



WORLD BANK GROUP

FUTURE ARMENIA: CONNECT, COMPETE, PROSPER

A Systematic Country Diagnostic

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NOVEMBER, 2017

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ABBREVIATIONS AND ACRONYMS

ALMP	Active Labor-Market Program	LTGM	Long-Term Growth Model
AMD	Armenian dram	M&E	Monitoring and Evaluation
ARMEPS	Republic of Armenia Armenian e-Procurement System	MCB	Minimum Consumption Basket
BAU	Business As Usual	NCD	Non-Communicable Disease
BBP	Basic Benefit Package	NDC	Nationally Determined Contribution
CBA	Central Bank of Armenia	NRI	National Readiness Index
CIS	Commonwealth of Independent States	NSS	National Statistical Service
CIT	Company Income Tax	NSW	National Single Window
CPF	Country Partnership Framework	OECD	Organisation of Economic Cooperation and Development
CPIA	Country Policy and Institutional Assessment	OOP	Out-of-Pocket
DRM	Disaster Risk Management	PAYG	Pay-As-You-Go
EAEC	Eurasian Economic Community	PER	Public Expenditure Review
EAEU	Eurasian Economic Union	PFM	Public Financial Management
EBRD	European Bank for Reconstruction and Development	PM	Particulate Matter
ECA	Europe and Central Asia	PPP	Public-Private Partnership
ECE	Early Childhood Education	PPP	Purchasing Power Parity
ECHRO	Ethics Commission for High Ranking Officials	R&D	Research and Development
EEU	Eurasian Economic Union	SCD	Systematic Country Diagnostic
EIA	Environmental Impact Assessment	SCPEC	State Commission for the Protection of Economic Competition
EITI	Extractive Industries Transparency Initiative	SDG	Sustainable Development Goal
EU	European Union	SEA	State Employment Agency
FBP	Family Benefit Program	SME	Small and Medium-Sized Enterprises
FDI	Foreign Direct Investment	STEM	Science, Technology, Engineering and Mathematics
FSAP	Financial Sector Assessment Program	STEP	Skills Toward Employment and Productivity
GCI	Global Competitiveness Index	TFP	Total Factor Productivity
GDP	Gross Domestic Product	TIMSS	Trends in International Mathematics and Science Study
GFC	Global Financial Crisis	UNFCCC	United Nations Framework Convention on Climate Change
GPA	Government Procurement Agreement	VAT	Value-Added Tax
GVC	Global Value Chain	VET	Vocational Education and Training
ICT	Information and Communications Technology	WDI	World Development Indicators
IDA	International Development Association	WHO	World Health Organization
ILCS	Integrated Living Conditions Survey	WTO	World Trade Organization
IMF	International Monetary Fund		
IT	Information technology		
LPI	Logistics Performance Index		

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The report has been prepared under the overall guidance of Mercy Tembon (ECCSC Regional Country Director), Sylvie Bossoutrot (Country Manager), Laura Bailey (former Country Manager), Jan Van Bilsen (IFC Senior Manager), Maria Gonzalez-Miranda (Practice Manager, Macroeconomics and Fiscal Management Global Practice), Luis-Felipe Lopez-Calva (Practice Manager, Poverty and Equity Global Practice). The team would like to also thank Roumeen Islam (Economic Advisor), R. Sudarshan Canagarajah (Development Effectiveness Manager), Lire Ersado (Human Development Program leader), Sarah Michael (Sustainable Development Program Leader) and Ozan Sevimli (Senior Operation Officer) as well as the Systematic Country Diagnostic Central Support Team for their guidance.

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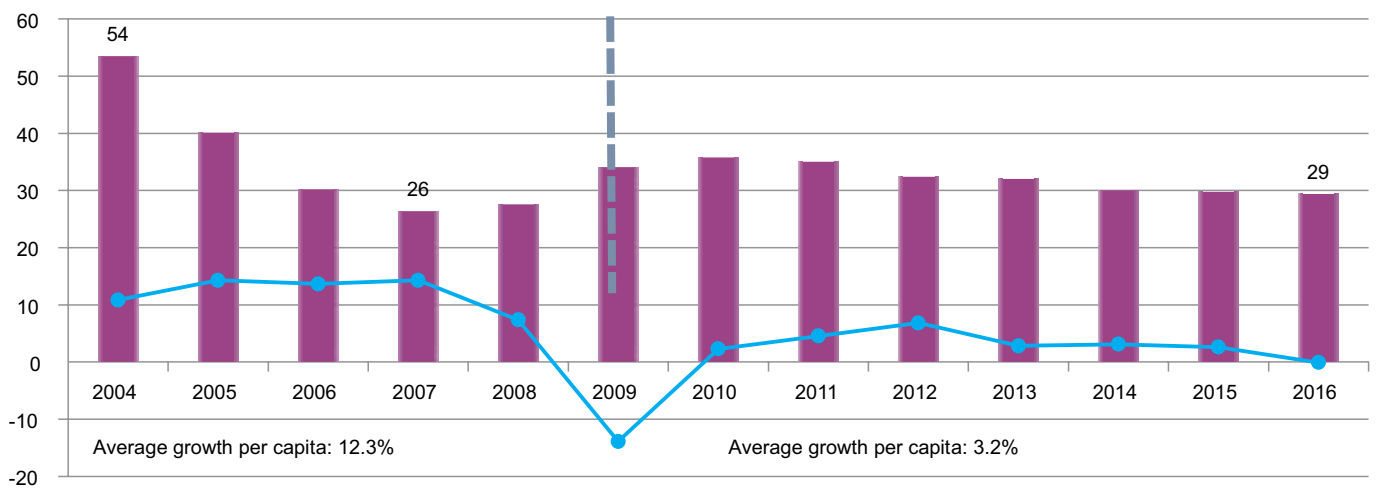
EXECUTIVE SUMMARY

Since its independence in 1991 and until prior to the global financial crisis (GFC) in 2008-09, Armenia was considered an important success story among the transition economies. Indeed, over several years, the country displayed a record of sustained macroeconomic achievements, reflected in high growth, economic stability, low inflation, and modest deficits and external debt, as well as falling poverty rates and shrinking income disparities. Sound macroeconomic performance was gradually anchored in a fiscal rule, an inflation-targeting regime, and financial deepening in the development of the banking sector. This performance was supported by a favorable external environment and early domestic reforms liberalizing the economy. As such, Armenia was one of the former Soviet economies that led the way forward in

carrying out the so-called “first generation reforms”.

Today, almost a decade after the GFC, Armenia’s economy finds itself at a juncture in stark contrast to its previous gains (Figure ES1). The country is grappling with a low growth-low investment nexus, with stalled poverty reduction and growing income disparities. A rapidly increasing public-debt stock has left Armenia with reduced fiscal space in which to manoeuvre, while the vibrancy, resilience, and inclusiveness of renewed growth depend on needed second-generation domestic structural reforms that have still to be fully implemented. Indeed, after external conditions deteriorated during and after the GFC, and later during the Russian crisis, growth, poverty reduction and shared prosperity have shown relatively low resilience to the worsened external circumstances.

Figure ES1: Growth and poverty reduction (Percent)



Source: World Development Indicators and National Statistical Service (NSS), Armenia. Figure shows national poverty rates.

International poverty comparisons show a strong performance globally, but not regionally. At the international poverty line, poverty in Armenia is estimated to be only 1.9 percent, far lower than the average extreme poverty rate of 16.35 percent for lower middle-income countries (World Development Indicators database). At the lower middle-income class poverty line, Armenia and Georgia have among the highest poverty rates in the region, exceeded only by the Kyrgyz Republic. In 2015, Armenia performed slightly better than Georgia, but not as well as other countries with similar levels of GDP per capita. Both Ukraine and Moldova, with lower GDP per capita, have regional poverty rates that are substantially lower.

Against this background, the Systematic Country Diagnostic (SCD) formulates forward-looking options for

fostering inclusive and sustainable growth in Armenia to support poverty reduction and shared prosperity. The report draws on existing data and analytical tools, and builds on existing knowledge and evidence complemented by additional analyses. Based on the analytical evidence, the SCD diagnoses the constraints to achieving growth and shared prosperity. It formulates recommendations, which are prioritized depending on their impact on poverty reduction and shared prosperity.

Looking back, the SCD acknowledges that the historical drivers of growth have run their course. Pre-GFC, growth was driven by external financial flows fueling the non-tradeable sector and domestic demand. The strong growth performance, however, may have masked the need to continue pressing ahead with reforms that would have

helped in handling the changed (and more challenging) external circumstances better when these did finally arrive. Indeed, today's new normal is characterized by a far less supportive external environment, which has led to weaker growth outcomes, while the new drivers of growth associated with productivity enhancements have yet to fully materialize.

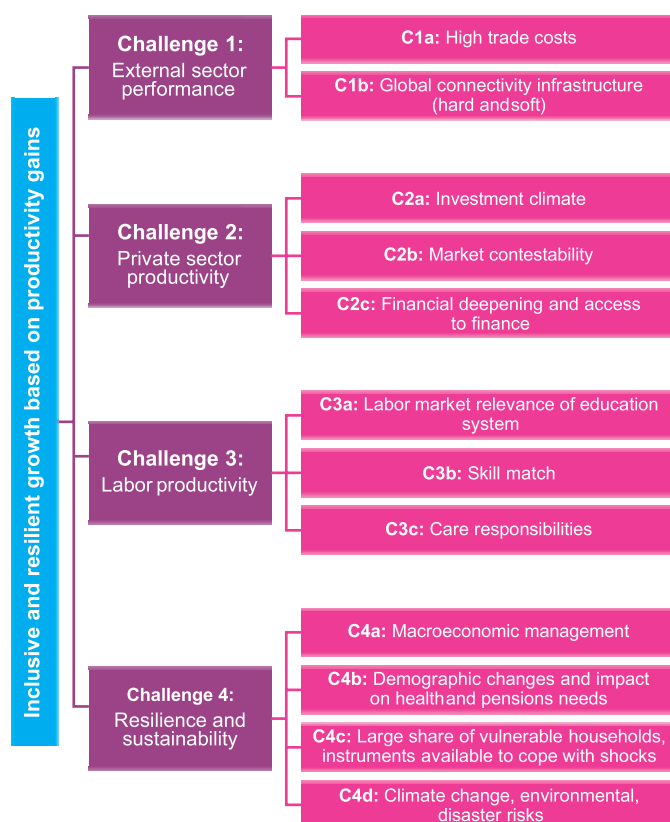
The historical drivers of poverty reduction and shared prosperity have become less effective. Both had been driven by private and public transfers (remittances and pensions) and labor earnings and employment, particularly in the non-tradeable construction sector, where low-skilled workers could find jobs. These historical drivers, however, seem to have lost their effectiveness: the deterioration of the external environment has been followed by a sharp decline in remittances, the exhaustion of fiscal buffers, and a collapse of the construction sector, narrowing the channels of transmission from economic growth to households and individual wellbeing.

As gains from earlier policy efforts and supportive external conditions dwindle, the opportunity arises for renewing and revamping the growth model and reform agenda to face current and future challenges. The pace of recent structural reforms has shown relatively slow progress, and this slow pace is perhaps not commensurate with the

challenges posed by the "new normal" that has become entrenched since the GFC. A reinvigorated reform agenda could build the foundations for resilient, self-sustained, and inclusive economic growth. This includes macroeconomic and structural policies that could help deliver a higher rate of growth and shared prosperity during booms and, at the same time, could enhance the economy's resilience when downturns arrive. Lastly, the new growth model will also need to tackle an adverse demographic trend (consisting of a declining and aging population), which will soon pose fundamental constraints on economic growth and shared prosperity.

On this basis, the SCD identifies four challenges for Armenia to reinvigorate inclusive growth and resilience (Figure ES2). First, with far less supportive external circumstances, reigniting economic growth calls for a search for new drivers and the rebalancing of growth toward the tradeable sectors. Against this backdrop, the country's low export performance and limited global multi-connectivity caused by high trade and transport facilitation costs are the first challenges to be addressed. Second, insufficient private sector productivity stands in the way of both higher growth and job creation. Firms, as the productive engines of the economy, appear constrained in their ability to lift productivity



Figure ES2: Achieving inclusive growth with productivity gains: constraints and challenges


against the background of unfinished investment climate reforms, limited competition, and the need to deepen further financial development. Third, poverty reduction and shared prosperity, that is, the transmission of aggregate growth to individual wellbeing and poverty reduction, also seems constrained by labor market challenges: labor resources are shrinking, labor-force participation is low, and the country has one of the lowest employment and highest unemployment rates in the Europe and Central Asia (ECA) region, while workers' productivity has fallen. Learning outcomes seem to lag demand, both in terms of the level and type of skills that are sought by the market. Declining labor resources are compounded by low women participation in the labor market. Fourth, key vulnerabilities at the macroeconomic, environmental, and microeconomic levels are faced by Armenia in its quest for poverty reduction and shared prosperity. Armenia's aging population will have a significant impact on health spending and on the pension system, and could, if not addressed, have major implications in terms of fiscal sustainability and poverty.

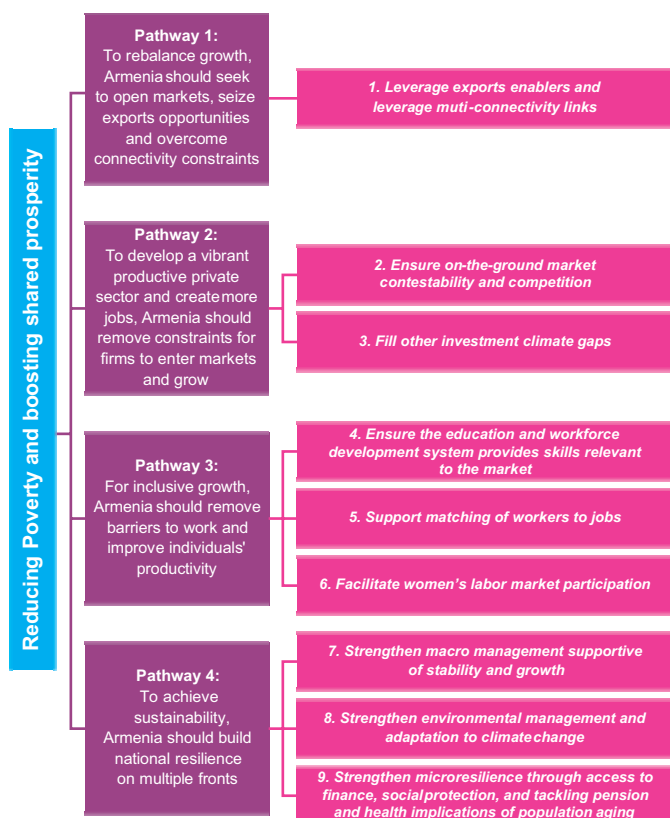
The above noted challenges at the macroeconomic, microeconomic, and structural levels are inter-linked such that constraints in one area cascade into limiting

success in others. Multi-connectivity constraints to international trade and growth biased toward non-tradeable and domestic demand are reflected at the firm level by slow entry and growth, low product diversification, and relatively little use of innovation and technology. The slack in the labor market and out-migration reflect the lack of job opportunities caused by the lack of a vibrant private sector. In turn, limited private sector development can be explained by a lack of progress in improving the investment climate and market contestability reforms, reinforced by a lagging public and corporate governance reform agenda. Entrepreneurship should be stimulated throughout the economy towards arriving at a more competitive, productive and transparent business environment. Once investment climate and connectivity constraints are addressed and become less binding, firms may become constrained in their access to the right skills, while higher and more inclusive economic growth through more productive jobs will call for higher labor-market participation from all, and women in particular. Inclusiveness is complemented by systems (access to finance, social protection and pensions) for individuals to cope with shocks, preserve their gains from economic growth and avoid falling back into poverty. Macroeconomic policies and institutions could disrupt the productivity-growth-rebalancing adjustment if not appropriately coordinated or not flexible enough to smooth cyclical movements. Finally, managing natural assets and adapting to climate change have implications for the long-term macroeconomic sustainability of resource dependent sectors and society as whole.

