age, and sector of employment) contributes to this.[67]

Figure 48. Dependency ratios are highest among the poor

(Per decile of the income distribution, 2014)



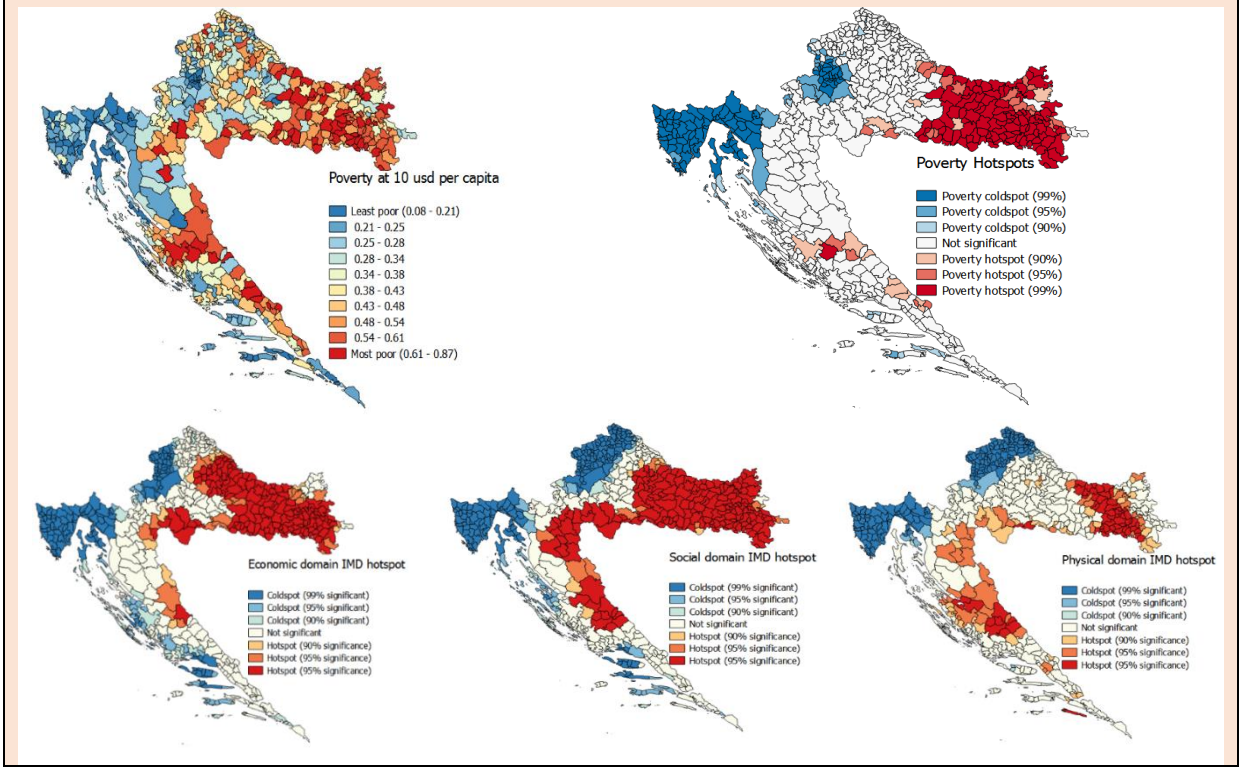
Source: WB staff calculations using EU SILC UDB-C data (survey year 2015).

[66] Estimates on regional patterns of poverty and vulnerability are produced using the Census 2011 and the HBS/EU SILC for the income year 2011. See: Croatian Bureau of Statistics (2016): Small area estimates of consumption poverty in Croatia: Methodological report.

[67] Results obtained from a Mincerian estimation of returns to education for 2009-2013 from the EU-SILC.

Box 3: Subnational welfare disparities across Croatia

Recent poverty maps produced in Croatia by the World Bank and Croatian Bureau of Statistics as part of an EU commission funded project provide evidence of the regional disparities in the country at a highly disaggregated level. The results from the small area estimates of poverty shed light on the disparities that exist across the country. For example, the city of Zagreb is considered one of the wealthierlocations in the country, while municipalities in Slavonia and Zadar represent clusters of poverty. When poverty is analyzed at the level of 21 counties (NUTS 3) and beyond, large disparities even within the same region become evident, which can pose challenges for the allocation of resources. For example, the Eastern region (NUTS 2) of the country comprises the city of Zagreb, Slavonia, and other sub-regions. Without Zagreb in the Eastern region, the poverty level would be much worse. This matters because EU cohesion funds are allocated at the regional level (NUTS 2), and the current classification leads to Zagreb having the same priority as Slavonia. Ignoring substantial differences within the country can lead to poor policy design when attempting to assist lagging regions. Poverty is multidimensional and the index of multiple deprivation (IMD) provides further information for policy makers who aim to assist lagging regions.[68] The index is built considering different thematic domains summarizing deprivations to social and economic issues, and limited access to services. Each domain is composed of numerous subdomains thatidentify areas where specific and coordinated interventions between line ministries may be required. Regardless of the subdomain, the Eastern part of the country is doing substantially worse than most of the country. Results show that the city of Zagreb and Istria county are clusters of low deprivation scores on all three domains, while the east has higher deprivation scores. The deprivation score along with the hotspots allows policy makers to identify the priority domains, as well as regions for interventions seeking to diminish regional disparities in Croatia.



[68] The IMD is an output of a joint project between the World Bank and the Ministry of Regional Development and EU Funds of Croatia.

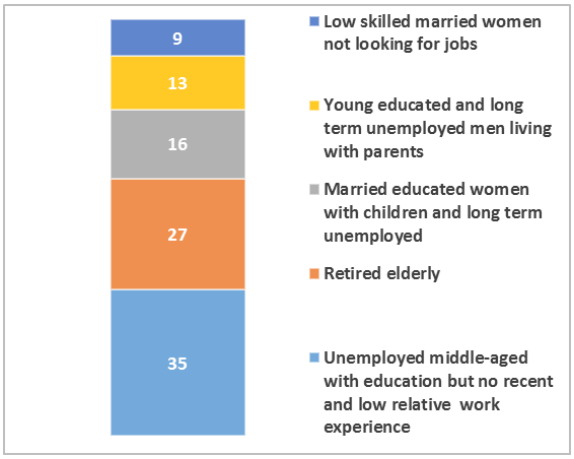
B. Boosting participation in labor markets

83. **Job creation is critical to reducing poverty.** Nearly half of the economically active in the bottom 40 was unemployed (60 percent among the bottom 20), three times the level for the top 60.[69] Even though the chances of getting a job among unemployed or inactive poor is small (around 8 percent, far below the EU average of around 13 percent), labor markets continue to be an important channel for escaping poverty: more than 70 percent of poor people who get a job also escape from poverty in Croatia (the highest rate in the EU and well above the regional average of 55 percent).[70]

84. **Almost half of the working-age population in Croatia are either out of work (39 percent) or show weak attachment to labor markets (7 percent).** While the picture has changed slightly during the most recent recovery after 2013, in 2012 the large majority of individuals were out of work (either inactive or unemployed) for a variety of reasons, including early retirement, disability, care of dependents, or domestic responsibilities. Among those employed, a significant number of individuals are classified as being vulnerable (based on a profiling method using latent class analysis) due to unstable jobs, restricted working hours (including involuntary or voluntary part-timers), or near zero earnings.[71] The most common barrier to full participation in the labor market is having no recent work experience. Scarce job opportunities due to individuals' gender, age, education, and the region where they reside is also a substantial barrier. About one third of the population have low skills and another third suffer from health limitations. About 20 percent has potential disincentives to work due to high non-labor income, and 12 percent face care responsibilities. [72] Thirteen percent of individuals are classified by the latent class analysis as "neither employed nor in education or training" (NEETs). Many of them are young: more than half of 15 to 24 year-olds are NEET (the rate is higher among females than males) and the NEET rate (among 15-24 year old) is 57 percent among the bottom 40 of the income distribution (compared to 31 percent for the top 60). Unemployment stood at 43 percent among 15-24-year-old in 2015. Both findings suggest that the acquisition of skills in both school and training must be improved, as well as the transition from school into the labor market and approaches to second chance education.

Figure 49. Lack of recent work experience is a major barrier to employment

(Population which is either out of work or with weak attachment to labor markets, 2012)

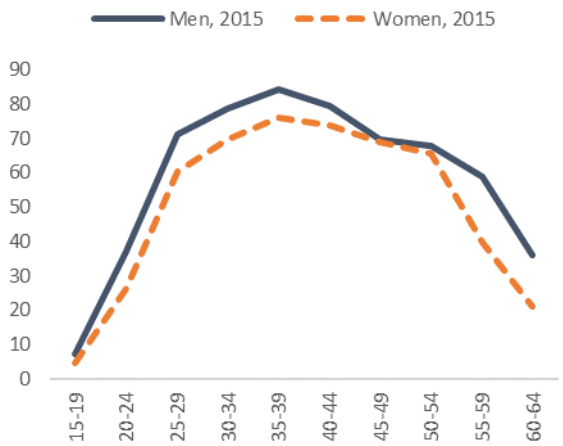


Source: WB calculations using EU SILC UDB-C data (survey year 2013).

[69] WB staff calculations using EU-SILC UDB-C data.
[70] WB staff calculations using EU-SILC panel data (survey years 2011 to 2013) reported in European Commission ESDE 2016 report.
[71] World Bank (2016c).
[72] OECD and World Bank (2016).

85. **While large gender gaps in labor market participation are widespread throughout the EU, differences are substantially lower in Croatia with some improvement over the past couple of years.** Compared to EU averages, Croatia has one of the lowest employment rates for women (51.5 versus 60.4 percent) but also one of the lowest employment rates for men (60.1 versus 70.9 percent). The female employment rate is lower at all ages, and while it converges for the 45-54 age group as both male and female rates decline, the latter declines faster than the former thereafter. The gender gap in employment becomes more pronounced with motherhood. Childless women and women whose youngest child is of primary school-age have the highest employment rates (50.3 and 63.8 percent, respectively), and these numbers are even higher for women in the 25-49 age group (67.7 and 68.9 percent, respectively). Family responsibilities and care of children or other dependents is the main reason given by women in the age group 25-49 (55 percent) for not seeking employment. The difference in the mandatory retirement age–three years lower for women–and more generous transition schemes–with unemployment benefits for women available at age 57–largely explain exit from the market for women above 55 years.

Figure 50. Employment rates are lower among women than men at most ages
(Percent of age group, 2015)



Source: Eurostat.