This SCD formulates a set of complementary pathways and reform areas to address the identified challenges (Figure ES3).¹ To achieve inclusive growth with resilience, a new model of economic growth grounded in productivity improvements needs to be embraced. First, growth needs to rebalance from being demand- to supply-driven, and toward exports/tradeable goods and services, and away from non-tradeable and domestic demand (Pathway 1). Armenia should seek to open markets, seize export opportunities, and leverage multi-connectivity links. Second, to increase growth dividends and renew the inclusivity of growth, job creation needs to be reignited through productive firms and individuals' productive labor-market participation (Pathway 2 and 3). Third, to develop a vibrant and productive private sector and create more jobs, Armenia must remove constraints on firms entering markets and growing. And for growth to be inclusive in the context of a shrinking and aging population, Armenia must remove barriers to employment and improve individuals'

¹The objective of a Systematic Country Diagnostic (SCD) is to diagnose the main challenges faced by a World Bank Group's client on growth, poverty reduction, and resilience. In this process, the SCD prioritizes the possible high-level policy areas to help tackle these constraints. The SCD is followed by the preparation of a Country Partnership Framework (CPF), which builds on the SCD diagnostics and prepares a program in partnership with the Government, proposing a selective program of indicative (yet more concrete) policy interventions over a medium-term CPF cycle.

Figure ES3: Twin goals, pathways, and reform areas



productivity and employability (Pathway 3). Fourth, Armenia needs to strengthen resilience to shocks at all levels, to sustain the gains from such inclusive growth (Pathway 4).

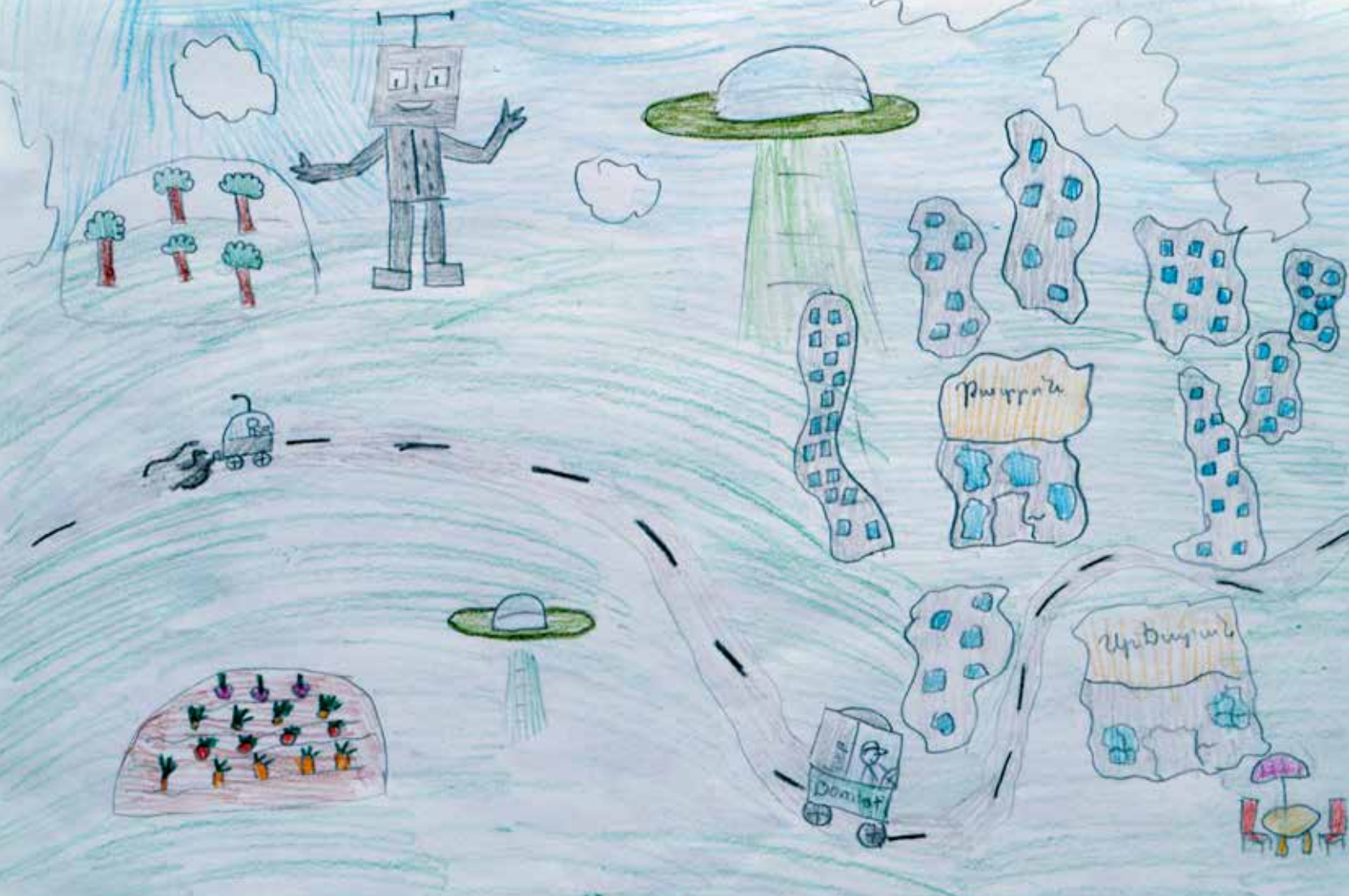
Recognizing the importance of connectivity and competition for prosperity in Armenia, the reform areas and policy actions can be sorted into the following priorities. The diagnostics demonstrate that for Armenia, multiple challenges can be tackled when private sector development is unleashed. Private sector development, productivity, and competitiveness have been lagging, while exports are below potential. So, the top priority is to expand export markets and enhance private sector development to boost growth and job creation. For this to occur it will be important to leverage export enablers and bypass land connectivity barriers. Also needed are on-the-ground improvements to the investment climate and governance, starting with market contestability and financial inclusion, as well as the interaction between the private and

public sectors. This priority will help re-balance growth drivers, transform structurally, create jobs, and support inclusive spatial development. The next priority is to raise labor productivity while managing the implications of a declining and aging population by increasing labor market participation and supporting individuals' resilience. This will require ensuring that the education system provides skills that are relevant to the labor market, starting with improving teaching quality. It also calls for facilitating women's labor market participation, particularly, expanding early childhood education that has the dual payoffs of promoting women's work, as well as developing children's school readiness and wellbeing. Strengthening micro resilience, including raising households' access to finance, continued investments in pensions, and protecting and better targeting health and social protection spending, will also be important. Two cross-cutting "must have" policy areas include: strengthening macroeconomic and environmental management. The former calls for more flexibility and efficiency in fiscal management and enhancing the counter-cyclicality of macroeconomic policies. The latter could start with better water management and a focus on the impact of climate change.

Implementing this set of reforms could enable Armenia to break out of the middle-income trap and get on its way toward high-income country status. A simulation of the impact of the reforms on growth, poverty reduction, and disparities illustrates that the rebalancing of growth from domestic demand to exports and productivity enhancement, together with addressing the challenges of an aging and declining population, would boost Armenia's income and eradicate poverty by today's standards.

Encouragingly, these proposed reforms share a common diagnostic with the Government Program 2017-2022. The Government Program includes a diagnosis of areas that need to be tackled to achieve the Government's vision—a vision that is well aligned with that put forward in this SCD.2 Moreover, the Government Program recognizes the presence of important strengths for Armenia that are examined within this SCD, both at the macroeconomic and structural levels, and which could serve as important stepping-stones for the implementation of a reinvigorated reform agenda going forward.

² The Government Program 2017-2022, approved in June 2017, set the vision, goals, and sector reform priorities to come. The vision is based on the principle of "safe, fair, free and smart Armenia". The goals are to achieve an average of 5 percent economic growth annually, growth in exports of goods and services reaching 40-45 percent as a share of GDP, poverty reduction by 12 percentage points, and a 25 percent increase in nominal wages with employment growth. The Government Program also proposes a high-level set of reforms in the areas of public administration and legal framework, foreign policy, and the economic and social sectors. Concrete support to support these and other reforms through the diverse lending and technical assistance tools available in the World Bank Group's toolkit will be discussed in detail within the CPF. The Program is summarized in the annexes.



CHAPTER 1:

ECONOMIC PERFORMANCE: PAST AND FUTURE

1.1. This chapter examines the characteristics of macroeconomic performance, poverty reduction, and shared prosperity in Armenia before and after the GFC. It discusses the drivers of this performance, the role of the external environment, the effectiveness of policy responses, and the progress of structural reforms in contributing to building the foundations for future inclusive resilient growth. It concludes by looking forward toward what would be a new model of economic growth that will allow Armenia to resume inclusiveness and resilience. A forecasting exercise simulates Armenia's long-term income and poverty outcomes depending on the reform path followed and considering Armenia's demographic trends. It concludes that a rebalancing of growth from non-tradeable to tradeable goods and services, and productivity enhancement would allow Armenia to resume sustained growth and strong progress in socioeconomic indicators, enabling the country to get on track toward achieving high-income status.

A **Macroeconomic Performance and Its Drivers**

1.2. How can Armenia's macroeconomic performance be characterized? This section examines the relationship

between macro-fiscal policies implemented in the country and economic growth. It discusses the respective roles of external shocks, macro-fiscal policy responses, and domestic policies and reforms in explaining Armenia's growth performance, and macroeconomic stability and sustainability.

Macroeconomic and Fiscal Performance

1.3. Armenia's macroeconomic performance before the GFC compared strongly relative to its peers. Between 2000 and 2008, Armenia's economy grew at an average annual rate of nearly 11 percent, significantly outperforming other countries in the region. Other macroeconomic indicators have also improved considerably since the country's independence: the fiscal deficit narrowed to levels below 2-3 percent of GDP, inflation was kept well under control, and the current account deficit declined dramatically from double digits to more sustainable levels. During this period, domestic demand was the main driver of economic growth, fueled by external financial flows and benefitting non-tradeable sectors, particularly construction. External inflows consisted of export earnings from mining

and high commodity prices, remittances and foreign direct investment (FDI), largely originating from Russia. This resulted in the appreciation of the real exchange rate and some loss in competitiveness through a Dutch Disease-type of effect. While external flows contributed to physical investment, they neither contributed toward strong human capital accumulation, knowledge and technology absorption, nor productivity enhancement or the building of future growth dividends.

1.4. Throughout this period, the authorities confirmed their long-standing commitment to stable and prudent macroeconomic policies. Following their fiscal consolidation efforts, the Government introduced a strict

fiscal rule (2008), and adopted an inflation-targeting framework and a more flexible exchange rate regime (2006) that allowed for an improved shock absorption mechanism prior to the GFC. These efforts, however, were not enough to fully prevent risks from overheating building up: some evidence suggests that structural fiscal deficits may have remained pro-cyclical through the period and inflation edged up as the commodity super-cycle was in full swing. In this context, the real exchange rate appreciated, harming competitiveness, while the persistently high volatility in export volumes hinted at the lingering presence of vulnerabilities, together with the country's need for a more diversified output and broader export base.³

Box 1.1: Armenia's outbreak of "Dutch Disease" and overheating

Starting in 2003, an extremely supportive external environment led to double-digit growth rates underpinned by high rates of investment. Favorable terms-of-trade movements for its mining exports, rising FDI, and strong remittances led to a significant expansion of the Armenian economy. High growth was essentially led by residential construction, consumption, and domestic services, which absorbed the bulk of domestic resources and capital inflows. Gross capital formation peaked at 40 percent of GDP in 2008. At 46 percent, consumption made the largest contribution to the cumulative 73.2 percent growth over the period 2004-08. Benefitting from strong growth in Russia, remittances to Armenia increased significantly, reaching more than 17 percent of GDP by 2008, boosting private consumption.

High investment in the construction sector supported rapid economic growth in the years preceding the GFC. Between 2004 and 2008, real GDP grew at more than 11 percent per year on average. Without the construction sector (peaking at almost two-thirds of growth in 2006), average growth would have been 7.3 percent instead of 11.2 percent. A significant amount of construction spending was for residential housing which, while having an impact on short-term growth, made a negligible contribution toward potential growth or productivity. The construction sector accounted for more than one-quarter of GDP in 2008, a

significant increase from 16 percent in 2004.

During this period, Armenia experienced a "double Dutch Disease" episode, driven both by direct inflows from commodities exports, as well as remittances and other foreign inflows pouring into the country (mostly led by a commodities boom in Armenia's key trading and investment partners), all fueling rapid consumption growth. Foreign currency inflows led to an appreciation in real terms of the national currency, causing a deterioration in competitiveness through an increase of the price of non-tradeable goods relative to tradeable goods.⁴ The real effective exchange rate (REER) appreciated by 60 percent between 2003 and 2008, while the price of real estate—a good proxy for non-tradeable goods—soared, making investment in real estate far more attractive than any other form of domestic investment, not to mention bank deposit rates. In a similar pattern, the pace of the increase in real wages was much higher than the pace of productivity gains before 2009. As is typical in a country facing Dutch Disease, these macroeconomic developments added to existing structural weaknesses, and constrained the development of a productive tradeable and export-oriented manufacturing base. Instead, it promoted a large non-tradeable sector (including construction) that, while labor-intensive and poverty reducing, is not prone to strong productivity growth.

1.5. As external conditions deteriorated during the GCF in 2008-09 and were further exacerbated by the Russian crisis in 2014-15, the economic model underlying previously strong growth proved to be exhausted. The model was overly reliant on windfall external financial

inflows to finance consumption growth and construction. The vulnerabilities and structural weaknesses of the Armenian economy, with a persistent savings-investment imbalance, became evident when the period of double-digit growth ended abruptly. The current account deficit ballooned to 17

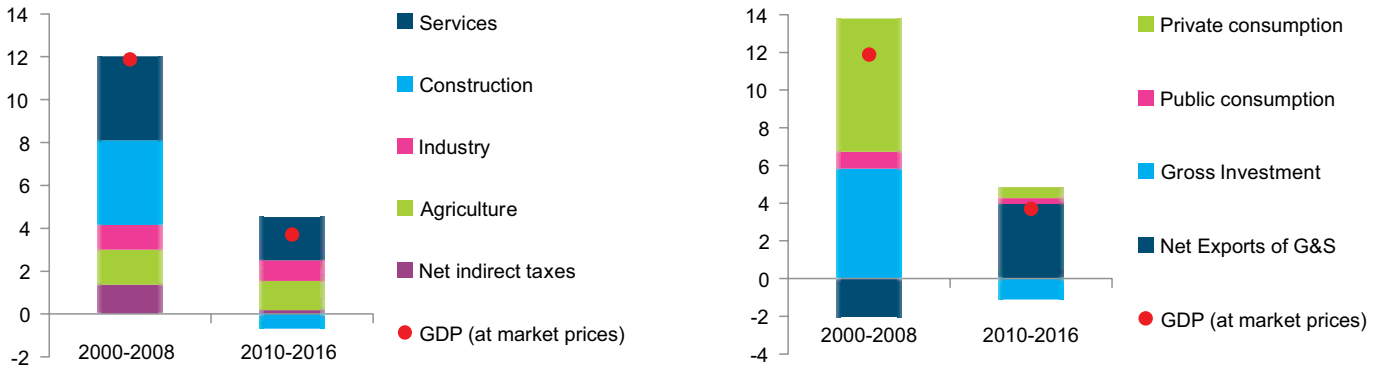
³IMF Working Paper Series WP/10/97 "Estimates of the Output Gap in Armenia with Applications to Monetary and Fiscal Policy", 2010.

⁴The real appreciation of the dram had a significant effect both on export values, and also on the survival prospects of Armenian exports. Indeed, a careful analysis of export flows in Armenia showed that a real appreciation of the domestic currency by 10 percent leads to a decline in dollar-exports by 8.7 percent, other things equal. The same appreciation increases the chances of an export flows being discontinued by about 3 percentage points (See Annex: Trade and Competitiveness Selected Issues).

and 14 percent of GDP in 2009 and 2010, respectively, and remained at 11 percent in the two following years. From 2009 onward, global liquidity dried up and Armenia was hit by a sharp slowdown in financial inflows through remittances, FDI, and trade channels. Output plunged by 14.2 percent

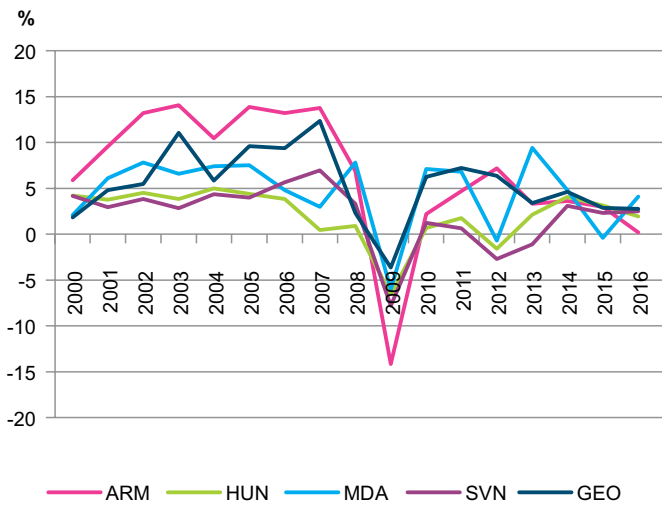
in 2009, bringing about a sharp increase in poverty and income disparities. Just as the Armenian economy started to get back on its feet, it was hit again—this time triggered by rapidly falling oil prices and the imposition of international sanctions on Russia.⁵

Figure 1.1: Growth decomposition by sector and expenditure



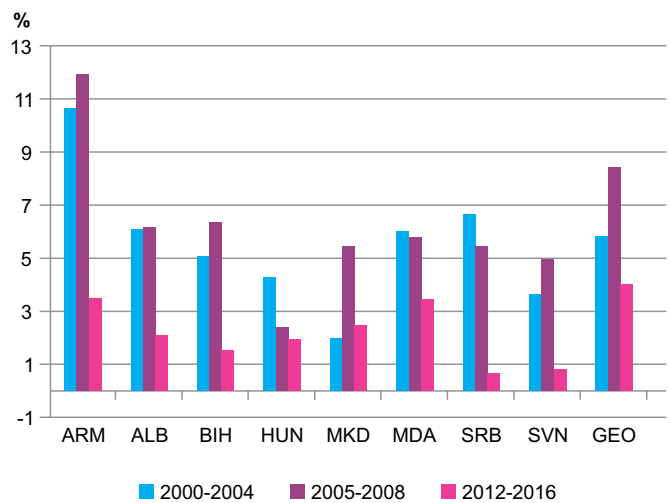
Source: Calculations based on data from NSS.

Figure 1.2: GDP growth rates in Armenia and comparators, 2000-16



Source: Calculations based on data from WDI.

Figure 1.3: GDP growth rates, 2000-16



Source: Calculations based on data from WDI.

1.6. However, while Armenia’s recovery has been strong relative to its peers, growth has remained insufficient, making some vulnerabilities more evident. All financial inflows fell sharply after the GFC and declined even further following the 2014 Russia crisis. After collapsing with the onset of the GFC, Armenia’s growth rate recovered to an average of about 4 percent between 2010 and 2015, but has since decreased once again. While this outcome

compares well vis-à-vis other countries in the region, growth has become more volatile, exhibiting a significant exposure to external conditions—particularly given the country’s large dependence on remittances from, and exports to, Russia. The current account deficit post-GFC remained stubbornly high, at least until 2015, even as imports remained subdued. This revealed the weaknesses in the country’s non-commodity tradeable base and the need for structural

⁵With Armenia’s close economic links to Russia, this external shock affected Armenia through three channels of exposure: (i) its trade balance, through a depreciation of the ruble and a slowdown of Russia’s growth and demand for imports; (ii) remittances, which dropped significantly; and (iii) a decline of FDI.

reforms that would help to strengthen its expansion going forward.

1.7. Armenia's most recent macroeconomic and fiscal outcomes suggest that existing vulnerabilities would be best addressed sooner rather than later. Growth slowed down significantly to just 0.2 percent in 2016 from 3.0 percent in 2015, driven lower by the prolonged slump in global metal prices (Armenia's main commodities exports), together with falling remittances and FDI (most of which originate from Russia). While encouraging in nature, a 20 percent expansion in the non-resource tradeable sectors,

driven by the restored trade ties with Russia and penetration into China and Middle East, failed to offset a double-digit contraction in construction and a substantial decline in agricultural output. The continued reduction in remittances, dwindling FDI inflows, and muted domestic investment weakened domestic demand substantially, triggering a deflationary episode. At the same time, an expansionary fiscal policy (with the fiscal deficit expanding from about 2 percent GDP in 2014 to about 5.5 percent of GDP by end-2016) proved ineffective in reviving growth, while causing the country's public debt to rise rapidly and triggering a violation of the country's fiscal rule.⁶

Box 1.2: Armenia's structural transformation

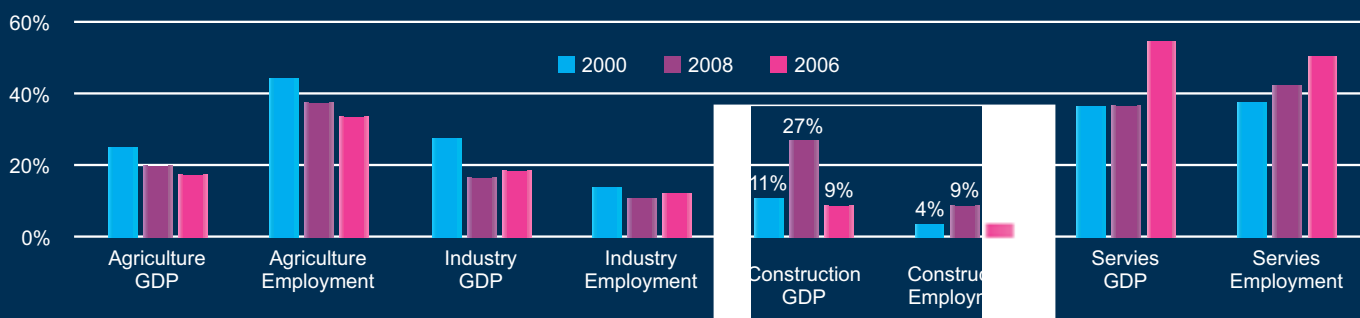
Over the past 15 years, Armenia's economy has been transitioning more toward services and away from agriculture. Half of GDP and employment was in the services sector in 2016, up from about 37 percent in 2000. Over the past 16 years, employment in agriculture has contracted by 9 percentage points, while agricultural GDP has also declined, but more slowly, by 5 percentage points. This illustrates the persistence of a low productivity self-employed (and often informal) sectoral segment in agriculture. Meanwhile, the share of industry shrank by 9 percentage points in terms of its GDP share, and 3 percentage points in terms of its employment share, over the same period. This suggests the presence of a de-industrialization process in Armenia, a loss of competitiveness in manufacturing, and the decline in mineral prices negatively affecting exports and the mining sector.

Meanwhile, and throughout this transformation, "pockets of productivity" have emerged, holding the promise of enhanced trade and productivity outcomes in the future. They include a dynamic tourism industry, the

development of an increasingly vigorous exporting ICT sector, and a rapid expansion of agribusiness products, namely beverages and tobacco. Better understanding the experiences within these sectors—including the features of their micro-business climate—will be key to enhancing Armenia's structural transformation and further broadening the presence of these positive dynamics.

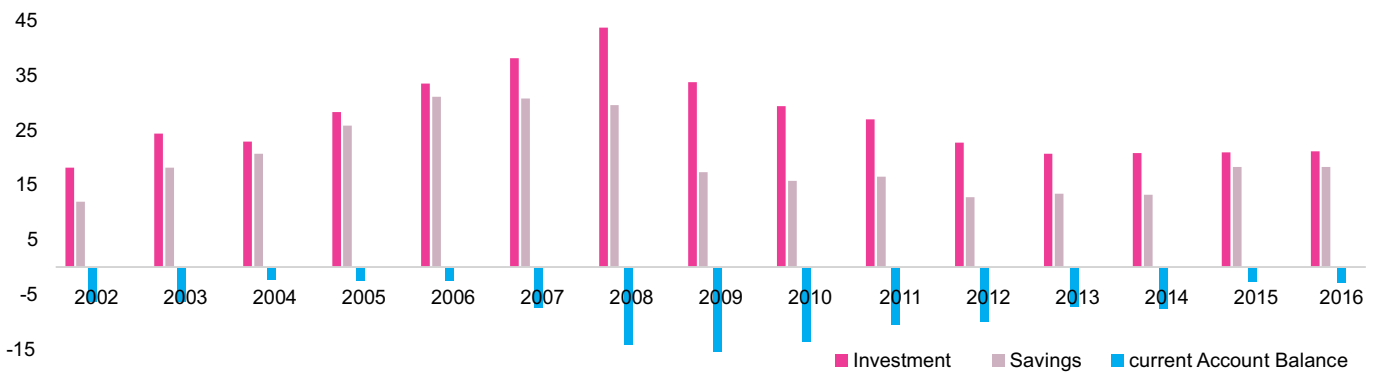
Importantly, the boom-and-bust cycle of the construction sector that took place for over 15 years is key to explaining the dynamics of shared prosperity indicators. Between 2000 and 2008, construction boomed, fueled by large capital inflows and remittances. This boom in real estate absorbed low-skilled workers who also benefitted from pre-GFC high economic growth: employment and production shares of the sector rose to as high as 27 and 9 percent, respectively, before returning in 2016 to levels similar to those seen 15 years before. The bursting of the bubble in 2008-09 was followed by a sharp contraction of fixed investment (by 50 percent) in the construction sector, which collapsed. This profoundly affected the channels of transmission from growth into poverty reduction in Armenia's economy.

Figure 1.4: Armenia economic transformation, 2000-08 and 2008-16



⁶The fiscal rule states that if public debt exceeds 50 percent of GDP, the fiscal deficit for the next year would be reduced to 3 percent of the average nominal GDP of the previous three years. Thus, the Government needs to reduce its deficit from 5.9 percent of GDP in 2016 to 2.8 percent of GDP in 2017.

Figure 1.5: Current account balance (% of GDP)



Source: NSS.

1.8. Overall, Armenia's macroeconomic stance remains stable and manageable, providing a useful platform for reform going forward. The current account deficit has shown sustained improvements, following a protracted period of significant dissaving. The IMF assesses Armenia's external position to be broadly in line with fundamentals and desirable policy-settings.⁷ The current account deficit narrowed to 2.6 percent of GDP in 2015 and 2016, supported by a 20 percent increase in exports, coupled with a decline in import demand and supported by a flexible exchange rate, which functions as a shock absorber (Figure 1.5).

Macroeconomic Policy Response

1.9. Fiscal policy has sought to play a more counter-cyclical role since the GFC, but greater volatility and the emergence of protracted shocks have posed challenges. In 2009, Armenia implemented a strong expansionary, counter-cyclical response to the global shock and the fiscal deficit widened from 1.7 percent of GDP the previous year to 7.7 percent.⁸ In the aftermath, and as growth picked up, Armenia undertook an ambitious consolidation program, seeking to put its fiscal stance back on track. This effort, which was largely based on a gradual reduction of government expenditure, came to a halt as another round of stimulus was introduced to mitigate the consequences of the 2014 shock from Russia. The return to an expansionary policy led to a significant build-up of public debt, with gross general government debt-to-GDP more than tripling, reaching 55 percent of GDP by the end of 2016 (from 14.6 percent in 2008). This activated the strict fiscal rule enacted by parliament, forcing Armenia back into a significant fiscal retrenchment in 2017, and constraining the scope for implementing policies that would have helped to smooth out the impact of what turned out to be a

protracted shock.

1.10. These challenges to fiscal policy suggest the need to adjust Armenia's strict fiscal rule to make it better suited to the changed global environment, and more resilient and credible. The existing rule, adopted in 2008, lacks features now embedded in a new generation of rules that have emerged post-GFC. Specifically, Armenia's fiscal rule has no mechanism to mitigate the pro-cyclical bias, nor to help the authorities' smooth fiscal adjustment in the face of severe economic shocks, or cope with the volatility of foreign-financed projects. These weaknesses could lead to abrupt short-term adjustments, destabilizing aggregate demand and limiting the space for capital spending. The Government is committed to revising the fiscal rule and, more generally, to following rule-based fiscal management.⁹

1.11. A flexible exchange rate policy has been instrumental in cushioning external shocks. Since 2008, the Armenian dram has depreciated by close to 60 percent, after roughly a similar appreciation between 2003 and 2008. The central bank, the Central Bank of Armenia (CBA), has pursued an inflation-targeting policy through forex interventions. Prices of non-tradeable goods adjusted back to levels compatible with this new external environment. The real exchange rate depreciated significantly between 2009 and 2013, while real wages adjusted their pace of increase back to (low) productivity growth, as did real estate prices. The massive depreciation of the Russian ruble did cause some real appreciation between 2014 and 2015, since the dram did not depreciate to the same extent. Overall, monetary and exchange rate policies helped to maintain price stability and supported external adjustment, as evidenced by the gradually declining external current account deficit.¹⁰

⁷IMF 2017 Article IV.

⁸That was the result of the Government strongly ramping up spending, by about 7 percent of GDP, to provide a counter-cyclical stimulus. The increase in the fiscal deficit was attributed mainly to greater budgetary allocations toward social protection and economic sectors, an increase of 1.8 percentage points each between 2008 and 2009 World Bank PER (2014).