86. **Discrimination and exclusion of lesbian, gay, bisexual, transgender, intersex (LGBTI), and other vulnerable groups remains high in Croatian labor market.** A recent study by the World Bank (2017) found that 18 percent of respondents have felt discriminated against at work in the last 12 months because of their sexual orientation, gender identity or being intersex. Twelve percent felt discriminated against while looking for a job. Almost half (48 percent) of Croatian respondents in the survey never have been open at work about their LGBTI status. A more inclusive work environment can have positive impacts on productivity and health of employees.[73]

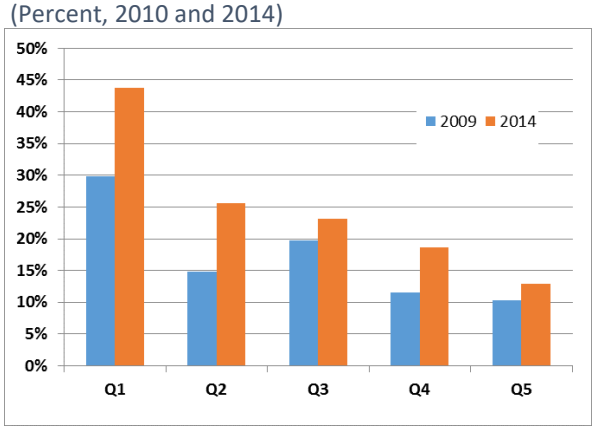
Removing disincentives to labor market participation

87. **A high marginal tax rate for the lowest income bracket and significant losses in social transfers when taking up employment reduce incentives to participate in the labor force.** The compound effect of paying additional income taxes and social security contributions when taking up employment and losing various benefits – including social assistance, housing and family benefits – is broadly in line with the EU average.[74] However, for potential low-wage single earners with children, the marginal effective tax rate is extremely high, mostly due to losses from reduced social assistance benefits.[75] As part of the tax reform in early 2017 the basic personal allowance and the allowance coefficient for dependent members of the family and children were increased, which also reduced the marginal effective tax rate for low-wage earners with children. Also, generous eligibility criteria and the co-existence of multiple pension schemes reduce labor force participation among early retirees. Early retirement pensions, survivor's pensions, long-career (eligibility based on minimum of 41 years of contribution) or disability

[73] Badgett, Durso, Kastanis and Mallory (2013).
[74] Results are based on simulations using de-jure tax rates for different types of households (cf. OECD (2016b)).
[75] European Commission (2016a).

pensions trigger an early exit from the labor market and high payments through disability insurance reduce labor market participation.

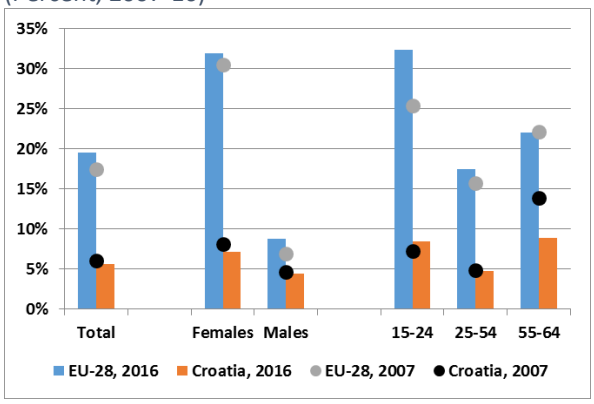
Figure 51. The share of temporary contracts in employment has increased, particularly for the poor
(Percent, 2010 and 2014)



Note: Q1 to Q5 describe the quintile of the income distribution. *Source*: WB calculations using EU SILC UDB-C data (survey years 2010 and 2015).

88. **Labor market reforms increased the incidence of temporary contracts, bringing new people into employment.** Between 2010 and 2014, the share of individuals with temporary contracts increased for all segments of the income distribution (**Figure 51**), and reached 19.3 percent of those employed between 15 and 64 years in 2016 (the EU average is 12.0 percent). The share of temporarily employed was highest among poor working-age individuals, those between 15 and 24 years (61.7 percent), and individuals with secondary schooling or less (temporary employment is slightly higher among females than males, consistent with regional trends). More than 60 percent of all unemployed who transitioned into a job worked under temporary contracts,[76] which illustrates how labor market deregulation can provide an entry path into permanent employment. However, the large growth in temporary contracts also risks a segmentation of the labor market and could have a detrimental effect on labor productivity.[77]

Figure 52. Part time employment is low in Croatia
(Percent, 2007-16)



Source: WB staff calculations using EU-LFS data from EUROSTAT.

89. **A lack of flexible working arrangements - in particular part-time employment - limits the supply of labor.** Overall, the flexibility in setting work arrangements is lower than the EU as a whole. In 2015, 71 percent of all working time arrangements in Croatia were set by the company or organization with limited possibilities for changes (compared to 55 percent in the EU). This share was highest among those under the age of 50 and slightly higher among women (73 versus 70 percent for men).[78] The share of the total employed population working part-time in Croatia stood at under 6 percent in 2016, compared to an average of nearly 20 percent in the EU (**Figure 52**). Whereas part-time employment has risen gradually in the EU since 2007, in Croatia it has dropped, from a high of 7.2 percent in 2011.[79] Limited possibilities to work part-time create a particular burden for women. Croatia has the second-lowest share of women who work part time (7.1 percent) in the EU, much lower than the average for the EU (31.9 percent).

90. **Policies that help workers reconcile the demands of work and family would enable a larger number of women to enter the labor market.** Insufficient accessibility to formal care services, both for

[76] European Commission 2016 ESDE report.
[77] Brkic (2015).
[78] Eurofund (106).
[79] EUROSTAT using EU-LFS data.

children and the elderly, appears to be a common phenomenon. Only 11.8 percent of children younger than 3 years are in formal childcare, 6.5 percent of children between 3 years and the compulsory school age of 6 are in childcare for less than 30 hours a week (EU average is 33.9 percent), and 46.4 percent are in childcare for more than 30 hours a week (EU average is 49.4 percent).[80] In consequence, parents largely rely on non-formal forms of care, predominantly grandparents.[81] Another issue is the lack of awareness and information about childcare opportunities among parents.[82] [83] Also, the coverage rate of residential care for people aged 65 and older is 1.6, which is towards the bottom of a ranking among countries in the EU.[84] Croatia does not have a system to support family-provided care. Evidence suggests that, among the employed population, the "need to take care for dependent elderly" is one of the most important determinants of the work-family conflict, even more important than childcare.

Reducing frictions to spatial mobility

91. **Regional differences in the level and structure of economic activity coincide with large disparities in labor market outcomes across counties**.[85] Employment rates differ substantially across the country (**Figure 53**), and high regional poverty rates coincide with low employment rates in the eastern part of the country. [86] Despite fluctuations in employment rates between 2001 and 2015, the ranking across counties remained stable, and as of 2015 (latest data available) no county has returned to pre-crisis levels. Unemployment rates also differ systematically across counties and further reflect the impact of the global economic crisis on the economy (**Figure 54**). Regional differences in education levels are also significant. The share of the adult population (24-64 years of age) with tertiary education is twice as large in Zagreb and surrounding areas than in Slavonski Brod and surrounding areas.

Figure 53. Employment rates vary substantially by county

(Percent of employed in labor force, 2001-15)

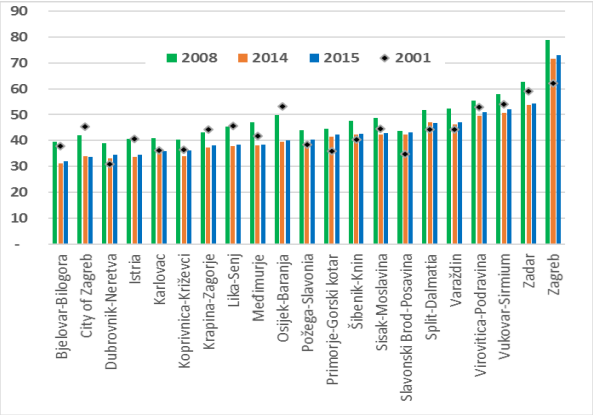
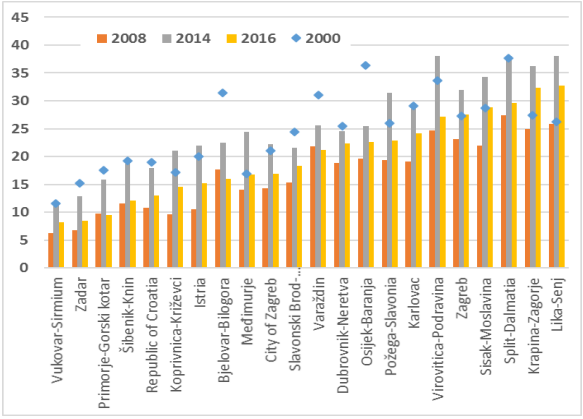


Figure 54. Unemployment rates also vary by county

(Percent of Unemployed in labor force, 2000-2016)



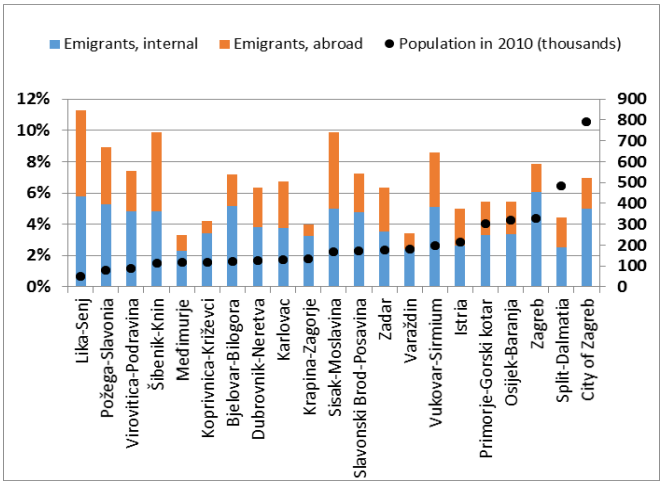
Note: Employment rates for employment from legal entities only. *Source*: Croatia Bureau of Statistics.

[80] Eurostat (2015), accessed 5/23/2017
[81] Dobrotić (2013).
[82] Doolan, Puzić and Baranović (2017).
[83] Grundiza and Lopez Vilaplana (2013).
[84] European Commission (2012).
[85] Regional statistics only include employees in legal entities which creates bias towards employment in industry and services.
[86] It is important to note that since these represent firm level statistics, the estimates of employment are very likely underestimated given high levels of informality in labor markets, especially in the eastern part of the country.

92. **Regional disparities in economic activity and labor market conditions result in domestic migration, as well as emigration to other European Union countries.** The share of the population leaving their homes has increased substantially since the global economic crisis hit Croatia; administrative data suggests that between 2010 and 2015 some counties lost more than 10 percent of their resident population to migration. Counties with higher unemployment in 2014 also lost a higher share of their population to emigration (internally and abroad) than those with a lower level of unemployment, suggesting that individuals are sensitive to labor market conditions in their county of residence.[87] In 2015, counties in Eastern Slavonia showed higher rates of emigration than richer counties in the Central and Adriatic regions. Moreover, the likelihood of moving between counties is not substantially higher than the probability of moving abroad.

Figure 55. In Croatia, emigration is as common as moving between counties

(Share of population, percent, 2010-15)



Source: Croatian Bureau of Statistics.

93. **However, high home ownership rates in combination with large differences in property values across counties impede labor market mobility.** The frequency of internal migration in Croatia is below the average in ECA, whereas the external migration rate is among the highest in the EU.[88] A limited rental market in Croatia – the homeownership rate was 90.5 percent in 2015, the second highest in the EU – and declining property prices following the global economic crisis impose high transaction costs on labor mobility. Increased home ownership is also found to increase future unemployment rates at the regional level. [89] As rental space is limited, households are often required to sell their properties before migrating to counties with better labor market opportunities. Yet, large differences in the average price for houses and apartments, in combination with falling property values in lagging regions, create additional obstacles for labor market mobility. For instance, the average price for a house in Slavonski Brod was approximately 70 percent of the price for a house in Zagreb, and even lower compared to the price of a house in Split. Even if renting is an option, higher wages in more dynamic counties (including Split) are not sufficient to compensate for higher costs of living. At the same time, the large wage gap between Croatia and the traditional countries of destination for migration (including Germany and Austria) and existing social networks in these countries encourage external mobility.