⁹IMF 2017 Article IV.

¹⁰IMF Article IV reviews (2014 and 2017). The elasticity of exports with respect to the RER was estimated to 0.87 (Annex: Trade and Competitiveness Selected Issues).

Box 1.3: Fiscal policy quality (revenue mobilization, public expenditure mix)

In addition to supporting macroeconomic stability and sustainability, fiscal policy does impact economic growth through the level and composition of revenues and expenditures. The following examines the quality of fiscal policy in Armenia.

Armenia's budget is low relative to the size of the economy due to its limited ability to raise public revenues. At around 25 percent of GDP in recent years, Armenia's general government spending is smaller than those of other lower middle-income countries, CIS countries, and EU countries, mainly due to the limited ability to raise government revenues.¹¹ Indeed, despite progress, revenue mobilization is below regional and international averages. Tax revenue increased gradually from 15 percent in 2002 to 20 percent of GDP in 2016. The new Tax Code enacted in 2016 is expected to raise tax revenues by about 2 percent of GDP in the medium term. Rigorous implementation of the Code—and more generally, an effective domestic revenue mobilization strategy—will be key for Armenia to be able to meet its development needs through higher spending on both physical and human capital.

The impact on growth, poverty, and disparities of public spending is positive but limited, due to the reduced government footprint. Overall, while fiscal activities reduce inequality and poverty, they only have a small impact

because of the small scale of programs.¹² The share of public investment in total investment declined from 22 percent in 2009 (or 7 percent of GDP) to 12 percent in 2016 (3 percent of GDP). Such a low level of capital spending originates from limited available resources and the prioritization of current over capital spending, due to social spending obligations (in particular, social protection and health). Indeed, current spending increased slightly from 23 percent in 2009 to 24.6 percent of GDP in 2016.

Investment into productive infrastructure by the public and/or the private sector could revive some of the channels of transmission from growth into poverty reduction, while setting a platform for broader based output. The shift away from public investment raises concerns about future productivity and growth implications of under-investing in human and physical capital. There is a need to improve public investment management, to prioritize investment projects based on explicit criteria maximizing their economic impact, and to improve medium-term planning.¹³ More broadly, productive infrastructure funded by the public sector, the private sector, or a partnership between the two, would build the foundations for resilient and inclusive growth. Failure to direct any new flow of resources into productive investments (as opposed to real estate construction) could risk returning to a new boom-and-bust cycle, should external conditions improve again.

Role of Structural Reforms

1.12. Structural reforms have shown progress in supporting Armenia's long-term growth agenda, albeit with some delays. A new Tax Code approved in 2016 constituted a crucial step toward improving the tax environment and boosting medium-term revenues. Tax and customs administration, public financial management (PFM), including e-procurement and reforms to improve business conditions have all advanced, albeit at a relatively slow pace. The CBA adopted a review-based monetary policy conditionality to help support the inflation-targeting framework and has strengthened its contingency planning to safeguard financial stability. Measures were adopted to improve the financial position of the energy sector and limit fiscal risks. Pension reforms were launched in January 2014, aiming at introducing a fully funded defined

contribution system. The system has been implemented for civil servants and for new private sector workers under the age of 40, but its introduction has been delayed for existing private sector workers under the age of 40 until July 1, 2018. Some progress has been made in improving the telecommunications and civil aviation regimes, as well as with the enforcement of property rights.

1.13. Reforms are underway, particularly those focused on improving the business climate and attracting FDI. There are very encouraging signs of growing reform momentum under the current government, appointed in April 2017. The Center for Strategic Initiatives was established in January 2017 to foster public-private partnerships (PPP), attract FDI, and align developmental goals between investors and line ministries. The Government is also stepping up efforts to tackle corruption, including by improving tax and

¹¹Armenia's tax system consists primarily of a value-added tax (VAT), a company income tax (CIT), excise and customs duties, and personal income tax (PIT). While the rates at which economic activities and physical persons are taxed are not low, revenue mobilization from these taxes is low. There have been significant leakages stemming from both weaknesses in tax administration and tax policy, including tax relief. Tax productivity, which is the ratio of actual to potential or theoretical tax revenue, is lower than in most ECA countries, although Armenia's corporate income tax is relatively efficient (World Bank, PER 2015). The endorsement of a new Tax Code represents a major step forward to shift the balance from direct to indirect taxation, and to improve equity. In addition, the Code aims to reduce the costs of tax compliance.

¹²World Bank Public Expenditure Review (2014). This analysis is the result of comparing Gini coefficients and poverty rates for market income and final income, before and after taxes, transfers, and expenditure benefits, and examining the targeting efficiency of programs.

¹³Indeed, public investment has been at times under-executed or over-executed compared with plans.

customs administration. The law on centralized procurement has been strengthened to ensure a more competitive and transparent procurement process. Negotiations with the EU toward the adoption of a Single Support Framework are advancing and amendments to the economic competition

law are expected to be approved by the end of 2017. The authorities are leveraging the EEU membership to promote export diversification, improve standards, enhance domestic competition, and invest in infrastructure, while at the same time pursuing greater trade integration beyond the EEU.

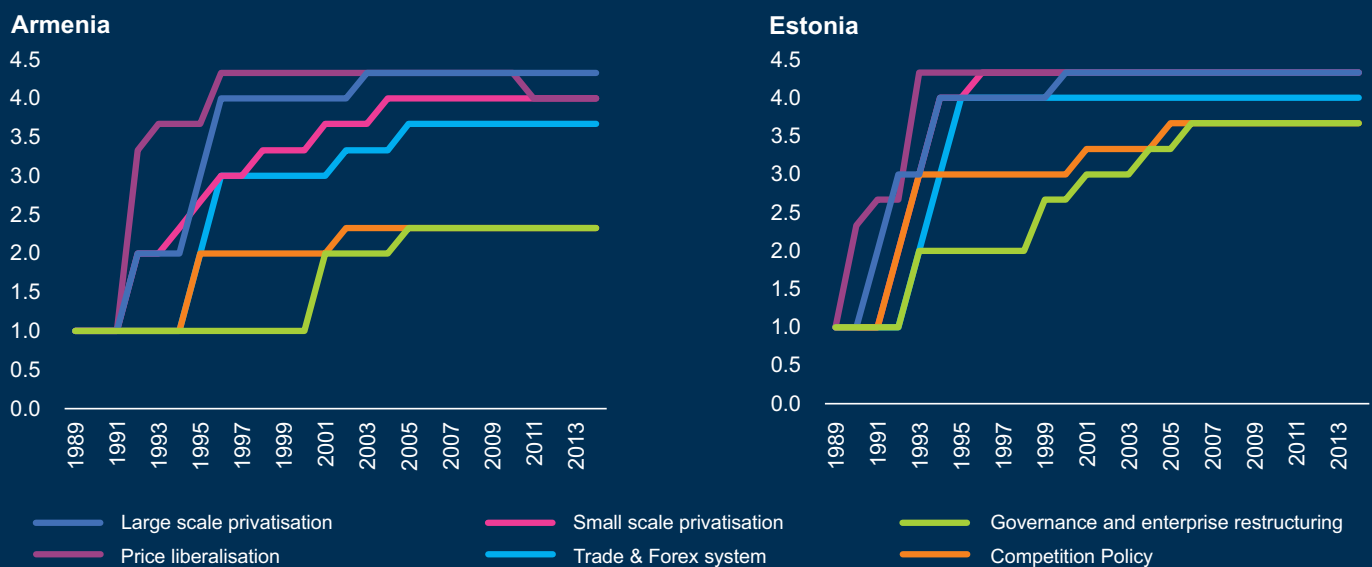
Box 1.4: Domestic reforms before the GFC

Domestic reforms have supported to some extent the improvement in economic and social performance, but have fallen short of building the foundations needed for resilience and a well-diversified output and export base. Armenia implemented early on a range of market-oriented reforms, including free price formation in a highly open market with a liberal regime for trade and investment, a liberal financial system, total private ownership of land, and privatization of both small and medium-sized enterprises (SMEs) and large enterprises. Accession to the WTO in December 2002 locked Armenia into an open international trade regime. The pre-2009 period also witnessed sound macroeconomic performance—gradually anchored on a fiscal rule and an inflation-targeting regime—and financial deepening through the development of the banking sector. In addition, comprehensive reforms supported a financial and technical restructuring of the energy and other utility sectors. The Government undertook several reform measures in the banking sector to improve the lending environment. The Family Benefit Program (FBP) introduced in 1999 integrated the measurement and administration of existing programs under a single umbrella and introduced targeting. These policy reforms supported to some extent a productivity

enhancing reallocation of resources, better infrastructure necessary for business growth and basic social needs, and improved institutions. In fact, in 2008, together with Georgia, Armenia was the top IDA country performer in the World Bank Country Policy and Institutional Assessment (CPIA).

However, reforms were relatively fragmented. Several important reforms suffered delays despite their urgency. For example, the liberalization of the aviation sector, the development of the competition policy framework, and the reform of the fiscal regime of the mining sector only took place after the GFC.⁵ While the economy was benefitting from external tailwinds, incentives to build the foundations of a resilient economy were not very strong, leaving the country vulnerable to the external environment, as revealed by the GFC.¹⁴ The EBRD transition indicators clearly illustrate the rapid progress made in the liberalization of prices, large- and small-scale privatization, and the liberalization of foreign exchange and trade. However, the indicators also show that Armenia has made little progress in improving the corporate governance and competition environment since 2004 in absolute terms and compared with, for example, Estonia.

Figure 1.6: EBRD transition indicators



Source: EBRD Transition Indicators.

¹⁴The government budget benefitted relatively little from the boom in metal prices before the GFC because of a fiscal regime that was not designed to capture some of the windfall.

1.14. However, the reform agenda would still benefit from being revamped on several fronts in which it has suffered from slow progress and fragmentation.

Competition, the business climate, and regulatory reforms have advanced at a slower-than-expected pace. For example, tax reform and the new Tax Code, approved at the end of 2016 had been under discussion for a decade. In the area of competition, Armenia has established competition-policy legislation and institutions entailing some reduction of entry restrictions and enforcement action on dominant firms, but the framework is far from complete (cf. Chapter 2, Section 2). Similarly, Armenia has weak enforcement of bankruptcy legislation and little action has been taken to either strengthen corporate governance, or address distortions associated with corruption. The development of financial markets is also lagging. All these unfinished reform agenda items impose a risk premium on investment. Armenia has also been lagging in absorbing new knowledge and technology, and in product diversification and locking in integration with international services and factor markets. More broadly, while progress has been registered, a

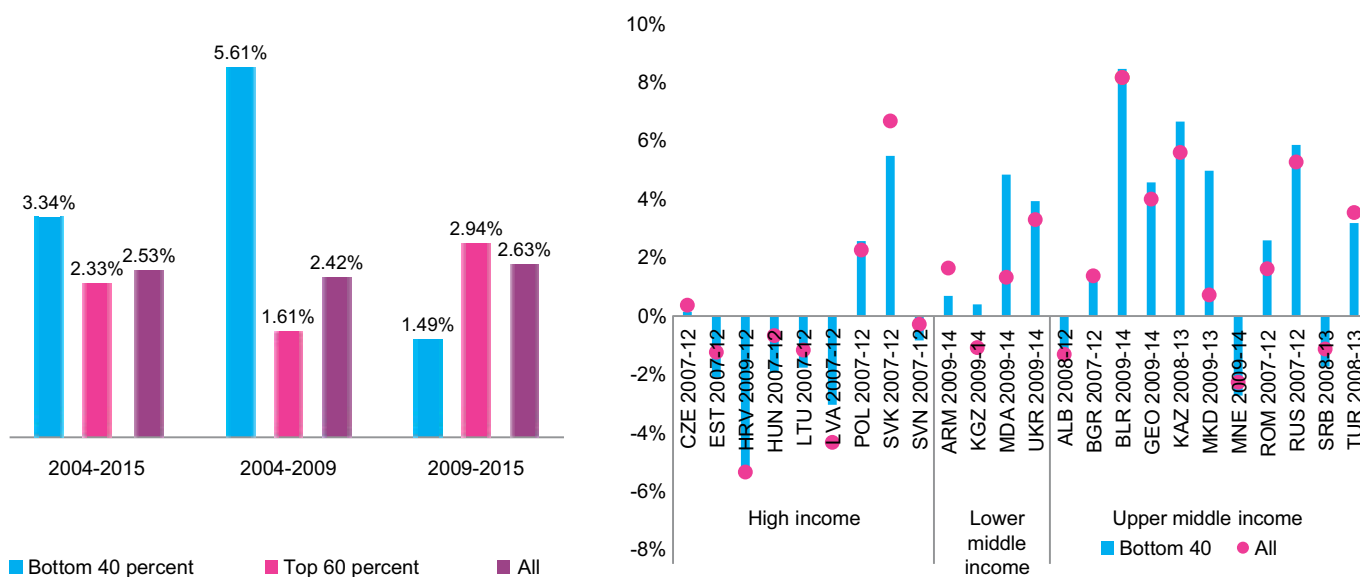
decisive breakthrough on structural reform has still to be achieved, with the resulting consequences for private sector development.

B Poverty Reduction and Shared Prosperity Performance

1.15. The poorest 40 percent of the population in Armenia shared in economic growth that occurred before 2009, benefitting from low-skilled jobs in the construction sector and buoyant remittances.

Annualized consumption growth among the poorest 40 percent (“bottom 40 percent”) of the distribution is one measure of the extent to which the group has shared in growth. Between 2004 and 2009, when the construction sector was booming and remittances grew sharply, Armenia’s bottom 40 percent enjoyed high growth rates of consumption exceeding the consumption growth of the better off (“top 60 percent”) (Figure 1.7, left-hand panel). The 2009 contraction of the economy hit the bottom 40 percent hard: their consumption was reduced by 7.46 percent a year.

Figure 1.7: Shared prosperity: annualized consumption growth, 2004-15 (%)



Source: ECA region harmonized consumption database (ECAPOV) (Left-hand panel). Global Shared Prosperity Database (Right-hand panel). Note: Shared prosperity measured by annualized consumption growth for the bottom 40 percent. This growth rate is compared with that of the total population.

1.16. After the GFC, with fewer jobs available for low-skilled workers and a fall in remittances, growth has favored the better off. Since 2009, the bottom 40 percent have averaged less than 1 percent of growth per year, placing Armenia as one of the worst performers among the middle-income countries in ECA for which estimates are available. Apart from Poland and the Slovak Republic,

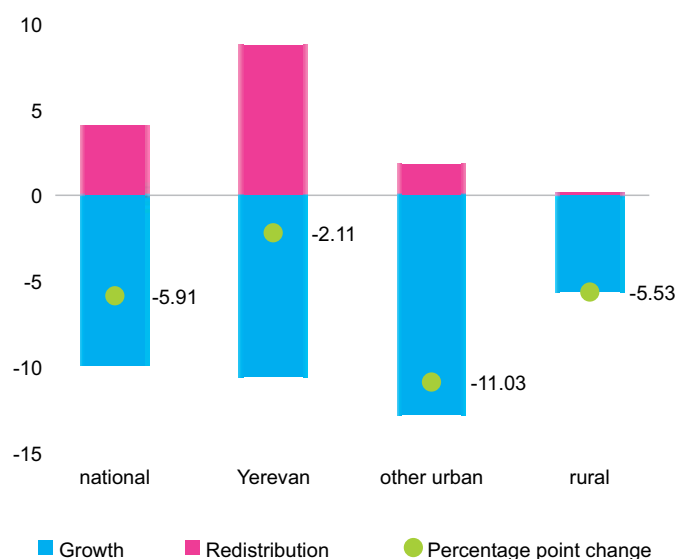
Armenia performed better than high-income ECA countries, which were significantly affected by the GFC (Figure 1.7, right-hand panel). Moreover, consumption growth among the top 60 percent¹⁵ exceeded that among the bottom 40 percent. The growth incidence curve, depicting the annualized growth rate of per capita consumption for every percentile of the consumption distribution between two

points in time, further illustrates the higher gains enjoyed by the better off (Figure 1.8).