Enabling a healthy and productive aging

94. **Low activity rates and early retirement are reducing the adequacy of pensions.** Longer contribution periods to the pension system observed in the last decade have slowed the decline in the replacement rates. However, without more decisive reforms, the already-low pension replacement rate (especially among women) is expected to fall further in the future. The share of adults between the ages

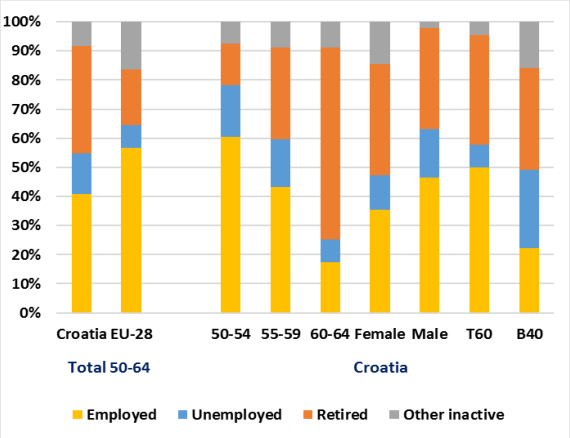
[87] Internal (and external) migration rate are likely to be underestimated given trends in seasonal migration which are captured in the migration statistics as part of the yearly flow.

[88] Arias, Sánchez-Páramo, Dávalos, Santos, Tiongson, Gruen, de Andrade Falcão, Saiovici and Cancho (2014).

[89] Blanchflower and Oswald (2013) find that increases in the home-ownership rates are a precursor to eventual rises in unemployment. The study also finds that in some cases, the elasticity exceeds unity: a doubling of the rate of home-ownership is often followed in the long-run by more than a doubling of the later unemployment rate.

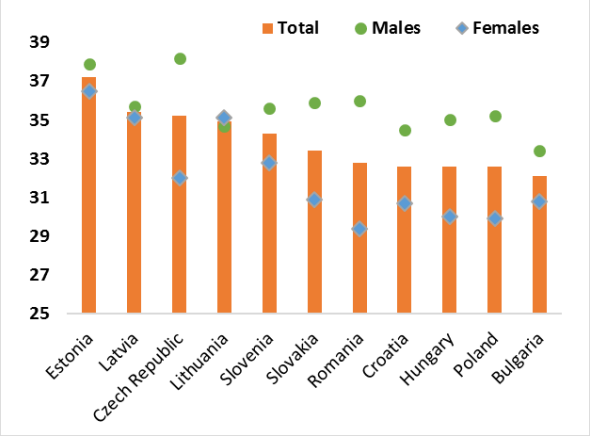
of 50-64 that are employed is nearly 15 percentage points lower than, and early retirement is nearly double, the EU average (**Figure 56**). Moreover, the duration of a typical working life in Croatia is 32.8 years, lower than the average for the EU (35.4 years) and below many other new member states (**Figure 57**). Social adequacy of pensions is low; the average first pension as a share of the economy-wide wage at retirement was 27.9 percent in 2013, compared to the EU average of 42.5 percent. The gross replacement rate at retirement is expected to fall to 16.5 percent by 2060.[90] Thus, retirees' ability to finance an adequate lifestyle is falling, while life expectancy is increasing. Early retirement is higher (and employment much lower) for females, especially between age 55 and 64. Females show shorter working lives than males (30.7 versus 34.5 years) and have a longer life expectancy (81 years compared to 75 years for men), which further increases their probability of falling into poverty.

Figure 56. Older working-age adults are less likely to be employed in Croatia than the EU average (2014).



Source: WB staff calculations using EU SILC UDB-C data (survey year 2015).

Figure 57. The duration of working life is shorter in Croatia than in peers (percent, 2015).



Source: Eurostat.

95. **Promoting healthy aging could extend working lives and thus improve the ability to finance an adequate lifestyle during retirement**. The rate of premature mortality in the working age population due to chronic and non-communicable diseases (NCDs) is 45 percent higher than the EU average, resulting in significant productivity losses from premature mortality.[91] Among the working-age population, the probability of dying from one of four leading NCDs is 18 percent (diseases of the circulatory system account for the largest share), with a higher incidence among men relative to women (consistent with the ECA region on average).[92] In fact, the cancer mortality rate in Croatia is one of the highest in the EU, and while it has declined across the region (e.g., cervical cancer, breast cancer), it has actually increased in Croatia. As the population ages, the burden of NCDs is likely to increase further. Given that 20 percent of the population will be 65 or older by 2020 and nearly 30 percent will be elderly by 2050, improving primary and secondary prevention services for chronic illnesses and NCDs is a key domestic challenge in Croatia.

96. **Addressing mental health issues affecting war veterans is a priority**. The Government launched general health examination for war veterans in 2017, prioritizing most vulnerable, which will likely become regular. The high post-traumatic stress disorder (PTSD) rate or other mental and physical health

[90] European Commission (2016d).
[91] OECD (2016): Health at a Glance, Europe. Paris.
[92] WHO statistics

problems among war veterans impairs their ability to participate in the labor market. According to recent estimates the prevalence of PTSD is substantially higher in Croatia (nearly 7 percent) than in a subset of European countries (including both transition and Western European countries), likely related to the high rates of traumatic events (10 percent of the total population is estimated to have been affected by war in a way leading to Post Traumatic Stress Disorders.[93] Moreover, the crude suicide rate is substantially higher in Croatia than the EU average (17.5 versus 14.1 per 100,000).[94]

C. Building Resilience

97. **General government spending on social protection[95] is in line with other new member states in the European Union (Figure 58).** Spending on social protection increased from 12.2 percent in 2008 to 14.2 percent of GDP in 2015, which reflects both a temporary increase in recipients and a substantial drop in GDP during the global economic crisis. Croatia spends a higher fraction of social protection on contributory social insurance benefits, including disability pensions, sickness benefits and old age pensions, than in other countries in the EU. This reduces the available budget for transfers to families and children, and other non-contributory social assistance programs.[96] As a result, the coverage of the bottom 20 percent of the income distribution through social assistance is lower in Croatia than in other countries in the European Union. For instance, 81 percent of individuals living in jobless poor households receive some benefits in the EU, compared to 60 percent in Croatia.

98. **Excluding old-age pensions, both contributory and non-contributory benefit programs are progressive.** Most of the benefits from contributory programs go to the bottom 40 percent of the income distribution, including maternity benefits (57 percent) and unemployment benefits (52 percent), although only 37 percent of sickness benefits do so. For non-contributory transfer programs, 84 percent of social assistance benefits and 55 percent of child benefits are devoted to the poorest quintile (**Figure 59**). Education benefits are perhaps the least well-targeted, with 49 percent of all benefits going to the top 60 percent of the distribution, likely because these are designed as performance-based stipends and not meant to target the bottom of the distribution.

99. **With a similar level of spending on social protection, other countries in the EU achieve a higher reduction in poverty.** Croatia's underperformance can be explained through the limited spending on means-tested social protection programs, including social assistance and unemployment benefits. Despite efficient targeting, their limited coverage and generosity among recipients reduces the impact on welfare improvements among poor and vulnerable households (**Figure 59**). The contribution of means-tested benefits is low by regional standards, though in line with EU countries with similar levels of absolute poverty. Of 16 means- and non-means tested benefit schemes, only two (child and family benefits) play any noticeable role in reducing poverty. Thus, while evidence from the Croatian HBS and EU-SILC suggests that the number of beneficiary households, and the targeting of these benefits to the bottom two quintiles, increased between 2008 and 2014, the impact on poverty reduction was limited

[93] Andrea Burri and Andreas Maercker. Differences in prevalence rates of PTSD in various European countries are explained by war exposure, other trauma and cultural value orientation. https://bmcresnotes.biomedcentral.com/articles/10.1186/1756-0500-7-407

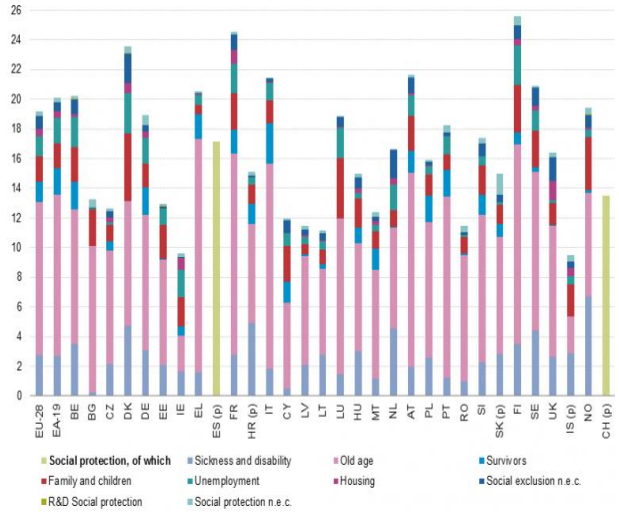
[94] WHO statistics.

[95] Social benefits other than social transfers in kind, Eurostat accessed

[96] Croatia has a number of direct (non-contributory) transfers: Family Benefit Programs (grant for newborn children, means-tested child benefit, one-parent and parentless children supplements), Social Assistance (means-tested subsistence benefit in the form of a guaranteed minimum benefit, means-tested Housing Benefit, categorical lump sum assistance), Programs for Croatian Defenders of the Homeland War (old-age pension supplements, disability pensions, orthopedic allowances, constant care supplements, survivor benefits and child benefits for surviving children), and local government benefits (lump-sum grants for newborn children, cash supplements to low income groups, subsidies for transportation costs for vulnerable groups, lump-sum benefits and food packages for the poor, and benefits for students).

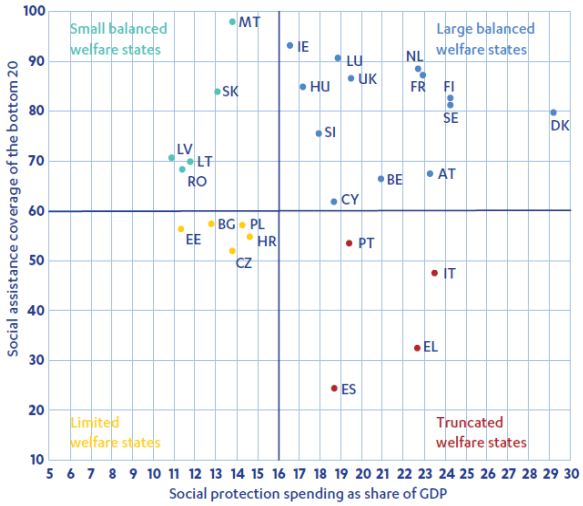
(social assistance increased incomes of the poorest quintile by only about one percentage point, see above).