1.17. This pattern in the sharing of growth has meant that consumption inequality has worsened since the GFC. Prior to the GFC, when the bottom 40 percent enjoyed high rates of growth consumption, inequality measured by the Gini coefficient narrowed from 28 to 24. With growth slowing down overall and favoring the better off, the Gini coefficient rose again from 27 in 2010 back to 28 in 2015.¹⁶

1.18. Poverty declined sharply between 2004 and 2008, when the bottom 40 percent shared in growth but the GFC and the accompanying collapse of the construction sector pushed up poverty sharply. The poverty rate fell from 53.5 percent to 27.6 percent in 2008, only to go back up to 29.8 percent in 2015 (see Figure ES1 for poverty trends and Box 1.5 for poverty profile). The depth of poverty also narrowed. As Armenia entered a low-growth period, the drivers of growth also shifted such that the top 60 percent benefitted more in terms of consumption growth than did the bottom 40 percent. Further analysis confirms that had inequality not increased, more of the growth would have been transmitted to the bottom 40 percent and resulted in a much higher poverty reduction of 10 percentage points (Figure 1.9). Therefore, looking ahead, reducing poverty and raising inclusivity of growth requires not just higher

Figure 1.9: Datt-Ravallion decomposition for Armenia, 2010-15



Source: Armenia Poverty Note 2017.

growth but also equipping the bottom 40 percent with the assets to share in growth (see Chapter 2).

1.19. Throughout the period from 2004 to now, the drivers of poverty reduction have remained the same. Poverty reduction has been driven by labor income, employment, and pensions among household members. Remittances were also a driver of poverty reduction, especially for rural households where short-term migration to Russia picked up as agriculture shed workers. What has mattered for poverty reduction and shared prosperity is both the lower level of growth and its composition offering fewer opportunities for the bottom 40 percent to participate in productive activities.

1.20. Summing up, new sources of growth, led by productivity gains, need to be created and sustained. While growth may have been inclusive and poverty-reducing in the past, it was unsustainable because it was over-reliant on large external funding. Drivers of poverty reduction and shared prosperity need to be reignited through sources of growth that come from within, through domestic comparative advantage and competitiveness, and driven by productivity improvements.

Figure 1.8: Growth incidence curve, Armenia, 2010-15



Source: Armenia Poverty Note 2017.

¹⁵Similar to most household surveys, Armenia's Integrated Living Conditions Survey does not adequately cover households with high incomes. Therefore, the better off 60 percent in the survey cannot be considered rich. Almost 50 percent of the population covered by the survey consumes between US\$2.50 and US\$5.00 per day (at 2005 PPP) and another 25 percent consume more than US\$5.00 per day.

¹⁶The Gini coefficient, the most commonly reported measure of inequality, ranges from 0 (complete equality) to 100 (complete inequality), although for consumption spending it is typically in the range of 30 to 50.

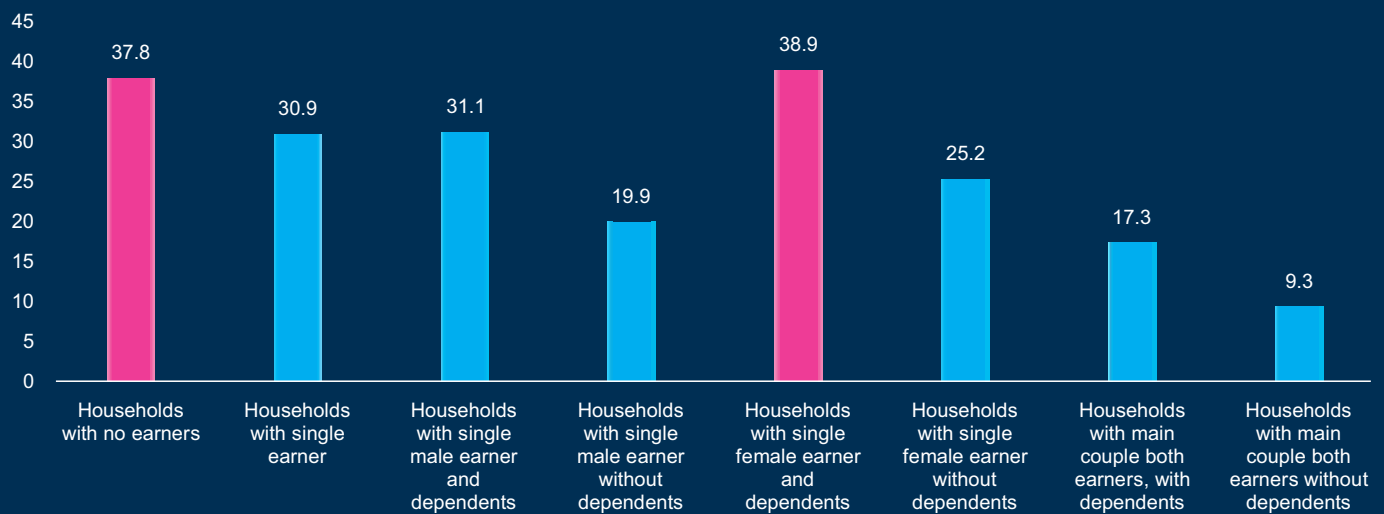
Box 1.5: What do we know about the poor in Armenia?

Yerevan, as the center of economic activity, has the lowest poverty rate in the country (25 percent in 2015). While Yerevan's poverty rate is high considering that the city accounts for 50 percent of Armenia's GDP, poverty outside the city is even higher. People living in the 48 secondary cities that comprise the other urban areas of the country have consistently had the highest poverty rate (34 percent in 2015). Rural poverty is high as well, but lower than the poverty rate of secondary cities (30.4 percent in 2015). Counted together, the poor living in secondary cities and rural areas account for just over 70 percent of all the poor in the country. The high share of poor living in secondary cities is unlike the more typical pattern of the poor being heavily concentrated in rural areas. For instance, in Belarus, Bolivia, Bosnia and Herzegovina, Croatia, Hungary, Latvia, Poland, Romania, Russia, and the Slovak Republic, poverty is mainly a rural phenomenon; in Georgia and Serbia,

although the concentration is not as stark, there are higher rates of poverty among the rural population. In contrast, Albania and Ukraine present a similar context as Armenia, with higher poverty among the urban population.⁶ (See also Box 3.1.)

The poor tend to have lower levels of educational attainment, and show weaker attachment to labor markets. A higher percentage of adults being employed in the labor market decreases the probability of being poor and, in a similar way, better education lays the foundations for individuals and households to escape poverty. Households where the main earner is a woman are therefore more likely to be poor because women earn less than men. Armenian women earn less than men not because they are less educated but because of the occupations and sectors they work in (see Annex).

Figure 1.10: Poverty headcount by demographic and earner composition



Source: World Bank staff calculations using ILCS 2015.

Note: Dependent is defined as an individual younger than 18 or older than 69. An earner is defined as having labor income different from zero in the past year.

Multidimensional poverty analysis shows that poor households have low educational attainment and inferior health outcomes. Among the poorest 20 percent, there is a higher share of households where members have at most secondary education and where children are more likely to be absent from school. Although the gap seems very small looking to the share of households, “where at least one household member needed to interrupt daily routine because

of health problems” (compounded with type of activities and age structure of households), financial affordability of health services seems to be much lower for households at the bottom of the welfare distribution (22.7 percent versus 8.4 percent). These disparities in education and health outcomes not only shape an individual's wellbeing, but also determine his/her ability to participate in an inclusive economic growth process, and engage in society.

Source: World Bank staff analysis of ILCS 2015 and 2017 World Bank Poverty Assessment for Armenia.

¹⁷Poverty and Shared Prosperity Snapshots, World Bank, accessed May 2017. <http://globalpractices.worldbank.org/poverty/Pages/SitePages/AAG-PovertyandSharedProsperity.aspx>

C Looking Forward: New Engines of Growth

1.21. New sources of growth need to be found. Growing with low levels of trade and large financial inflows financing domestic demand has reached its limits in the global “new normal” of low growth-low investment. In the “new normal” global and regional environment, growth sources will not come—as they did before 2009—from financial inflows fueling the domestic economic and supporting non-tradeable goods production. First, capital inflows are likely to be moderate and the volume of remittances will remain muted, making reliance on non-tradeable growth unlikely. Second, the fiscal stimulus lever has run its course, with the fiscal buffer now depleted, which implies that expansionary fiscal policies cannot be pursued in the near term. Finally, the vulnerability of the Armenian economy to external shocks has been revealed and needs to be addressed. This section looks at a new growth model that could build resilient inclusive growth in Armenia going forward.

1.22. Given far less supportive current external conditions, what outcomes for living standards and poverty reduction could be realistically expected by a comprehensive reform package? By when can Armenia aspire to reach high-income status? By how much would poverty and income disparities be reduced? This section discusses long-term growth projections using a simple growth model. It examines two scenarios: the first scenario assumes a policy shift and reform acceleration to enhance productivity and factor accumulation. The second scenario assumes that recent historical policy parameters remain unchanged.

1.23. Simulations suggest that Armenia is facing important challenges that must be tackled, but that the country also has very significant opportunities if it seizes them. Both scenarios in the simulation consider the predicted demographic trends, which pose fundamental challenges for the labor market and growth dynamism, social services, and fiscal sustainability. With a fertility rate below 1.6 children per woman and net out-migration, Armenia’s population is set to shrink by about 10 percent down to 2.7 million by 2050. With an aging population and a persistent gender gap in labor-force participation, the ratio of economic dependents (children under 14 years of age and adults aged 65 and older) to the economically active population overall (those active among the 15-64 age group) is projected to rise to close to 80 percent by 2030, from about 60 percent in 2015. The decline and aging of the population will have a major impact on GDP growth. Halting the decline of the population would lead to a gain of 0.3 of a percentage point of GDP growth every year. Keeping the ratio of those of working age to total population constant

would add another 0.3 of a percentage point of growth annually. This illustrates the scope for supplementing the reform package with additional measures.

■ **Assuming a comprehensive reform package scenario, Armenia would be well on its way to achieving high-income status by 2050 and to significantly reducing poverty.** Implementing reforms aimed at boosting total factor productivity (TFP), labor and capital efficiency, labor and capital accumulation, and reducing disparities would directly affect key drivers of growth. Simulations show that this would be sufficient for Armenia to achieve high-income status by 2050. The poverty headcount ratio as measured by the current national poverty line would decline dramatically to 8.6 percent in 2030 and to virtually zero by 2050.

■ **In contrast, assuming the continuation of recent trends, Armenia’s modest per-capita growth will not be sufficient to reduce poverty significantly and to achieve high-income status by 2050.** With a lack of strong economic growth, per-capita GDP growth is expected to remain at below 2.5 percent until 2030. Looking further ahead, Armenia’s per-capita GDP will reach only US\$7,490 by 2050 (in 2016 US dollars), which is far below the aspirational goal of reaching high-income status (US\$12,476 or more). Per-capita GDP will increase to US\$4,960 (in 2016 US dollars), sufficient for Armenia to surpass the upper middle-income country threshold of US\$4,035 in around 2021. The low average growth rate also creates a worrying outlook regarding debt sustainability. While poverty will slowly decrease, the rate of decrease will be far less than the stated goal under the SDG.¹⁸

1.24. In conclusion, Armenia has the opportunity to change course, enhance growth and poverty reduction, and get on track toward high-income status if it focuses on productivity-enhancing reforms. The country’s reform momentum needs to become commensurate with its structural challenges and these have become more obvious since the deterioration of the external environment post-2009. Already in the aftermath of the GFC, many analysts pointed out that the continuation of the pre-2008 development path required deepening reforms to sharpen the competitive framework of the economy, achieve closer integration with international trade and capital markets, build financial markets, and create the conditions for the absorption of knowledge that leads to higher technological sophistication.

1.25. To do so, given its relatively small domestic market, Armenia needs to rebalance its growth toward exports and open new markets abroad to benefit more from external demand. This should be supported

¹⁸The Sustainable Development Goal (SDG) 1.2 involves halving the poverty rate at national poverty lines by 2030. In Armenia this means reducing the headcount poverty rate from 29.8 percent in 2015 to 14.9 percent by 2030.

by investment in multi-connectivity, leveraging trade and transport facilitation, ICT and softer enablers, such as the Armenian diaspora, and trade and investment policies (Section 1 of Chapter 2), investment climate reforms, and market contestability (Section 2 of Chapter 2). Such reforms need to be linked with investments in education and skills, as well as with providing equal access to productive formal employment (Section 3 of Chapter 2). There is a nascent structural shift toward better jobs, but the presence of low productivity in Armenia's large informal sector (particularly in agriculture) poses challenges. Accelerating the structural transformation from subsistence agriculture to agribusiness, and from agriculture to export-oriented manufacturing

and services, should be an important part of the reform package. Productivity improvements will be especially important to counter the implications of a declining working-age population. To achieve shared prosperity, the country needs to make greater and better use of labor resources through more and better jobs, as well as through addressing the skills mismatch. Together, such a reform package would lead to higher TFP and human capital growth. It would also necessitate and lead to an increase in high-quality, productive investment. Finally, because it would revive channels of transmission between growth and job creation, it would halt a further worsening of inequality and make growth more effective in reducing poverty.

Box 1.6: Armenia's long-term growth projections based on different scenarios

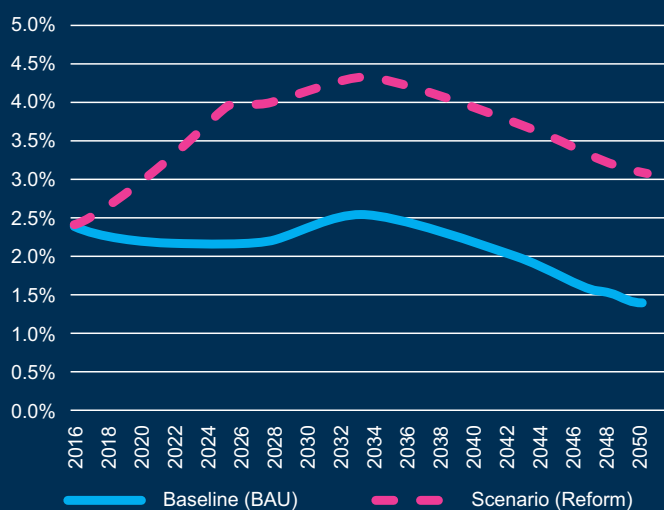
Using the DEC-MFM Long-Term Growth Model (LTGM), we compare business-as-usual (BAU) growth with a growth trajectory that benefits from a reform package aimed at enhancing total TFP, labor and capital productivity, labor participation, and greater investment. The LTGM is based on the Solow-Swan growth model, but extended to include human capital, demographics and other growth drivers, which are important in developing countries. The model also keeps track of income distribution: absent changes in inequality, economic growth increases all incomes, which reduces poverty as growth lifts people across the poverty line; in contrast, with increasing inequality growth becomes less effective in reducing poverty. The basic assumptions for both baseline and scenario are as follows: initial year for estimation is 2016, initial capital-to-GDP ratio of 2.7, initial GDP per capita of US\$3,640 (in 2016 US dollars), depreciation rate of 2.7 percent, constant labor shares of 62.5 percent, and initial labor-market participation

rate of 66.9 percent. Figures on demographic dynamics come from the World Bank's Population Estimates and Projects database.