Figure 58. Social protection spending in Croatia is comparable to peers
(General government expenditure on social protection, percent of GDP, 2015)



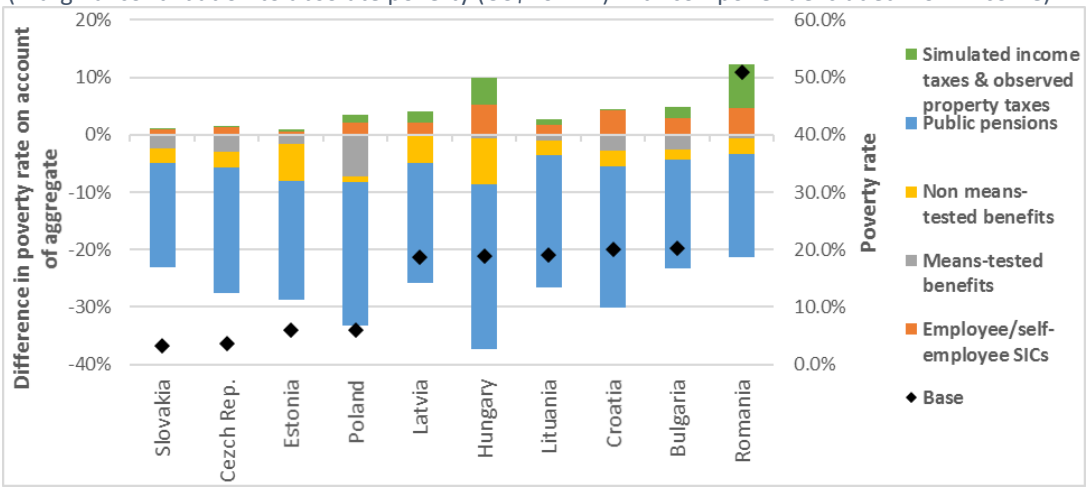
Source: Eurostat, accessed 8/28/2017, gov_10a_exp.

Figure 59. Social assistance coverage of the poor is low in Croatia (2012)



Source: World Bank EU Regional Economic Review, spring 2016.

Figure 60. Croatia's transfers make a smaller contribution to poverty reduction than in peers
(Marginal contribution to absolute poverty (US$10 PPP) with component excluded from income)



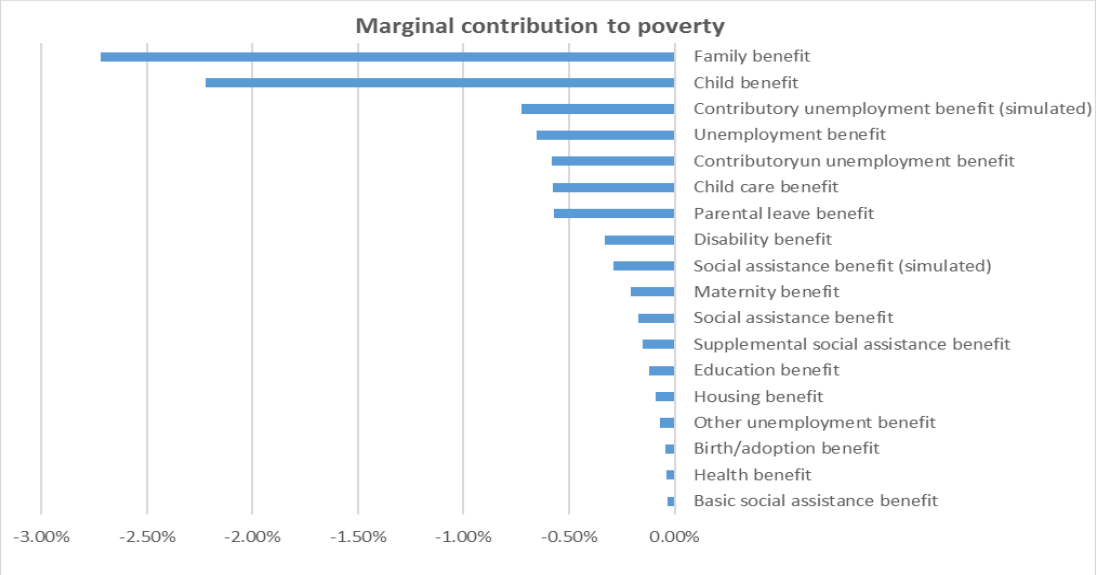
Source: WB staff calculations using EUROMOD simulation model.

100. **Fragmentation of public transfer programs and weak coordination between agencies at the central and regional level limit the effectiveness of social protection spending.** Croatia has more than 80 public transfer programs, many of which cover the same target population. The lack of monitoring and information systems leads to an inefficient allocation of limited resources. Social protection services (with the exception of housing and social exclusion) are administered at all levels of government (central,

county, municipality, and town) and with different sets of eligibility criteria, creating inconsistencies in the disbursement of benefits.[97] Reducing the fragmentation of benefits (including the overlap of multiple privileged pensions) would improve equity and help reduce error, fraud and corruption in the social assistance system, and in addition would strengthen the coordination and transparency of benefits.

Figure 61. The contribution of social assistance to poverty reduction is small

(Marginal contribution to absolute poverty (US$10 PPP) with social protection excluded from income)



Source: WB staff calculations using EUROMOD simulation model.

4. ENSURING SUSTAINABLE PATHS OF GROWTH AND INCLUSION

101. **Croatia's prospects for reinvigorating sustainable and inclusive economic growth and resuming the path towards economic convergence with the European Union hinge on strengthening the performance of its public sector.** The chapters on growth and equity showed that the public sector plays a prevalent role in Croatia through its large footprint in the real sector and the provision of a wide array of public services to its citizens. However, these chapters also demonstrated that public sector institutions face significant weaknesses. EU membership and adoption of the acquis communautaires brought fundamental institutional and legal changes. Accession to the EU also raised the demands and expectations for better public services delivery, and for enhanced strategic public sector interventions to support private sector investments and growth.

102. **Rapid improvement in governance is critical.** Failures to address shortcomings in the governance structure impair public perceptions, limit quality and satisfaction with public service delivery, and are contributing to the high rate of emigration of skilled workers. Over the medium and long term, this gap in implementation and expectations will endanger fiscal, social and environmental sustainability. Improvements are needed across many dimensions, including rationalization of structures and functions, strengthened accountability and coordination mechanisms, strengthened human resource management and delivery capacities, and remuneration system reform. While authorities acknowledge the importance of an ambitious reform program to enhance public performance, progress has been limited.

[97] European Commission, Country Report Croatia 2016.

Moreover, political cycles bring deep changes to civil services, which is disruptive for projects and long-term initiatives thus weakening rather than strengthening state systems and institutions.

103. **Policy reform has been limited by the capacity of actors to commit and their willingness to cooperate and coordinate their actions to achieve socially desirable goals.** Commitment challenges reflect gaps in capacity and volatility in announcing and implementing policies. Coordination challenges include fragmentation of governance leading to silo effects, lack of coherence, and confusion about the common goals. Finally, cooperation challenges signal opting-out from delivery of public services and over-usage of common pooled goods.

104. **Changes in government and divergence between short-term strategies and long-term policy goals reflect commitment problems and reduce the sustainability of the policy framework**. As external developments require the Government to adapt to new circumstances in limited time, the lack of commitment to long-term policy goals reduces the coherent adoption of policy reforms. In consequence, short-term strategies are frequently prepared, but implementation is systematically delayed. For instance, the country specific recommendations, published by the European Commission on an annual basis, have identified the same set of policy recommendations for multiple years but progress is very limited.

105. **Politicization of administrative processes and the large footprint of the state in the private sector exacerbate the impact of frequent changes in policy**. Since 2008, Croatia has experienced multiple government reshufflings, which beyond Cabinet level changes, have also resulted in many changes at the lower levels of government. These changes have hindered the ability to sustain commitment and implementation of policy reforms and have reduced the accumulation of experience in the public administration. This uncertainty and frequent changes also reduce the ability of the authorities to exercise their oversight functions on the large SOEs sector.

106. **Insufficient coordination and cooperation between different parts of the policy apparatus and between national and sub-national levels lead to an incoherent policy framework, and endanger the ability of the public administration to reduce contradictions between different elements of the reform agenda.** Policy reforms often lack broad support from divergent interest groups, such that change processes are often driven by individuals rather than institutions. This leads to high volatility in times of limited political leadership and lack of political momentum for reforms.

107. **The high fragmentation of local government units (LGU) poses challenges in terms of cost, quality, effectiveness and sustainability of services delivery.** LGUs are characterized by relatively low average population with significant variance and are heterogeneous in terms of administrative capacity. In many cases they are competing with large cities, which provide most decentralized public services, undermining the rationale for local government structures. Their spending structure is dominated by wages and operational costs, with little room for investment spending, and they have limited own-revenue resources. This situation is compounded by their reliance on transfers from the fiscal equalization system, which reduces incentive for LGUs to increase their tax base or service delivery efficiency. Their financial linkages with local government-owned utility companies result in increased fragmentation and fiscal risks. Finally, LGU fragmentation also undermines human and financial capacity to effectively absorb EU funds.

108. **There is evidence that preferences and prevalent norms in Croatia are hindering policy changes and private sector development.** Life in Transition III survey conducted in 2016 (LiTS) suggests that support for a market economy is among the lowest in the Europe and Central Asia region, with only 31 percent of respondents unequivocally supporting a market economy as opposed to any other

alternative.[98] Similarly, the Global Entrepreneurship Monitor for Croatia 2016 (GEM) suggests that successful entrepreneurs do not hold high social status, and that their activities are mostly not covered by the media.[99] Researchers have also identified a set of preferences and norms in Croatia which they summarize in a concept of radical egalitarianism (RE) - comprising a set of cognitive perspectives, ethical principles, social norms and collective viewpoints - which appear correlated with slow development and reduced scope of modernizing changes, and could contribute to slower growth and lower competitiveness than regional peers.[100]

109. **Power asymmetries–manifesting through exclusion, capture and clientelism–determine the design and implementation of policies, and ultimately their impact on development outcomes.** The civil society in Croatia is characterized by a substantial number of autonomous, self-organized groups, associations and organizations. Some actors receive more protection at the expense of others, with some groups being largely disregarded (e.g. Roma) and others (e.g. war veterans and their families) benefiting from a privileged status. The deep politicization of the civil service and the prevalence of the SOEs sector and weak governance structures provide a terrain favorable to clientelism and capture.

A. Fiscal sustainability

110. **The structure of public expenditure leaves limited fiscal space for productive investments and social spending, undermining efforts to boost sustainable, equitable growth.** Croatia's level of public expenditure offers significant scope for rationalization, including with respect to spending on subsidies, public wage bill and intermediate consumption which are significantly higher than most EU peers. Overall subsidies, mostly to railways, shipyards, and agriculture, have declined but remain well above the EU15 and EU10 average (**Table 2**). The public sector wage bill, at over 11 percent of GDP, is 2 percentage points of GDP higher than in EU10 and 1.2 percentage point of GDP higher than in EU15. At the 8.1 percent of GDP that Croatia allocates to current consumption, there is at least 2 percentage point space for further rationalization of these costs. High consumption expenditures reflect inefficient use of inputs (e.g., energy consumption, space renting) or higher unit prices resulting from insufficiently competitive public procurement. After years of excessive growth of capital spending on highways before the crisis, capital expenditures are on par with EU15, but below the EU10 comparators.

111. **The informal economy plays an important role in income generation and welfare dynamics, but also impairs fiscal sustainability by depriving the government of tax revenues.** The shadow economy was estimated to account for 27.7 percent of GDP in 2015, and welfare measurement based on consumption instead of income points towards additional household income from non-wage (and undocumented) labor income.[101] Moreover, it is plausible that official employment rates are downward biased, as households are engaged in undeclared work instead of participating in the formal labor market. Given the small contribution of the agriculture sector to employment, informal work is most likely concentrated in the service sector (in particular, tourism). The large informal sector also reduces workers' eligibility for social security payments, potentially creating a large pool of retirees that will require support from other sources.