The baseline shows BAU assuming the continuation of recent trends and considering historic averages. The following assumptions deserve further explanation, as they will be changed in the reform scenario. First, TFP growth is set at 1.0 percent, which is slightly above the cross-country median and close to Armenia's historical average of 1.3 percent from 2005 to 2014 (PWT9). TFP growth has been extremely volatile in the past. For example, TFP growth was above 10 percent in some years prior to 2005, while it has been negative in recent years. The latter is the reason for departing from the 10-year average and lower expectations to 1.0 percent. Second, human capital growth is set at 0.1 percent, which reflects the historical average between 2005 and 2014, but with less fluctuation in contrast to TFP growth. Third, the investment-to-GDP ratio is assumed to remain at the level it has been in recent years, namely around 20 percent. Finally, the Gini coefficient is assumed to continue its upward trend to increase to 36.7 by 2030 and remain constant thereafter. The Gini coefficient increased from 29.9 in 2009 to 31.5 in 2014, i.e., by 0.33 per year, as incomes of the bottom of the welfare distribution grew at a slower pace than incomes in the rest of the population. If we assume that this trend continues until 2030, the Gini coefficient would be 36.7 by that year. This is not an unrealistic level for Armenia, which had a Gini coefficient of 37.5 in 2004.

Reform Scenario: By 2025, TFP growth would increase to 2.0 percent, human capital growth to 0.3 percent, and the investment-to-GDP ratio to 26 percent.¹⁹ The reform package also contains policies to tackle inequality that should at least stop the rise of the Gini coefficient. Figure 1.11 shows the impact of such a reform package on growth and poverty reduction. Figure 1.11 shows a significant

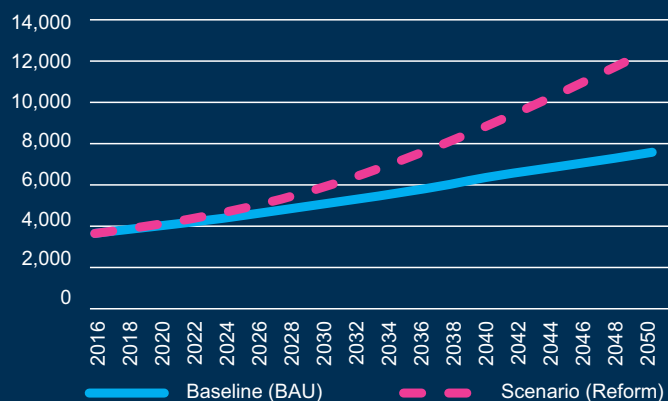
Figure 1.11: Real GDP per capita growth rate



Source: World Bank staff calculations.

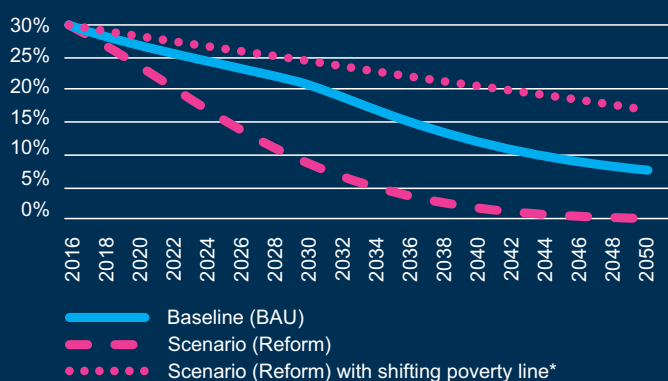
Box 1.6: Armenia's long-term growth projections based on different scenarios

Figure 1.12: Real GDP per capita level (2011 US\$)



Source: World Bank staff calculations.

Figure 1.13: Poverty headcount rate at the national poverty line



Source: World Bank staff calculations.

increase in per capita GDP growth. Between 2017 and 2050, the average GDP growth rate would be 3.4 percent and 3.7 percent in per capita terms. This would be sufficient for Armenia to achieve high-income status by 2050 (Figure 1.12). Figure 1.13 shows the impact on poverty reduction in two different ways. For one, the poverty headcount ratio as measured by the current national poverty line would decline dramatically to just 8.6 percent by 2030 and to virtually zero by 2050. However, as countries become richer they usually adjust their poverty line upwards. This is shown in the scenario with a shifting poverty line. In this scenario, we assume that the poverty line would gradually shift upward to reach a level twice as high (in real terms) by 2050, which is commensurate with national poverty lines of other countries at this income level.²⁰ Also under this scenario, poverty would fall significantly to reach 16.8 percent by 2050 under the new poverty line, which is twice as high as the initial one.

Sensitivity analysis

Population decline has a significant impact on GDP growth. While population growth is predicted to stay positive until about 2020, it is on a decreasing trend and will turn soon negative. This has a significant impact on the real GDP growth rate. As we have seen above, in BAU annual real GDP growth is predicated to average 1.8 percent until 2050. However, if the Government manages to halt population decline, growth would increase by 0.3 of a percentage point (Figure 1.12). At the same time, per capita GDP growth would change only marginally, but in the opposite direction, from an average of 2.1 to 2.0 percent.

The aging population has an even higher impact on GDP growth. Currently, Armenia has an aging population and this trend is predicted to continue until the early 2030s. Then, a period of recovery is expected to set in, albeit unsustainable, before the working-age-to-total-population ratio starts to decrease once again. If we assume that the Government manages to halt this trend in 2017 and can keep the working-age-to-total-population ratio constant until 2050, this would have a significant and positive impact on both GDP and per-capita GDP growth. In the counterfactual case with no aging population, real GDP growth would increase from an average of 1.8 percent to 2.1 percent—a similar increase as that produced by halting population decline. However, in the no-aging scenario, GDP growth would also increase on a per-capita basis by 0.3 of a percentage point to 2.4 percent.

The demographic sensitivity analysis on the baseline shows significant scope for supplementing the reform package with additional measures. Halting, or at least reducing, the trend of population decline and aging would bring significant improvements for real GDP growth. When it comes to per-capita GDP growth, only measures to halt or limit the aging process will bring positive results. What holds for the BAU analysis is also true for the reform package scenario: keeping the population constant would lift average real GDP growth to 3.6 percent (and decrease per-capita GDP growth to 3.6 percent); keeping the working-age-to-total-population ratio constant would increase average real GDP growth to 3.7 percent and to 4.0 percent in per-capita

¹⁹These figures are within the range of Armenia's history and cross-country experience. In reality, the variables will not remain stable, nor will they shift very gradually, but they can be expected to continue to fluctuate.

²⁰Indeed, keeping the poverty line of a low-income country in an environment where per-capita GDP reaches a level of high-income countries would not be credible.



CHAPTER 2:

FOUR CHALLENGES TO ACHIEVING RESILIENT INCLUSIVE GROWTH WITH PRODUCTIVITY GAINS

2.1. The combination of greater export opportunities supported by productivity-enhancing investment and a vibrant private sector would provide sound and sustainable sources of growth. It would also offer productive jobs, which individuals with the right skills and access to the labor market would fill, thereby ensuring growth inclusiveness and reducing incentives for out-migration (see Annex 4). The following sections examine the external sector performance (Challenge 1), firms' and individuals' productivity (Challenges 2 and 3, respectively), and highlight progress and achievements so far, as well as remaining constraints and existing opportunities for further improvement. The last section reviews existing risks and vulnerabilities, and how to manage them (Challenge 4).

A Challenge 1: External Sector Performance

2.2. As explained in Chapter 1, going forward Armenia will need to rely increasingly on the performance of its external sector, and on productivity gains to drive growth and job creation. This calls for a rebalancing of growth from domestic demand to exports, from non-tradeable to tradeable sectors, and from factor accumulation to TFP

improvements. The following sections examine external sector outcomes and underlying supporting drivers: hard infrastructure to connect to others (through land, and air), and soft infrastructure (ICT), trade and investment policies, and the role of the diaspora.

i. External Sector Outcomes

2.3. How has Armenia performed in terms of external competitiveness? The country features noticeable progress in the recent years, with more diversification of export products and markets, a marked balance of payment improvement, and increased sophistication of FDI. However, the country's balance of payments also features a significant dependence, both on international commodity prices and on Russia's economic circumstances through exports, foreign investment, and remittances. Armenia's exports exhibit a narrow base, low sophistication, low survival rates, and low participation in GVCs relative to its peers. The section concludes that if Armenia is to develop exports as a driver of growth, diversification of products and markets will need to be deepened, irrespective of improvements of Russia's economy or global commodity markets.

2.4. Armenia's balance of payments has improved markedly in recent years, but remains vulnerable to global commodity markets, either directly via exports or indirectly through close economic links with Russia.

Following a protracted period of significant dissaving, the current account deficit has shown sustained improvements, both through depressed imports and increased exports along with greater diversification. The country is a net commodity

Box 2.1: Armenia agriculture sector: Performance and challenges

Agriculture sector growth has been strong, driven by increased productivity of semi-subsistence farms and migration out of agriculture. The sector contributed 20 percent of GDP, 35 percent of employment, and 28 percent of exports in 2015. It is predominantly informal, with 76 percent of all informal workers found in agriculture. The sector grew by in the period 2004-15 and contributed to one-quarter of GDP growth (World Bank Development Indicators). Productivity increases were the main drivers of agriculture sector growth, coming from both land productivity and labor productivity improvements, the latter being pushed by a sharp reduction in the number of people employed in the sector. The yield increases are the result of increased fertilizer use and the wider use of improved seed—simple, low-cost technologies that most farmers use and understand. Access to fertilizer and seed has improved in response to government subsidy programs. Public investment has focused on improving access to irrigation, support for development of the extension system, measures to strengthen water-user associations to improve grass-roots management of irrigation, and farmer cooperatives and producer associations as a means to provide the economies of scale needed to engage more profitably in agricultural markets. Similarly, access to capital has improved significantly during the period of analysis through commercial bank lending for agriculture, FDI, and development-partner funding. Meanwhile, export growth has been strong, driven primarily by beverage and tobacco products, with little reliance on the country's resource base.

There are two main constraints preventing Armenia's agriculture sector from transforming itself into a modern dynamic sector and away from subsistence toward exports: First, and in the context of Armenia's limited areas of arable land, land ownership is fragmented, and dominated by small-scale, semi-subsistence farms. Second, the lack of widespread adoption of advanced technologies and management experience has prevented the sector from truly becoming more export-oriented and diversifying products and markets.

Building a modern agriculture sector calls for a new set of institutional infrastructure and knowledge transfer. Substantial growth has been achieved by improving the productivity of small-scale farms that continue to use the semi-subsistence production systems initiated in the late

1990s. But Armenia's capacity to produce and export high-value crop and livestock products has yet to be fully exploited. The suggested building blocks for a new model for agriculture sector growth are as follows:

- **A focus on medium-scale farms, farmers willing to invest in modern farming technology, and the knowledge needed to use this technology effectively.** A stronger, broad-based presence of these medium-scale farms and agribusiness enterprises would create a more level playing field and strengthen competition, thereby increasing the vibrancy of private sector activity. The productivity increases needed for these medium-scale farms and agribusiness enterprises to be sustainable will come from ongoing support for value-chain development.

- **A broad-based medium-term program to facilitate farm enlargement through the land market through:** (i) land consolidation programs; (ii) strengthening public institutions responsible for land surveying, land registration, and land conveyancing; (iii) strengthening the private institutions responsible for rural land valuation and the sale of rural real estate; (iv) reviewing the role of land taxes as a way to improve the efficiency of agricultural land use; and (v) incentives to encourage older farmers to lease or sell their land to younger farmers (e.g., land tax exemptions, public transfers, etc.).

- **Investment in knowledge transfer for farmers and agribusiness, and improved education and training for rural people.** There are two compelling reasons to prioritize investment in knowledge transfer, and training, and education in rural areas. First, the transformation of agriculture from semi-subsistence to modern farming systems will succeed only if farmers and agribusiness enterprises are able to use this technology effectively. By improving understanding of these technologies, an effective agricultural extension system also increases the incentives to make these investments and reduces the risks that the investments will fail. Second, rural people leaving agriculture need a strong, broad-based education and access to a range of vocational training programs if they are to find employment elsewhere. Non-farm employment opportunities in rural areas exist across the whole spectrum of economic activity, including employment in public services.

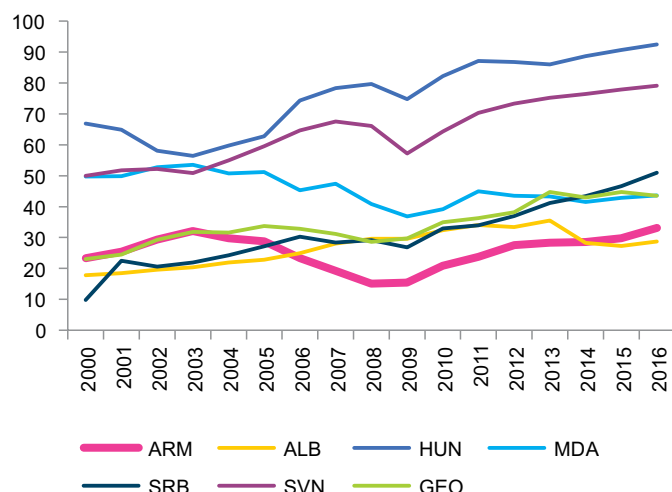
exporter, with mining and metal-related exports contributing to 60 percent of goods exports.²¹ Significant vulnerability to international price fluctuations prevails, as illustrated by the close correlation between export earnings and the price of copper and other minerals traded. Thus, the country's balance of payments features a significant dependence on international commodity prices, which is compounded by a large vulnerability to Russia's economic circumstances through exports, foreign investment, and remittances from Armenian migrant workers. Armenia's imports from the rest of the world have been roughly financed by: (i) copper and gold exports;

(ii) a strong performance of sales of agricultural products to Russia; (iii) remittances from low-skilled Armenian migrant workers in Russia; (iv) foreign investment from Russia; and

(v) foreign aid. Meanwhile, although exports of services have shown remarkable dynamism, they do not yet generate a trade surplus.²²

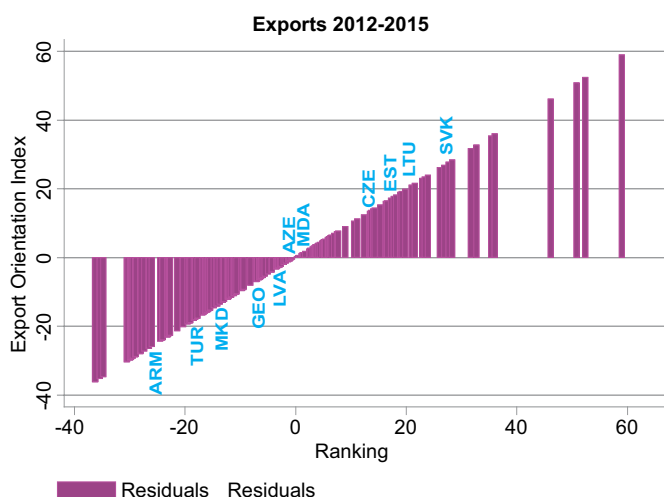
2.5. Armenia's external trade exposure is lower than its peers. Exports of goods and services as a percentage of GDP remained below 30 percent in 2015 (Figure 2.1). Only Albania and Bosnia exhibit lower levels of export openness than Armenia. This limited exposure to international trade also emerges when looking at the position of Armenia and comparators in an export-orientation ranking that measures trade-to-GDP ratios.²³ Armenia is clearly less integrated with global markets than its comparators (Figure 2.2). Firm-level data confirm Armenia's limited participation in international markets.²⁴ In short, Armenia's untapped export potential represents a significant opportunity for future growth.