112. **The Government's program includes important and long overdue structural measures to underpin fiscal consolidation efforts and reinvigorate growth.** Key measures include the adoption of new fiscal responsibility measures, improvements in budget planning, strengthening of public debt

[98] EBRD Life in Transition III in 2016.

[99] Global Entrepreneurship Monitor for Croatia in 2016, accessed at gemconsortium.org

[100] Radical Egalitarism covers seven dimensions: finite good perspective, redistributive ethic, norm of egalitarian distribution, anti-entrepreneurial obsession, anti-professionalism, intellectual levelling and anti-intellectualism (Cf. Buric, I. and A. Stulhofer (2016)).

[101] Schneider (2015).

management, tax policy measures, improving the business environment, fostering competition in regulated professions, reducing the footprint of the SOEs and improving their governance, and reforming public administration.

Table 2: General Government Expenditures by Economic Classification, Percent of GDP

	EU15		EU10		Croatia	
	2009-16	2016	2009-16	2016	2009-16	2016
Total Revenues	**44.7**	**45.2**	**38.5**	**38.1**	**42.6**	**46.3**
Direct taxes	12.9	13.2	6.7	7.0	6.5	6.6
Indirect taxes	13.0	13.3	13.2	13.3	18.2	19.4
Social contributions	13.5	13.5	12.1	12.6	11.7	11.7
Sales	3.1	3.1	2.8	2.8	3.6	4.3
Other current revenue	2.2	2.1	3.6	2.4	2.6	4.3
Total Expenditures	**48.8**	**47.6**	**42.3**	**39.8**	**47.6**	**47.2**
Current Expenditures	44.1	43.0	37.2	36.4	42.2	42.6
Consumption	*6.0*	*5.8*	*6.1*	*5.8*	*7.7*	*8.2*
Wage bill	*10.4*	*10.0*	*9.8*	*9.7*	*11.8*	*11.4*
Interest	*2.5*	*2.1*	*2.6*	*2.5*	*3.0*	*3.2*
Subsidies	*1.3*	*1.4*	*1.0*	*0.9*	*2.1*	*1.5*
Social benefits	*21.5*	*21.5*	*15.6*	*15.4*	*16.3*	*16.0*
Current transfers	*2.3*	*2.2*	*2.1*	*2.1*	*1.4*	*2.3*
Capital Expenditures	4.7	4.6	5.1	3.5	5.4	4.6
Capital transfers	*1.7*	*2.0*	*0.6*	*0.3*	*1.6*	*1.4*
Investments	*3.0*	*2.6*	*4.5*	*3.2*	*3.8*	*3.2*
Deficit	**-4.1**	**-1.7**	**-3.8**	**-1.8**	**-5.0**	**-0.9**
Gross GG Debt	**87.0**	**90.4**	**48.3**	**50.2**	**72.3**	**82.9**

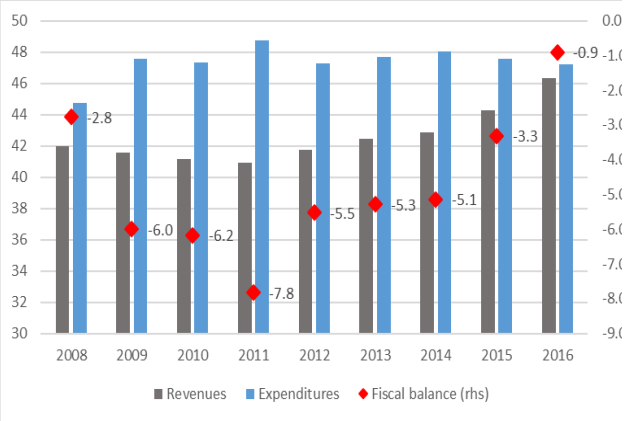
Source: Eurostat.

113. **Croatia's medium term fiscal sustainability risk remains substantial due to the high level of public debt and exposure to foreign exchange risks.** Croatia entered the crisis with large fiscal deficits (around 4 percent of GDP on average for 2004-2009) and limited fiscal space. The combination of revenue shortfalls and spending rigidities further increased the deficit during the crisis (**Figure 62**). This, together with off-budget transactions related to rising borrowing from SOEs and execution of government guarantees, led to a near-doubling of public debt compared to the 2008 level, peaking at 85.8 percent in 2014 (**Figure 63**). The bulk of the debt accumulated during the crisis was denominated in euros (either issued abroad or issued domestically in, or indexed to, the euro), resulting in high foreign exchange risks. However, currency risk exposure is mitigated by the tightly managed float of the kuna's exchange rate against the euro. The reduction of the fiscal deficit and increase in GDP with the economic recovery have reduced the debt-to-GDP ratio, which is projected to decline to below 80 percent in 2018. Nevertheless, this ratio would remain well above the 60 percent statutory ceiling, with interest rate payments around 3 percent of GDP, significantly higher than in EU10 countries.

114. **Currency risk exposure is mitigated by Croatia's monetary policy which continues to hinge on exchange rate stability as an anchor for inflation expectations and financial stability.** Given the high level of euroization, the small size and open economy, the dependency on imports, and the high level of foreign-currency debt, there is no viable alternative to the current quasi-peg to the Euro. Authorities'

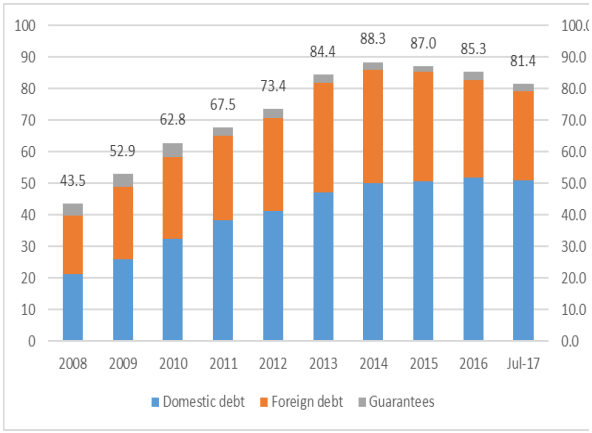
efforts to de-euroize the economy, including through measures to increase the attractiveness of savings in domestic currency, have had limited impact as deposit euroization remains deeply entrenched against the background of past episodes of monetary instability. Croatian authorities are discussing a strategy to adopt the Euro in the medium term. The 2008 crisis has shown, however, that fulfilling the Eurozone nominal convergence criteria does not ensure sustainable economic performance and that additional emphasis is required on enhancing competitiveness and building institutional capacities for sustained convergence.

Figure 62. The fiscal deficit remained high after the crisis
(Percent of GDP)



Source: WB staff calculations using MoF, Eurostat, CNB data.

Figure 63. Public debt increased after the crisis
(Percent of GDP)



Source: WB staff calculations using MoF, Eurostat, CNB data.

115. **Public debt financing needs are large and Croatia continues to face costly financing terms, albeit those have improved significantly over the last couple of years.** Financing needs are estimated at 14 percent of GDP for 2017, equivalent to about a third of general government revenues. Credit rating agencies downgraded Croatia's sovereign credit rating below investment grade in 2013, although the exit from the EU Excessive Deficit Procedure in 2017 prompted a revision of Croatia's long-term foreign currency outlook to stable from negative. Croatia still does not borrow very long-term in sovereign bond markets (mostly 5-10 years), albeit a recent bond issued at the end of 2017 has a maturity of 12 years. Medium-term bonds premium over the German bund has been declining since mid-2017, albeit, at about 220 basis points in January 2018, it continues to exceed that of some EU countries with significant fiscal challenges, indicating the precariousness of Croatia's sovereign borrowing conditions. Finally, the interest rate on Croatia's sovereign debt exceeds its medium-term growth rate under reasonable scenario, evidencing debt sustainability concerns. High financing needs and exposure of its sovereign debt to foreign exchange risks call for a strengthening of the debt management framework. Government has recently adopted debt management strategy focusing on Treasury needs and significant progress had been made on the financial restructuring of the road sector which has contributed significantly to the build-up of debt in the past.

116. **The long-term fiscal sustainability risks appear moderate, but policy assumptions underlying the forecast are critical.** Assuming unchanged policies, the current fiscal and debt imbalances and the projected increase in healthcare costs would be offset by the projected decrease in pension spending. While the introduction of a multi-pillar regime has significantly improved the long-term sustainability of the pension system, this reform has also reduced the adequacy of replacement rates, which are among

the lowest in the European Union. This situation is likely to raise pressures for policy reversals to increase the adequacy of pensions in the future.

117. **The sustainability of public infrastructure also raises concerns.** Croatia made large infrastructure investments during the 2000s in response to the need for a visible integration of Croatian territory after independence, efforts to spur industrial growth and tourism, and the desire to integrate into the broader European network. While the bulk of public infrastructure was devoted to roads, significant investments were also launched for the main passenger and commercial ports, and the Zagreb international airport was concessioned out to a private consortium. This impetus to develop public infrastructure, often led to over-investment, with design based on very high standards which will result in high maintenance costs as the infrastructure ages. The situation is compounded by weak corporate governance, low profitability, and high indebtedness of infrastructure SOEs. The road sector, in particular, faces high debt stock relative to earnings, which result in ratios of debt to cash flow available for debt service significantly exceed industry averages. The companies have limited access to long term financing, leading to a mismatch between short debt tenor and the long life of road assets. They also face large currency risks, with the bulk of the debt denominated in euros. Measures are needed to adjust the level of service to correspond to demand, and reestablish operational efficiency and sustainability.

118. **Croatia needs to enhance the efficiency and growth impact of public infrastructure funds, including the projected large inflow of EU funds.** Key needed measures include strengthening of PIM planning, contracting, and implementation capacities, along with better strategic planning and a medium-term budgeting framework. Dispersion of public investment across various levels of government and SOEs, along with the absence of harmonized procedures, pose additional challenges in terms of coordination, rationalization and effectiveness of investment decisions. Improved congruency between national priorities and EU Cohesion Policy priorities is also needed. These measures are critical to support a more effective absorption of EU Structural and Investments Funds (ESIF). Croatia was relatively effective at absorbing EU funds in the pre-accession phase,[102] but a much greater volume of funds will be available for the period 2014-2020 (about EUR 10 billion, equivalent to 3.4 percent of GDP per year). Absorbing these funds efficiently will require significant improvements, as expenditures of grant funds was well below the budgeted level in 2014-2016.