Figure 2.1: Exports of goods and services (% of GDP)



Source: World Bank staff calculations based on data from WDI.

Figure 2.2: Export orientation index



Source: World Bank staff calculations based on data from WDI.

2.6. Other measurements of trade performance point to opportunities for improvement. On the one hand, there has been low diversification of exports in terms of both products and geography, placing Armenia behind most of its peers. Main exports are unsophisticated and their destination concentrated on Russia (16 percent of Armenia's total exports and mostly agricultural products) and the EU countries (28 percent of total exports and mostly mining-related exports). Armenia has a limited number of export products, which has not expanded since 2010, and low diversification is also found at a more disaggregated level. Similarly, Armenia's

exports have been gaining global market shares over the past 10 years but more slowly than its peers. The survival of Armenian firms in export markets is a challenge, preventing firms from fully benefitting from being integrated in the global marketplace. Finally, an international comparison shows that Armenia's participation in global value chains (GVCs) has been limited, both as a seller and as a buyer.²⁵ However, signs of trade diversification both in product and destination are positive and encouraging. In addition, comparisons with peer countries suggest scope for further improvements. Several countries with comparable characteristics have been able

²¹ Armenia's imports are dominated by final consumption goods (52 percent). Commodity imports (mostly petrol and gas) account for about 18 percent of imports (2015).

²² Out-migration and remittances have substituted for non-commodity exports. Labor has been exported through migration, sending back remittances, instead of goods or services exports bringing export earnings to the country. However, while non-commodity exports of goods and services support productivity and job creation, migration does not contribute as much to creating domestic value added and directly enhancing productivity. In addition, remittances are certainly supportive of economic growth in the short term through increased private consumption, but contribute little to improving growth quality through productive investment. Incentives for household to use remittances more for micro-investment rather than consumption could be further explored.

²³ This index is purged of the effects of the size of the economy and other physical characteristics, such as being landlocked or being an island.

²⁴ Only 15 percent of Armenian firms export, either directly or indirectly (BEEPS, 2013). This is well below the average of comparator countries (24 percent) and despite the large share of Armenian firms that have internationally recognized quality certification (45 percent). Evidence suggests that the adoption of internationally recognized quality standards helps firms to export, and this seems especially relevant to exports from developing countries (Swann, 2010). However, while the diffusion of internationally-recognized quality standards in Armenia is above that of Serbia and Slovenia, export participation remains far lower.

²⁵ Annex: Trade and Competitiveness Selected Issues.

to make progress on trade performance, suggesting that Armenia could follow a similar path.

2.7. Finally, FDI has proven relatively resilient and has become more knowledge and technology intensive.

The composition of FDI has followed a gradual productive transformation toward more sophisticated, higher value-added sectors, and has been relatively resilient after the successive external downturns. In 2004-06, financial services, communications, and metals were the main targets of FDI. However, in 2014-16, the share of FDI in communications, software, and ICT services, and renewable/alternative energies increased significantly. FDI inflows have remained strong over time compared with peers, albeit still standing below pre-crisis levels, which is a common feature in the region.²⁶ In the post-crisis period, Armenia has outperformed Slovenia, Moldova, Macedonia, and Bosnia, but lags Georgia, Hungary, and Albania. Moreover, Armenia is slightly above the expected levels of FDI inflows given its income per capita.

2.8. In conclusion, to improve the performance of the external sector, Armenia can build on several strengths.

These include a recent improvement in export performance and the current account balance, which includes trade diversification, both in terms of products and destinations; a dynamic service sector, which increasingly exports; and an improvement in the content and sector of interest of foreign investment. However, Armenia’s exports still exhibit a narrower base, lower sophistication, lower survival rates, and lower participation in GVCs relatively to its peers. This suggests ample opportunities for improvement. The next section examines what may explain the recent performance

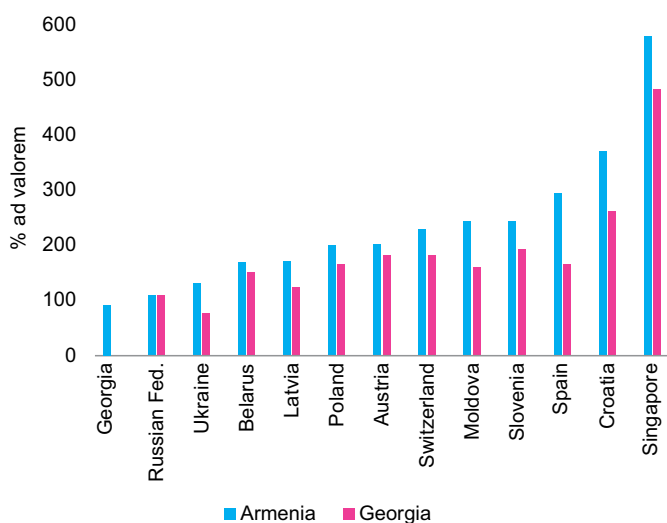
of the external sector, its achievements, and the remaining constraints to be tackled.

ii. Constraints to Improving External Sector Outcomes

2.9. How easily does Armenia connect with the rest of the world? What progress has been made so far, what are the remaining challenges to overcome and what are the opportunities to seize? This section reviews progress made and the remaining constraints and opportunities to improve Armenia’s external sector performance through improving the country’s international connectivity (hard and soft infrastructure).

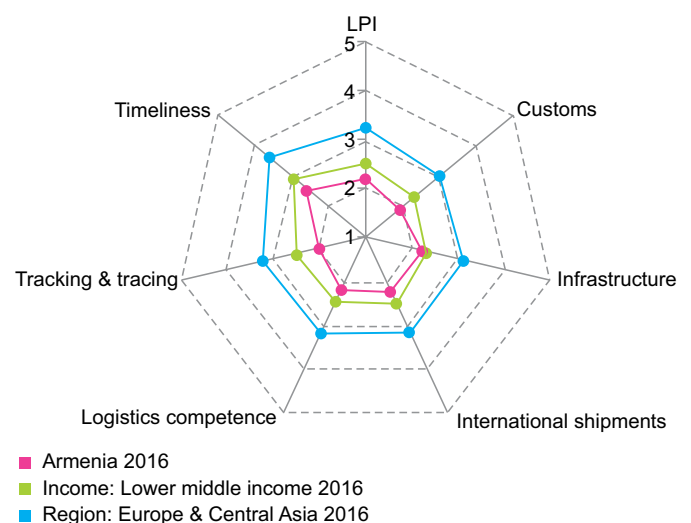
2.10. Armenia suffers from comparatively high trade costs, explained to a large extent by its geographical situation and closed borders. The overwhelming majority of Armenia’s trade travels over land and faces higher trade costs than neighboring countries (Figure 2.3).²⁷ In addition to being landlocked, its borders with Azerbaijan and Turkey are closed because of longstanding geopolitical issues, leaving Georgia and Iran as the only possible trade routes. Thus, trade is dependent on third countries, especially transit routes through Georgia, which incur bottlenecks through costs, delays, and unpredictability. Similarly, trade through Iran presents its own set of challenges, with large variations in the time to initiate transit and comply with formalities, truck availability, and restricted traceability. Rail and ferry services to and across the Black Sea do not yet constitute a meaningful alternative to Armenia’s improved accessibility to foreign markets, except for bulk cargos and the carriage of high-density goods.²⁸ Armenia is only connected to the Georgian railway network, which is not connected to Russia.

Figure 2.3: Trade costs



Source: World Bank’s Trade Cost Database.

Figure 2.4: Armenia’s Logistics Performance Index, 2016



Source: World Bank’s Logistics Performance Index, 2016.

²⁶ FDI inflows peaked at 9 percent in 2009 and fell sharply thereafter down to 1.8 percent of GDP in 2015.

²⁷ Trade costs capture geographical distance between partners, logistics performance and facilitation bottlenecks at origin and destination, international connectivity of the countries, facilitation at the border, tariffs, non-tariff barriers, and restrictions to trade (World Bank Trade Cost Database).

²⁸ Road transport has expanded its participation to exports, from 37 to 63 percent, at the expense of railways. Between 2010 and 2016. Air cargo remains marginal.

2.11. International logistic professionals report important constraints. Armenia is ranked 141 among 160 economies worldwide in the World Bank's 2016 Logistic Performance Index (LPI).²⁹ Armenia fares worse than the average of its region, with the developing countries in ECA at 2.5 in 2016, relative to Armenia's 2.2 (Figure 2.4). The same holds for Armenia versus the average of lower-middle-income countries (score of 2.5). Overall, the LPI not only captures information about Armenian institutions, but also general accessibility issues. Logistics has shown some improvement, such as in air connectivity, which is by and large liberalized, and border management where transit procedures are usually conducted without serious delays. However, more could be done to develop modern trade and transport facilitation services. For example, logistics services are highly segmented. There is room to develop the domestic logistics industry by adopting modern supply

chain management techniques by manufacturers and importers, and better regulating the traditional transport services and freight forwarding industry. Similarly, there is room for improvement to implement border management reforms, where significant gap between central reforms and the realities on the ground persist (Box 2.2).

2.12. Finally, while progress has been made to improve the north-south corridor, Armenia's road network needs improvement with less than half in good or fair condition. The relatively poor quality of the road network adversely affects domestic connectivity. Inadequate transport connections in some communities significantly restrict the trading potential of the agricultural sector. There is scope for improving the use of existing resources and institutional capacity to maintain the domestic road network.

Box 2.2: Armenia has made good progress on border management

In 2017, the country ranked a comparatively high 48 out of 189 countries on the Doing Business "Trading Across Borders" indicator. Its distance to frontier score of 86.45 (out of a possible 100) puts it far ahead of the average of ECA developing countries, as well as ahead of both the lower-middle-income and upper-middle-income country average. Between 2009 and 2011, Armenia moved up 54 places in the ranking. Reforms included introducing self-declaration under a direct trader input system, investing in new infrastructure and equipment to improve border operations, customs computerization, and developing a risk management system. One reason for Armenia's high score in 2016 was that by joining the Eurasian Economic Union (EEU) it reduced the time and cost for documentary and border compliance for trade with the Russian Federation and other EAEC countries.

Room for improvement remains in the clearance of goods and border management for better international connectivity. Across the board, there is a significant implementation

gap between central reforms (five-year action plan, a new National Single Window (NSW), positive results from the valuation and post-clearance units) and realities on the ground. For example, the reduction in the number of required documents reported by Doing Business does not seem to have translated into any significant reduction in delays and bureaucracy. The risk management approach has significant weaknesses and lacks efficiency. Importers have to go in person to the Customs office to validate their declarations and pay in cash, while the electronic payment system is still not effective 10 years after its introduction. Overlaps and inconsistencies persist, despite significant efforts to reduce agency overlaps under the NSW initiative, for example in the clearance of goods, or container clearances. Border management needs improvement to reduce the time needed for border crossing, which involves considerable congestion at present. Support activities are good but these need capacity reinforcement (Post-Clearance Audit, valuation unit, IT).

2.13. ICT connectivity suggests opportunities for improvement by building on the current positive trend. Penetration has improved with the gap with OECD countries gradually narrowing. At the end of 2015, 58 percent of Armenia's population had access to internet (total fixed and mobile), higher than the rate in Georgia (48 percent), but lower than that of Azerbaijan (77 percent), as well as Russia (70 percent), the EU (80 percent), and the OECD average (77 percent).³⁰ The broadband market in Armenia has been transitioning dramatically with greater competition and lower prices. In 2015, Armenia had 10 percent fixed broadband internet subscriptions per 100 people, a marked increase from 3 percent in 2010, but

relatively low among comparators. Better access remains concentrated in urban areas, while broadband penetration in rural areas is lagging.

2.14. Average speeds offered by operators remain lower than comparator countries, partly because of Armenia's landlocked nature. Internet pricing has declined in recent years. But overall, broadband speed relative to cost, i.e., value for money, is lower in Armenia than in comparator countries. For both mobile and fixed broadband, Armenia's speeds are lower than comparators. This is because, given its landlocked nature, Armenia must either route its internet traffic through Georgia or Iran for transmission

over international fiber-optic cable systems, or use slower satellite technologies. These limited options constrain the availability of internet bandwidth and add to the cost of international services, making high-speed internet more costly for average citizens. Affordability remains an issue. Findings suggest that access to fixed broadband is still costly for poorer households and small businesses, particularly those concentrated in rural areas.³¹

2.15. The small size of the market with limited number of players in both the fixed and mobile broadband markets also stifles higher access to more affordable and reliable internet services. According to the World Economic Forum's Network Readiness Index (NRI), Armenia has a lower average ranking compared with its peers when considering the ICT environment. Although Armenia has the necessary legal and regulatory framework in place in the ICT sector, its enforcement is limited. The country is ranked much higher in its business and innovation environment than its ICT policy and regulatory environment. One player has over a 60 percent share of the mobile market, while another controls almost half the client base in the fixed broadband market.

2.16. Looking at the broader elements of the digital economy in Armenia suggests there is room for improvement. Digital economy levers have the potential to open markets beyond domestic borders. Internet is changing trade, firm productivity, demand for skills, and labor-market arrangements. On the one hand, internet technology adoption by firms and households in Armenia is lower than in peer countries. On the other hand, since 2006, the ICT and high-technology sectors have become two of the fastest growing sectors in the country. The driving factor behind Armenia's competitiveness in these two sectors is the availability of educated human resources, together with support from the diaspora. However, those firms at the technological frontier already report growing difficulties in finding the skills they need, suggesting that supply might not be able to keep up with demand for skills in these sectors.³² In addition, despite a relatively supportive legal framework, the use of e-commerce transactions is low, but growing. Armenia ranked 87 out of 137 economies in the B2C E-Commerce Index 2016, which is lower than neighboring countries, including Iran (77) and Georgia (84). Indeed, e-commerce soft and hard infrastructure has room for improvement to boost user confidence, including consumer protection, privacy and data protection, and cybercrime. The main constraint is the limited use of financial services in-country, including credit cards and international

payment systems. Given Armenia's promising developments in the sector and initial comparative advantages, a thorough assessment through a better understanding of how to accelerate the adoption of the digital economy to boost growth would be critical. The Government Program 2017-2022 identifies the digital economy as a cross-cutting priority.