B. Social sustainability

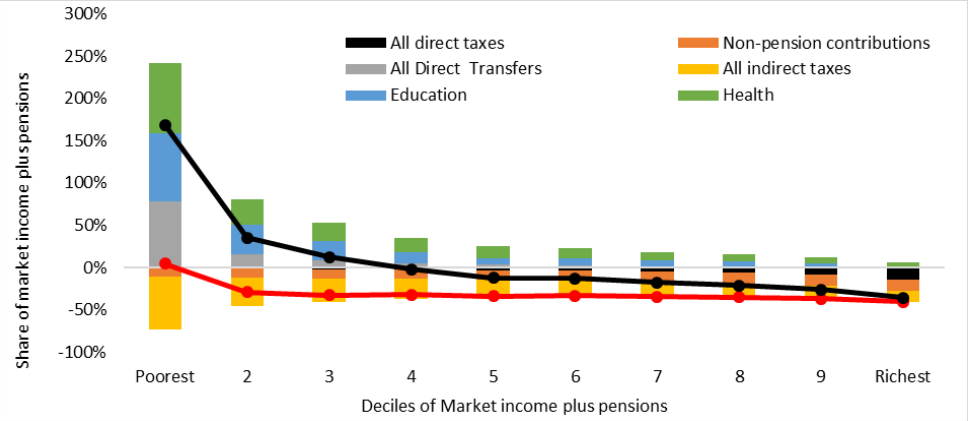
119. **Overall, Croatia's social system is progressive and supports social cohesion, albeit fiscal sustainability risks and demographic challenges could jeopardize the sustainability of current social contract.** The combined effect of taxes and social spending reduce inequality in Croatia. Prior to any fiscal intervention, market income inequality has a Gini of 0.383. Once direct taxes, social security contributions and non-contributory transfers are accounted for, disposable income inequality falls to a Gini of 0.325. Indirect taxes are unequalizing, as the Gini increases for consumable income to 0.355, which includes the impact of VAT, excise taxes, and other indirect taxes. In-kind transfers in the form of education and health reduce inequality. The overall reduction in inequality was equivalent to 0.090 Gini points from market income to final income when old-age pensions are counted as deferred income, but as much as 0.222 Gini points when pensions are treated as transfers.[103]

[102] For the period 2007-2013, about 92 percent of the ESIF allocated grants were disbursed.

[103] Findings from a fiscal incidence analysis carried out by the World Bank suggest that inequality has declined as a result of the most recent fiscal policy, and further evaluates expected changes resulting from the 2017 tax reform. See Inchauste and Rubil (2017). The Distributional Impact of Taxes and Social Spending in Croatia. Washington, DC: Policy Research Working Paper 8203 (September 2017).

120. **Most components of the system are progressive.** The bottom 10 percent of the distribution were net receivers of social benefits in 2014 (**Figure 64**). However, in cash terms, households beginning in the second decile were net payers to the treasury, as the share of taxes paid exceeded the cash benefits received for all but the poorest 10 percent of the population.

Figure 64. Taxes exceeded cash benefits for all but the poorest 10 percent (percent, 2014)



Note: The Net Cash position of the household is measured as the difference between consumable and market income plus pensions, and is equivalent to all the cash transfers to households minus all taxes.
Source: WB staff calculations using PIS and HBS data (2014).

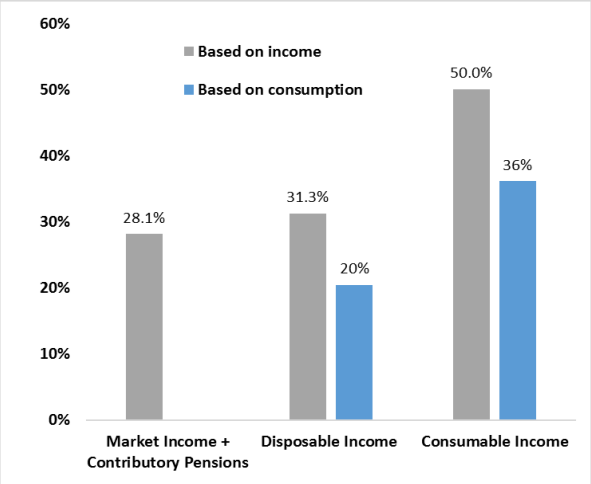
121. **Still, it is disturbing that the combination of taxes and social spending increased poverty in 2014.** The share of the population whose income (including pensions) was below US$10 (in PPP terms) a day was 28 percent. As direct and indirect taxes are larger than the direct benefits received from transfers, the share of the population whose consumable income is below US$ 10 a day increases to 50 percent. Most of the increase in poverty is due to indirect taxes. Even for extreme levels of poverty (such as those captured by the US$2.50-a-day poverty line), social transfers are insufficient to mitigate the burden of taxes so that the level of extreme poverty after taxes and transfers is higher than before taxes and transfers are considered. The poverty gap and the severity of poverty decline for all poverty lines when going from market to disposable income, but once indirect taxes are incorporated into the analysis, this effect is reversed.

122. **General expenditures on health and education are progressive.** The amount of government spending on education is higher as a share of income at the bottom of the distribution than for those at the top. However, the impact across educational categories varies, with primary education being the most redistributive. Although 50 percent of all spending on secondary education is devoted to the poorest 40 percent, 52 percent of pre-primary and 61 percent of tertiary education spending is devoted to the top 60 percent. Overall, health and education spending is equally distributed across the population in absolute terms, but makes up a larger share of the incomes of the bottom of the distribution.

123. **The health care sector faces significant challenges in providing health services for better health outcomes while meeting the shifting demand of an aging population.** Croatia enjoys relatively good and improving health outcomes, and life expectancy and infant mortality indicators are better than EU peers with similar income levels. Chronic and non-communicable diseases dominate the burden of disease (see above) and are projected to increase with population aging. The proportion of health expenditure on long term care is only 3 percent, one of the lowest in the EU. Croatia's hospital-centric health system and

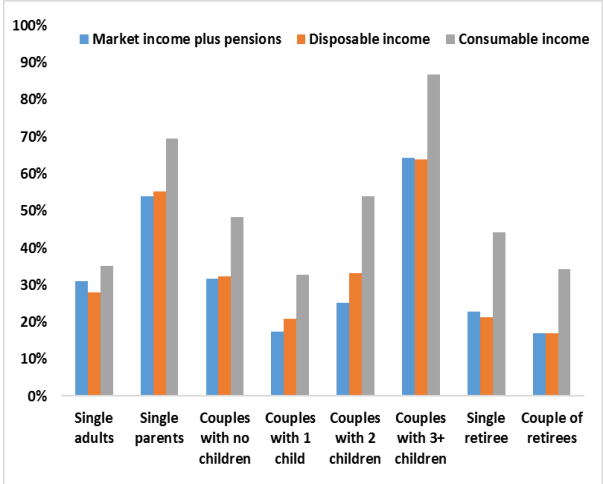
services delivery network carries inefficiencies and inflates the costs of the health system, as the average length of stay in hospital for a normal delivery is 5 days, compared with 3 days for EU average.

Figure 65. Taxes and benefits, on net, increased poverty
(Poverty headcount rate, US$10 PPP a day, 2014)



Source: WB staff calculations using PIS and HBS data (2014).

Figure 66. Taxes and benefits, on net, increased poverty in all household types
(Poverty headcount rate, US$10 PPP a day, 2014)



Note: Measured using income. *Source:* WB staff calculations using PIS and HBS data (2014).

124. **With an aging population and new technologies in the health sector, an upward pressure on health spending challenges the current system of private and public health financing.** At 6.7 percent of GDP in 2015, health spending remains below the EU average, although the share of medical goods and pharmaceuticals in total health expenditures is significantly higher than EU average.[104] Health sector arrears, mainly related to hospital organizational structure, are a major source of concern. The mandatory health insurance, with employee contribution accounting for 15 percent of payroll, is coming under additional pressure as labor force participation rates remain low and demographic change further reduces the number of contributors. Also, more than 40 percent of the insured are exempted from contribution, and the state covers them nominally, which jeopardizes the financial sustainability of the health system and the fiscal sustainability of government budget.

125. **These challenges to social sustainability are compounded by an aging population and large emigration flows.** Croatia is aging rapidly. Between 1990 and 2008, the elderly dependency ratio (the ratio of the number of people aged 65 and over to the number of people aged 15 to 64) rose from 17 percent in 1990 to almost 26 percent in 2008. This ratio is projected to rise to 41 percent by 2050, and the ratio of those aged 80 and over to those aged 15 to 64 will double. Over the same time horizon, the working age population, aged 15 to 64, will decline by 30 percent. The emigration of young and skilled labor has reduced the size of the labor force and productivity, adversely affecting growth. In the absence of skilled emigration from 1995 to 2012, real labor productivity growth and per capita income would have been 10 percentage points higher.[105] In addition to reducing the productivity of workers left behind and increasing pressure on public finances, the emigration of young and skilled workers–more likely to be agents of change–also lowers the pressures for improved quality of institutions.

[104] European Commission (2017).
[105] IMF (2016a).

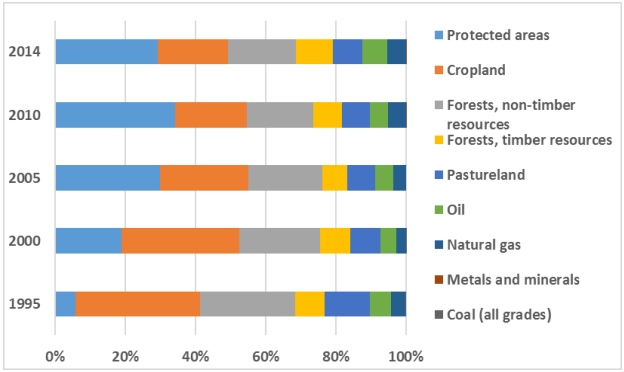
126. **The geography of the country and continued urbanization exacerbate the impact of the demographic transition and challenge the current model of public services and goods provision.** The decline of the population and high transportation costs due to large distances (especially for islands in the Adriatic) increase the cost of providing health services. Especially in rural areas, Croatia has only limited coverage of institutional elderly care, which is reducing labor market participation rates of women. In addition, the maintenance of public infrastructure becomes more expensive as the number of users decreases.

C. Environmental Sustainability

127. **Croatia's principal environmental sustainability challenges relate to ensuring the preservation of natural capital.** Natural capital, comprised mainly of protected areas, coastal and marine assets, forest land and agricultural crop land, is an important contributor to total wealth in Croatia, with the share of protected areas increasing over time (**Figure 67**).[106] Natural capital is important source of income for the bottom 40 percent, as farmers and the forest-dependent rely on ecosystem services that flow from land and forest resources. The EU calls for ensuring the effective protection and restoration of Croatia's natural capital, especially under the Natura 2000 network, in order to maximize the potential benefits derived from ecosystem services, for example green tourism and other sustainable activities.

128. **Natural capital contributes significantly to the economy, and its share is growing**. The importance of natural capital to the economy is reflected through economic activity in several sectors, with one of the most important being tourism. The direct contribution of tourism to GDP was 10.7 percent in 2016 (US$5.4 billion), and is forecasted to rise by 7.5 percent in 2017 and grow 4.1 percent annually from 2017-2027.[107] Including indirect income effects, its contribution to GDP rose to over 25 percent in 2016 and is projected to rise to 32 percent by 2027. Tourism directly employs over 138,000 people (about 10 percent of total employment) and contributes indirectly to over 321,000 jobs (close to a quarter of total employment). Tourism growth is concentrated in specific counties and national parks. The number of tourist arrivals to Croatia increased from just over 9 million in 2006 to more than 15 million in 2016. This growth has been most acute in the national parks in Croatia, particularly Kornati and Krka which recorded a greater than 150 percent increase from 2011 to 2016. Tourist arrivals in Mljet, Plitvice lakes, Brijuni, and Paklenica national parks also grew more than 10 percent over this period.

Figure 67. The share of protected areas in natural capital has risen since 1995 (percent, 1995-2014)



Source: WB staff calculations using Measures of Comprehensive Wealth, 2016.

[106] The total wealth of an economy is defined as the sum of produced capital, human capital and natural capital (plus net foreign assets). Natural capital is measured in this context as the monetary value of subsoil assets (10 minerals, 4 energy resources), agricultural land (crop and pasture), forest land (timber, Non-Wood Forest Products (NTFPs) and other services), and protected areas. For a detailed discussion of the valuation methodology see: *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium* (World Bank, 2011). Available at: https://siteresources.worldbank.org/ENVIRONMENT/Resources/ChangingWealthNations.pdf.

[107] World Travel and Tourism Council (2017). Travel & Tourism Economic Impact 2017: Croatia. Available at: https://www.wttc.org/-/media/files/reports/economic-impact-research/countries-2017/croatia2017.pdf.

129. **The benefits from tourism and increased population density in natural asset rich areas need to be balanced with the ecosystem's carrying capacity.** Tourism growth to the major national parks has been increasing in recent years, and the carrying capacity of the parks needs to be strengthened. The seasonality of tourism tends to place increased pressure on local resources during particular times. In addition to the increase in tourism pressure, internal population growth and/or migration to areas that have greater economic benefits (i.e. protected areas) is placing additional pressure on local resources. Population growth is greater in districts with a higher concentration of protected areas, and the concentration of protected areas is correlated with lower poverty rates (**Figure 68**), which suggests that tourism in protected areas may be driving these trends. While it is encouraging that tourism and migration into districts with more protected areas may be contributing to poverty reduction, unmanaged population growth can result in pressures on the environment and landscapes outside of protected areas. Opportunities for further integration of the tourism sector with sectors of the local economy, especially the agricultural sector, remain largely untapped. This potential remains hampered by institutional sclerosis, ineffective land markets, small farm size, decrepit agricultural extension services, and an aging farmer population.

130. **The Government is committed to the sustainable development and protection of these assets in line with EU environment policy, although implementation challenges remain.** One of the key challenges in implementing EU environmental policy is completing the designation of Natura 2000 sites (marine sites of community interest (SCIs), special protection areas (SPAs) and special areas of conservation (SACs)), and ensuring their effective management.[108] Croatia's Natura 2000 network covers 36.5 percent of the country's land area (the 2nd largest network in the EU in relation to marine site area) and a significant marine area (4,986 square kilometers). The terrestrial part of the network is nearly finalized, but marine areas still require a substantial amount of work.

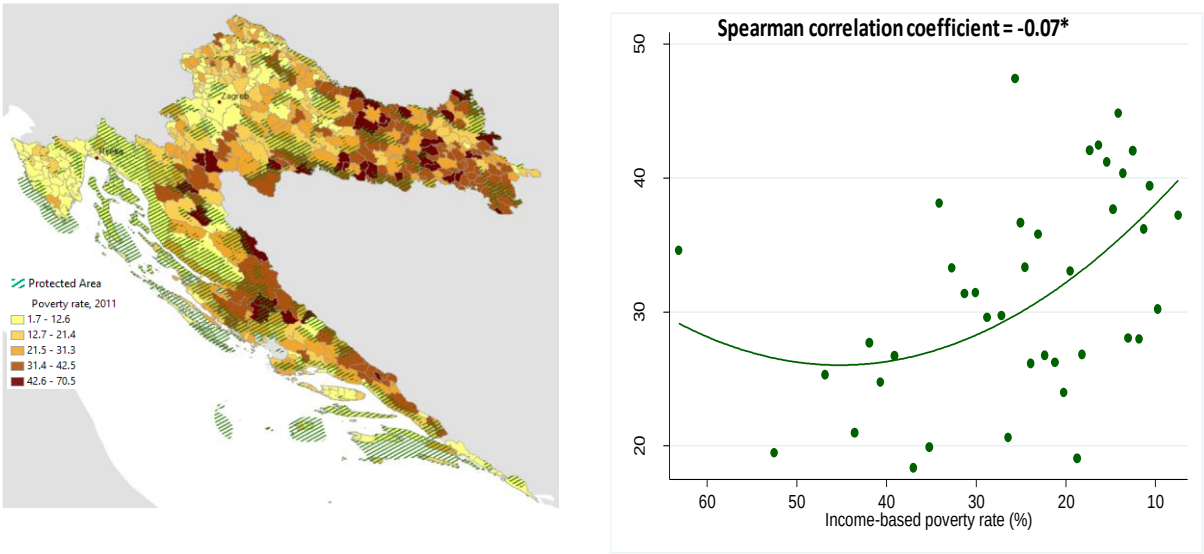
131. **Croatia also faces environmental sustainability challenges with respect to wastewater pollution and waste management.** Croatia needs to increase the recycling of municipal waste in order to meet the EU recycling target by 2020 (50 percent), and facilitate the transition to a more circular economy together with the improvement of resource efficiency and eco-innovation. At the national level, 18 percent of municipal waste is being recycled, while in the largest cities such as Zagreb and Split recycling is below 3 percent. Eighty-three percent of municipal waste is placed in landfills, while the EU average in 2014 was 28 percent. Waste management is also affecting the aesthetic and water quality values of marine areas. The key risk to marine environment comes from hotels on the coast discharging sewage into the sea. The increase in cruise tourism poses a lesser risk to marine environment as waste is generally collected and handed over to sewage system operators in ports. In addition, Croatia faces challenges related to delays in the construction of new waste management centers, which were expected to be completed before the closing of unsanitary illegal landfills scheduled for end 2018. These are now unlikely to become functional before 2023. This implies that temporary solutions need to be found, i.e. new cells need to be constructed for this gap period on a few of the unsanitary landfills. These activities cannot be financed from EU funds. The new cells would be partially used later on, upon establishment of sanitary waste management centers in remediation of these unsanitary landfills.

132. **Similarly to other countries in South Eastern and Central Europe, Croatia is exposed to a range of natural hazards, particularly floods, wildfires, earthquakes, extreme temperatures, strong winds, and drought.** Climate change exacerbates the threat of hydro-meteorological hazards, with about 15 percent of the territory estimated to be flood-prone (mainly within the Danube drainage basin). The agriculture and tourism sectors–representing close to quarter of GDP–would be the sectors most

[108] The EU Environmental Implementation Review Country Report – CROATIA. Available at: http://ec.europa.eu/environment/eir/pdf/report_hr_en.pdf.

affected by climate change and occurrence of extreme weather events. The poorest households are concentrated in the flood-prone areas and are thus disproportionately at risk. Climate change adaptation strategies are being prepared, concentrating on agriculture, coastal protection and biodiversity, and coastal zone management.

Figure 68. Concentration of protected areas is associated with lower poverty, 2011



Source: WB staff calculations.

133. **Croatia's renewable energy performance is solid, and the high share of hydropower in its energy mix will provide storage potential for the further penetration of wind and solar.** In per capita terms, Croatia already uses a third less energy than EU average. Yet, the energy intensity of the economy (measured in terms of energy use as share of GDP) is 61 percent higher than the EU average. This indicates higher costs per unit of production faced by entrepreneurs, and an untapped room for scaling-up energy efficiency on both supply and demand sides. Without such investments, the costs of Croatia's energy intensity will continue to be a drag on Croatia's private sector competitiveness and the country's overall sustainable growth prospects.

5. PRIORITY AREAS FOR POLICY CHANGE

134. **A comprehensive reform program is essential to raise income levels, support the sustainability of the economic and social system, and resume convergence towards EU living standards.** Without profound change to policies and institutions to boost productivity growth, Croatia could experience a prolonged economic stagnation or decline and a deterioration of social conditions. The need for accelerating structural reforms is compounded by the limited degrees of freedom for independent monetary policy intervention to help absorb external shocks and changes in its competitive position (due to the high level of euroization and which will be exacerbated by the euro adoption). Government's objective to adopt the Euro in the next 7 to 8 years offers an opportunity to accelerate the structural reform agenda and, beyond the macro-fiscal convergence criteria, strengthen Croatia's institutional capacities and address domestic competitiveness constraints and achieve resilient convergence.

135. **Time is pressing as rapid technological change is boosting productivity and increasing the returns to skills in more successful and sophisticated economies.** The longer the delay in addressing

constraints to a flexible and efficient allocation of factors and products, enabling economic agents to participate effectively in innovation-led productivity growth, the more difficult it will be to catch up. Emigration could accelerate as the most qualified workers take advantage of their free access to richer and faster-growing economies elsewhere in the EU. Dissatisfaction with limited economic prospects and continued barriers to social mobility could increase political and social tensions.

136. **The profound reform program will require careful timing and sequencing and the establishment of a broad national consensus.** Commitment and credibility mechanisms that allow the survival of the reform process beyond the political cycle will be necessary for implementation. Improved effectiveness of policy and institutional reforms require, in addition to identifying technical aspects of the reform, further efforts to enable credible commitment, induce coordination, and enhance cooperation, while understanding the nature of power asymmetries at play, and identifying key entry points and stakeholders for implementation.

137. **Transforming the role of the State to set the right incentives for individuals and enterprises to be productive and prosper, while guaranteeing the long-term sustainability of its distributive goals, is the cornerstone of the reform agenda.** Building 'efficiency-enhancing' institutions will require changing how the government delivers for public services and how it intervenes and regulates the capital, product and labor markets. The key priority reform areas can be articulated around the following three objectives: (A) Enabling the emergence of a dynamic enterprise sector; (B) Enhancing the sustainability and performance of the public sector; (C) Boosting participation and contribution of individuals to economic and social development. Priorities identified under each objective are presented below. They were retained based on the analysis presented in previous chapters and their critical role to allow Croatia to resume and sustain convergence towards living standards in the European Union. **Table 3** details expected impact, sequencing and complementarities.

A. Enabling the emergence of a dynamic enterprise sector

138. **Foster a more competitive business environment.** Weak competition, a cumbersome business environment, and the large footprint of the state in commercial activities, are hampering efficient resource allocation and diverting resources from more productive and efficient firms. Croatia needs to create the right incentives for firms to invest productively, adopt new technologies and innovate, competing for their survival in the market place. Together with its population, Croatia's productive structure is aging due to insufficient entry of new firms and inefficient exit. Such sclerotic productive structure is closely related to the difficulties of diversifying its economy and depend less on the tourism sector. Enhancing the 'creative destruction process' in Croatia will improve total factor productivity and thereby the country's prospects to social and economic convergence to EU standards. Specific measures emerging from the analysis include: further deregulate professional services; complete pending business environment reforms, notably with respect to the various businesses, cadaster, and land registries; continue efforts to unwind banking sector non-performing loans and support deeper financial intermediation including through non-banking institutions and instruments; and pursue efforts to divest non-strategic SOEs and reduce the footprint of the State in the real sector.

139. **Boost justice system performance.** The poorly-functioning justice system in Croatia is one of the key challenge faced by businesses operations, increases risks, constrains private sector investment and limits inclusive growth. To improve efficiency and quality, the judiciary needs a more rigorous performance measurement system that drives improvements and encourages and rewards excellence, at the national level, at the individual court level, and at the individual judge and state attorney level. Specific measures under this priority include: increase modernization and automation of services to

enhance efficiency, access, and transparency; transfer non-core services to administrative entities; and equalize caseloads by transferring and redistributing cases between courts.

140. **Unleash firm innovative capabilities.** Croatia's innovation ecosystem needs to be strengthened to support and encourage the enterprise sector to invest further in research and development activities and develop firm capabilities. Reducing fragmentation, improving funding mechanisms, and strengthening coordination of the public research sector would promote excellence and linkages with the business sector and enable the emergence a dynamic enterprise sector. Specific measures would include: rethink the approach to public spending for Science, Technology and Innovation; build capacity to manage research and innovation policy; and facilitate new approaches to SME and entrepreneurship financing.

B. Boosting participation and contribution of individuals to economic and social development

141. **Improve skills of the workforce.** Skill gaps across the life cycle are strongly correlated with lower wages and incomes for individuals in the bottom of the income distribution. The delayed curriculum reform contributes to poor performance among students and skill mismatch in the labor market which dampens labor productivity and depresses wage growth. Croatia also has and one of the lowest shares of the population with tertiary education in the EU. Parental background shapes educational outcomes among children, which reduces intergenerational mobility and deepens the persistence and complexity of poverty and vulnerability. The lack of formal childcare and limited access to early childhood education impairs skills and labor market outcomes later in life. Key measures under this priority could include: develop demand-supporting measures for early childhood development and expand network; finalize and implement curriculum reforms for pre-tertiary education; and introduce occupational and vocational standards for Technical and Vocational Education and Training.

142. **Foster labor market participation.** Inclusive growth depends on improving incentives to participate in the labor market and facilitating access to labor market opportunities. Among low-income households, the high marginal tax rate creates barriers for higher labor market participation because a large number of categorical transfers are linked to the labor market status of individuals. In addition, female participation is depressed through the lack of formal care institutions for children and elderly. Policies to help workers reconcile the demands of work and family would enable a larger number of women to enter the labor market. A reform of the Labor Law, especially of the termination of regular contracts, could reduce rigidities and barriers for job creation. Large disparities in living conditions across counties reflect diverging trends in economic performance. Frictions, including those generated by the structure of the domestic housing market, weaken internal economic mobility such that high regional unemployment rates persist, especially in the eastern part of Croatia. Examples of measures to support this priority could include: widen availability of pre-school education and long-term health care; decrease the marginal effective tax rate among low-wage earners (tax and benefits); improve services for long-term unemployed and other hard-to-employ groups (coordination social assistance and employment offices).

143. **Ensure productive aging through lifelong learning, healthy aging and promotion of longer working lives.** Early exit from the labor market, low participation rates in lifelong learning and health problems from high prevalence of non-communicable diseases reduce labor income for a quickly aging population and decrease pension payments. Low employment rates and high unemployment rates have reduced contribution periods to the pension system which translate into increasing risks of old-age poverty and vulnerability, especially among women who face an earlier mandatory retirement age than men and are more likely to have gaps in employment throughout their lifetime. The lack of lifelong learning programs in combination with periods of high unemployment rates disadvantages older

employers who often leave the labor market due to low penalties for early retirement. As demographic change further increases life expectancy and the share of the population above 55 years of age, inclusive growth will require productive and healthy aging to facilitate integration of the elderly into the labor market. Examples of measures identified in the analysis to support this priority include: reconfigure health delivery system and reform service delivery model to adapt to ageing population burdened by NCDs; tighten and phase out early retirement, and rationalize the categories of privileged pensions, and accelerating the convergence of privileged pensions to general rules; and support lifelong learning through re-skilling.

C. Enhancing the performance of the public sector

144. **Pursue efforts to reduce fiscal and debt vulnerabilities.** While Croatia has exited the Excessive Deficit Procedure of the EU in 2017, significant fiscal and debt sustainability issues remain. The current spending structure leaves limited fiscal space for productive investments and social spending, undermining efforts to boost sustainable equitable growth. Croatia's level of public expenditure offers significant scope for rationalization, including with respect to expenditures on subsidies, public wages and public consumption, which are significantly higher than most EU peers. Sector specific vulnerabilities (e.g. arrears in the health sector, or situation in the road sector) also need to be tackled. Specific measures supporting this priority include: improve budget planning of central and local governments, including with respect to the public investment policy; improve SOE corporate governance regulatory framework and practices; address low profitability and high indebtness of infrastructure SOEs and reestablish their operational efficiency and sustainability.

145. **Improve quality and efficiency of public administration.** The public administration reform is at the core of the policy reform agenda and epitomizes the daunting challenges imposed, at all levels of government, by threats to fiscal sustainability and increasing demands from the population arising from EU membership. Reforms are needed to address rigid organizational structures, overlapping functions, politicization of civil service, poor coordination, unclear accountability lines, and fragmented and unsustainable subnational government structures. Further investments into monitoring and evaluation of government programs would be key to ensure a better design of evidence based policies and strengthen the effectiveness of policy actions. Examples of measures supporting this priority include: professionalization of managerial cadre and the introduction of performance based management practices; review functions across public administration and identify measures to rationalizes ministerial structures, agencies and local governments; and strengthen institutional capacity for monitoring, policy design, service delivery, financing and management.

Ensure preservation of natural capital. Croatia's key environmental sustainability challenges relate to the preservation of its rich natural capital, which is a major contributing factor to economic growth, notably in the tourism and agricultural sectors. Examples of measures to support this priority include: pursuing the implementation of the Natura 2000 sites plan; supporting climate-smart agriculture, strengthening waste management policies and capabilities, notably at the municipal level, to meet EU recycling targets and transition towards a more circular economy; reforming incentives system to enhance municipal-level cooperation on network services, leveraging resources for sustainable waste management.

Table 3: Selected Priorities

A. Enabling the emergence of a dynamic enterprise sector						
	Priority	**Example Actions**	**Expected Impact**	**Time Horizon**	**Trade-offs and Complementarities**	**Evidence Base**
1	Foster a more competitive environment including through enhanced regulatory environment and reduced footprint of the State in the real sector	• Deregulate professional services • Pursue reforms on businesses, cadaster and land registries • Facilitate resolution of NPLs and support deeper financial intermediation including through non-banking institutions and instruments • Pursue the divestment of non-strategic SOEs	• Higher growth due to more efficient resources allocations and additional investment • More private sector job creation	Short to medium term	• Reduced SOE footprint could result in disruption of vested interests and adverse social impact • Complements efforts to unleash firm innovative capabilities	Strong
2	Boost justice system performance	• Increase modernization and automation of services to enhance efficiency, access, and transparency • Transfer of non-core service to administrative entities • Equalize caseloads by transferring cases based on comprehensive analysis	• Higher growth due to more efficient resources allocations (including firm exit) and additional investment • More private sector job creation	Medium to long term	• Key component of broad business environment	Strong
3	Unleash firm innovative capabilities	• Rethink the approach to public spending for Science, Technology and Innovation • Build capacity to manage research and innovation policy (design, implementation, monitoring and evaluation) • Facilitate new approaches to SME and entrepreneurship financing	• Increase spending in R&D and foster entrepreneurship. • Improve links between research centers/universities and specific industries to improve financing of research and potential product innovation • Enhanced complexity of export basket	Short to medium term	• Complements more competitive environment	Strong

B. Boosting participation and contribution of individuals to economic and social development						
	Priority	**Example Actions**	**Expected Impact**	**Time Horizon**	**Trade-offs and Complementarities**	**Evidence Base**
4	Improve learning results and skills of the workforce, including by ensuring equal opportunities and improved quality and relevance of education provision	• Develop demand-supporting measures for early childhood development and expand network • Finalize and implement curriculum reforms for pre-tertiary education • Introduce occupational and vocational standards for Technical and Vocational Education and Training (TVET)	• Higher growth due to enhanced productivity. • Better inclusion of all individuals into the labor market with higher incomes for all households	Long term	• Strong complementarities with reforms on the firm side – otherwise risk of external migration and privatization of public investments into education	Strong
5	Foster labor market participation, by tackling disincentives and supporting availability of services	• Widen availability of pre-school education and long-term health care • Decrease the marginal effective tax rate among low-wage earners (tax and benefits) • Improve services for long-term unemployed and other hard-to-employ groups (coordination social assistance and employment offices)	• Higher growth due to better utilization of skills and talent; • Better inclusion through higher participation of all households. • Better inclusion of women into labor market	Medium term	• In the short term, possible adverse social impact from less protection. • Support policies/services would have a budget impact	Knowledge gaps remain
6	Ensure productive aging through healthy aging and promotion of longer working lives	• Reconfigure health delivery system and reform service delivery model to adapt to ageing population burdened by NCDs • Tighten and phase out early retirement, and rationalize the categories of privileged pensions, and accelerating convergence of privileged pensions to general rules • Support lifelong learning through re-skilling	• Higher growth (and tax revenues) due to increased availability of labor force; supports fiscal sustainability • Higher inclusion and social sustainability through higher adequacy of pensions and better inclusion of elderly	Medium to long term	• Unless firms create new jobs, higher labor supply leads towards increasing unemployment rates	Strong

C. Enhancing the performance of the public sector							
	Priority	• **Example Actions**	• **Expected Impact**	**Time Horizon**		**Trade-offs and Complementarities**	**Evidence Base**
7	Pursue efforts to reduce fiscal and debt vulnerabilities	• Improve budget planning, implementation and monitoring of central and local governments, including with respect to links with public investment policy • Improve SOE corporate governance regulatory framework and practices Address low profitability and high indebtedness of infrastructure SOEs and reestablish their operational efficiency and sustainability	• Ensuring sustainability of economic growth	Medium to long term	•	In the short term reduces fiscal space for government investment and consumption	Strong
8	Improve quality and efficiency of public administration	• Review functions across public administration and identify measures to rationalizes ministerial structures, agencies and local governments • Professionalize managerial cadres and the introduce performance based management practices • Strengthen strategic public investments policy, including with respect to planning, contracting, implementing and monitoring	• Higher growth due to additional investment • Better service provision support inclusion. • Enhanced social and economic returns on public investments • Increased efficiency and sustainability of investments, including with respect to EU Funds	Medium to long term	•	Threatens power asymmetries among elites	Knowledge gaps remain
9	Ensure the preservation of natural capital	• Pursue implementation of natural assets protection, including Natura 2000 sites • Strengthen waste management policies and capabilities, notably at the municipal level • Reform incentives system to enhance municipal-level cooperation on network services, leveraging resources for sustainable waste management	• Achieving a more circular economy • Transitioning to a resilient and sustainable economy	Long term	•	Supports long term sustainable development	Knowledge gaps remain

Box 4: Knowledge Gaps

Accession to the EU and the global economic crisis have greatly affected economic and social developments, such that critical knowledge becomes quickly outdated. The integration into the single market in combination with the freedom of movement within the European Union have boosted emigration to other EU member countries. There remain significant knowledge gaps regarding the impact on the domestic economy and the welfare implications of migration, including through remittances for households. Knowledge gaps also are a concern because they point towards deficits in the governance structure in the country and are a constraint to good policy design. The lack of micro data and subsequent analysis on learning outcomes for adults – Croatia did not participate in the most recent OECD PIAAC survey to assess adult skills – is closely linked to one of the priorities identified in this SCD, and limited agency endangers the identification and implementation of policy reforms which are crucial for inclusive economic growth.

By design, the SCD synthesizes existing knowledge to highlight key constraints to inclusive and sustainable economic growth. The document draws from a wide set of different sources and highlights knowledge gaps which require future attention to advance evidenced-based policy design in Croatia. Table 3 in the priority section points towards existing knowledge gaps in data collection or monitoring instruments which complicate the identification of policy actions which support future progress towards the World Bank twin goals. The following list provides examples on how the CPF could inform future knowledge work in the country.

- Informality of economic activity and its impact
- Effectiveness of the social protection in protecting poor and vulnerable households
- Determinants of regional disparities and associated policies to support inclusive growth
- Constraints to internal migration and its impact on long term growth and sustainability
- External migration and the role of remittances for household welfare
- Constraints to policy effectiveness
- Public administration reform
- Quality and cost of public services provision on the national and sub-national level
- Sustainability of infrastructure projects and investments

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