2.17. Turning to trade policies, Armenia's membership of the Eurasian Economic Union (EEU) since 2015 brings opportunities, but also challenges. Trade policy was very open after Armenia's accession to the WTO in 2003. While Armenia's membership of the Eurasian Economic Union (EEU) in 2015 has brought immediate benefits, it has also added bureaucratic burdens for trade outside the Union, especially for goods in need of additional permits and certification.³³ Medium- to long-term impacts are mixed with reduced benefits from structural and institutional reforms, and knowledge transfer. Membership in the EEU constrains the ability of Armenia to negotiate deep preferential trade agreements with third countries. On the positive side, considerable interest could be raised from market-seeking FDI. Investors could see Armenia as a base from which to access the wider EEU market. These investors could bring technology and know-how to Armenia. For example, Armenia could become an attractive location for investors interested in providing services to the EEU. Armenia has a relatively more open trade regime in services than other EEU member countries, which gives it a comparative advantage. Investors could be interested in establishing a commercial presence in Armenia to avoid existing limitations and conditions that apply in non-EEU member countries. Armenia's advantageous position with respect to services would strongly depend on the degree of integration in services that will be achieved in the EEU.

2.18. Beyond the EEU, Armenia could seek to the extent possible to negotiate mutually beneficial trade agreements.³⁴ Such agreements would help to put exporters, particularly those in GVC-prone sectors, on an equal footing to compete with peer countries and neighbors. For example, an analysis of trade complementarity shows that Armenia's exports are more complementary with both India and China than with Germany and Russia, but currently Germany and Russia receive far larger shares as markets for Armenia.³⁵ In addition, there seems to be potential for Iran to serve as a transit country for Armenian goods, or perhaps for Armenia to serve as a transit country for exports to Iran from Russia or Georgia.

²⁹The World Bank's Logistics Performance Index (LPI) primarily measures the performance of a country's gateways to international trade, i.e., ports, airports and international land borders. The LPI ranges from 1 (low) to 5 (high).

³⁰World Development Indicators. Data collected as part of the E-Society and Innovation for Competitiveness Project (P115647) indicate that Access to Internet (as a percentage of population) in Armenia reached 73.4 percent by June 2016.

³¹In 2015, the monthly internet sub-basket cost in Armenia was estimated at US\$8, more than 5 percent of total household monthly income for close to 80 percent of Armenian households.

³²Following the WDR 2016, Kelly et al. (2017) recommend that Armenia—as an emerging adopter of internet technology—should focus on strengthening educational quality and the foundational skills of students (Kelly, Tim, Aleksandra Liaplina, Shawn W. Tan, and Herman Winkler. 2017. Reaping Digital Dividends: Leveraging the Internet for Development in Europe and Central Asia. World Bank).

³³Armenia gained access to the EEU's common pool of customs revenue, which translates into a sizeable increase in customs revenues for the Armenian government. By joining the Eurasian Customs Union (EACU), Armenia has avoided the negative effects of an increase in the price of gas that it imports from Russia (creating savings worth about 1 percent of GDP).

³⁴World Bank (2013): "Accumulation, Competition and Connectivity".

³⁵The Government Program 2017-2022 explicitly seeks to develop and deepen bilateral relations with a number of countries (China, India, the Middle-East, USA, Russia, Georgia, Iran and normalize relations with Turkey).

Box 2.3: Positioning Armenia in international transit logistics

While soft improvements might make transit solutions through Armenia more attractive, the country will also have to compete with alternative corridors to attract meaningful transit cargo volumes. Structural conditions (e.g., border closures) will continue to affect the country's connectivity and ability to participate in GVCs.

Emphasis has been placed in the north-south corridor, connecting Iran with Russia and beyond, since Armenia might not be best placed to capture east-west traffic movements. Major road investments along the north-south corridor will soon materialize, connecting the Bavra border crossing (with Georgia) with Meghri, on the border with Iran. Coordination with Georgia to improve its north-south road corridor infrastructure will be instrumental to complement domestic investments. Alternative routes through Turkey and Azerbaijan compete with Armenia for transit opportunities, offering existing rail connections (some soon to be completed) and the ability to "skip" additional transit countries. Furthermore, Transcaspian rail-ferry services do

not require international transit between Russia and Iran.

Armenia's extended market (with limited opportunity to serve Turkey and Azerbaijan) is less attractive for regional distribution and value-added services to be located in the country. Instead, these services are likely to choose Georgia due to its strategic access to all neighboring countries, extended road network, and maritime access. Lack of more flexible transit and groupage regulations, and a limited warehousing regime may also weigh on the previous considerations. Moreover, some changes can be achieved by altering national legislation, but others might be impeded by Customs Union-level regulations, or even dictated by the latter in the near future (as is the case for motor transport).

The normalization of Armenian-Turkish relations, without pre-conditions, as laid out in the Government Program 2017-2022, would have a significant impact on strengthening the positioning of Armenia in international transit logistics.



2.19. Finally, another enabler of external performance may well be the Armenian diaspora, which holds potential to support increased international trade, investment flows, knowledge transfer, and innovation.

Globally, the size of a country's diaspora is correlated with both trade and investment. Large diaspora communities

have the potential to facilitate cross-border information flows and spur increased investment in their country of origin. Existing albeit limited evidence suggests ample room to better leverage the Armenian diaspora, which may have been under-utilized for a number of often complex reasons.³⁶

Box 2.4: Armenia's diaspora

Between 9 and 11 million individuals of Armenian descent live worldwide. Three million Armenians live within Armenia, leaving a 6 to 8 million strong diaspora spread worldwide and split into two categories: the "old diaspora" descends from pre-1970 migrants and is well organized but less connected to the homeland; and the "new diaspora" includes post-1970 migrants and their descendants, and is less well-integrated in their host countries, but more closely connected to the ancestral homeland. Overall, the Armenian diaspora is not only numerous, organized, well established in host countries, and widespread geographically. It also keeps close cultural, material, and emotional ties with the homeland. These qualities make the Armenian diaspora, arguably, the quintessential modern diaspora.

Financial transfers, particularly personal remittances, have gone from US\$65 million (less than 5 percent of GDP) in 1995, to US\$168 million (around 6 percent of GDP) in 2003, to US\$2.1 billion (over 19 percent of GDP) in 2014. However, the high dependence on remittances originating in the Russian Federation raises concerns for an estimated contraction of at least 20 percent in 2015, and subsequent years. The size of its diaspora and the country's high dependency on remittances makes Armenia a good candidate to implement new financial instruments for leveraging remittances for development. These instruments include diaspora bonds and the future-flow securitization of remittances. However, for those instruments to be implemented, important institutional challenges in the domestic financial system must be addressed, such as the

rudimentary bond and equity markets.

Since before Armenia's independence, the diaspora has been an active contributor of FDI, humanitarian aid, and other philanthropic transfers. Analyzing investment flows from 1994 to 2004, researchers found that around 69 percent of foreign investors that invested in Armenia were diaspora-connected, and 68 percent of FDI-recipient companies had relevant diaspora ties. Furthermore, 60 percent of diaspora-connected investors came from just three countries: Russia (29 percent), the US (17 percent), and Iran (14 percent). Between 2000 and 2010, four sectors accounted for 72.5 percent of cumulative FDI in Armenia: transport and telecommunications; electricity, gas and water; financial intermediation; and mining. The role of diaspora in the ICT sector has been particularly relevant over the past five years. Tourism, in particular "responsible tourism", has become a priority sector for the Government to develop the regions.

The diaspora also brings important intangible contributions (e.g., institutional, knowledge transfer). A good track record of engagement can be found in the private sector, where the diaspora contributes to education, to the transfer of knowledge and skills, and to projects with local spillovers. Future policy efforts should aim to re-earn the trust of the diaspora by fostering these private projects through better legal frameworks and business environments. As these improve, the diaspora may continue to increase its engagement.

B Challenge 2: Private Sector Productivity and Job Creation

2.20. With a far less supportive external environment, a vibrant business sector is essential for further economic growth and poverty reduction through improvements in productivity and job creation. Indeed, while improving external performance and international connectivity will be key in supporting Armenia's rebalancing and finding new growth drivers, it will only be successful if supported

by a vibrant dynamic private sector ready to grow, absorb knowledge and technology, and open new markets. This section examines the dynamics of firms' performance and associated underlying constraints.³⁷

i. Productivity and Firms' Performance

2.21. The drivers of growth have shifted in the post-crisis period, as the potential for further efficiency improvements associated with the transition period has

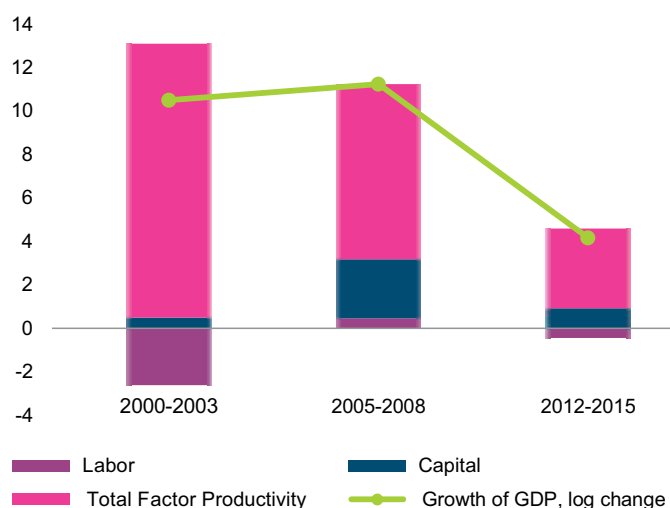
³⁶Armenian migrant destinations receive fewer imports from their home country than other migrant groups, while in terms of exports from their destination country to their country of origin Armenian migrants are similar to other groups. Armenia attracts little FDI from the EU countries where its diaspora resides. There is a limited correlation between migrant destinations, FDI, and the presence of foreign subsidiaries in Armenia (World Bank, 2013). A noticeable exception is the ICT sector in Armenia, which has benefitted from support and investment of the US-based Silicon-valley diaspora.

³⁷See Annex: Trade and Competitiveness Selected Issues.

diminished. Total factor productivity (TFP) was the main contributor to growth as the Armenian economy transitioned from a centrally planned to a market economy, and capital and labor were re-allocated to more productive sectors. Between 2005 and 2008, as efficiency gains decelerated, capital accumulation played a larger role (Figure 2.5). But the contribution of capital fell in 2012-15, and efficiency

gains decelerated even more. Labor's role in GDP growth, on the other hand, has remained consistently low and has declined in the aftermath of the crises, as Armenians sought employment opportunities abroad. Notice, however, that while Armenian efficiency growth in 2012-15 was half its level in 2005-08, from a cross-country perspective it remained significantly high, particularly within the region.

Figure 2.5: Growth accounting decomposition by factor

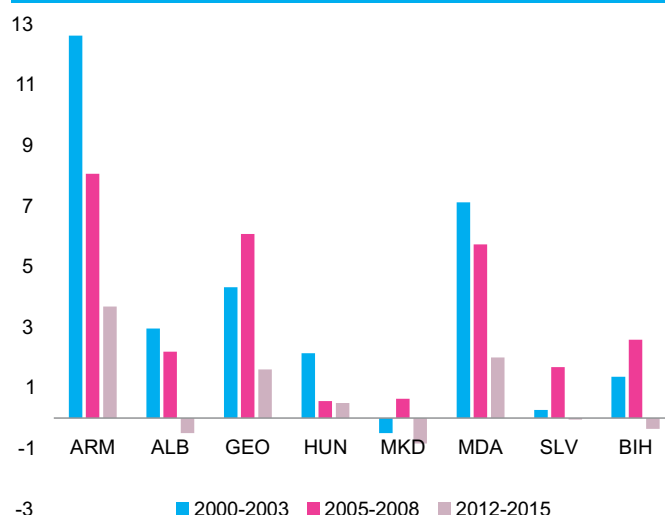


Source: Calculations based on data from Conference Board.

2.22. The observed patterns of deceleration of GDP and productivity growth at the macro level result from the aggregation of growth and productivity dynamics at the firm level. Specifically, for overall productivity to grow at the macro level, two forces need to be at play. First, firms need to become more productive over time. Second, the most productive firms need to grow and absorb resources that the least productive firms release through a ‘Darwinian’ creative destruction process of competition, which should result in a reduction in the dispersion of productivity levels between firms.

2.23. Limited productivity growth has been witnessed at the firm level post-GFC and firms appear constrained in their ability to enter markets, grow, and consolidate. Productivity at the firm level remained unchanged between 2009 and 2013, in contrast with, for example, Georgia, where firms’ productivity improved (Figure 2.6). Slow growth in entry rates of new companies and difficulties being encountered by small firms trying to grow larger suggest significant barriers to entry and in terms of employing more workers or accessing capital. Firms also show high dispersion of productivity, suggesting limited competition. A higher number of low productivity firms is consistent with the

Figure 2.6: TFP growth rates: Armenia and comparators



existence of barriers to competition that prevent the exit of inefficient plants.

2.24. However, Armenia’s most productive firms exhibit features that are consistent with international experience, suggesting opportunities for improvements. The country benefits from high rates of entrepreneurship. Moreover, successful firms show patterns that are consistent with international experience: most productive firms tend to be younger, use more technology, and are more innovative, while exporters are more likely to be innovators and foreign-owned. SMEs are important employers and job creators.³⁸

2.25. These patterns suggest considerable scope for improving efficiency and productivity. This can be done by shifting labor and capital to more productive firms through addressing the causes of resource misallocation. The next section examines the progress made so far in addressing these causes and the remaining constraints to be tackled.

ii. Constraints to Improving Firms’ Productivity

2.26. Policies and the business environment affect incentives for firms to become more productive. Analysis shows that over one-third of productivity at

³⁸About 40 percent of manufacturing jobs and more than half of all formal services jobs are found in SMEs. Small firms and firms in the services sector are leading in job creation. In the period 2013-15, small firms contributed positively to net job creation, while both medium and large firms experienced a net decline in employment. The increase in employment seen in the services sector—the largest sector of the economy—more than compensated for the contraction in employment experienced by both the agriculture and manufacturing sectors.

Box 2.5: Firms' dynamics

An analysis of firms' patterns reveals important constraints for firms:

■ **First, firms' entry and consolidation seems difficult. Despite relatively high rates of entrepreneurship, firms display a relatively low success rate among their peers.**

Armenia ranks among the top countries in terms of the share of the adult population that has tried to set up a business, with the share also rising by 7 percentage points since 2010. However, the success rate among Armenian entrepreneurs is among the lowest in the region, with almost 40 percent of start-ups failing to survive, suggesting difficulties to start a business. Similarly, in the formal sector, the number of newly registered firms in Armenia has increased only slightly since 2010, and at a far slower pace than Georgia, after a decline during the GFC in 2008-09.

■ **Second, firms' growth is also constrained. The probability that a micro establishment (those small firms with fewer than five employees) grows to become a larger firm within the following two years is low.**

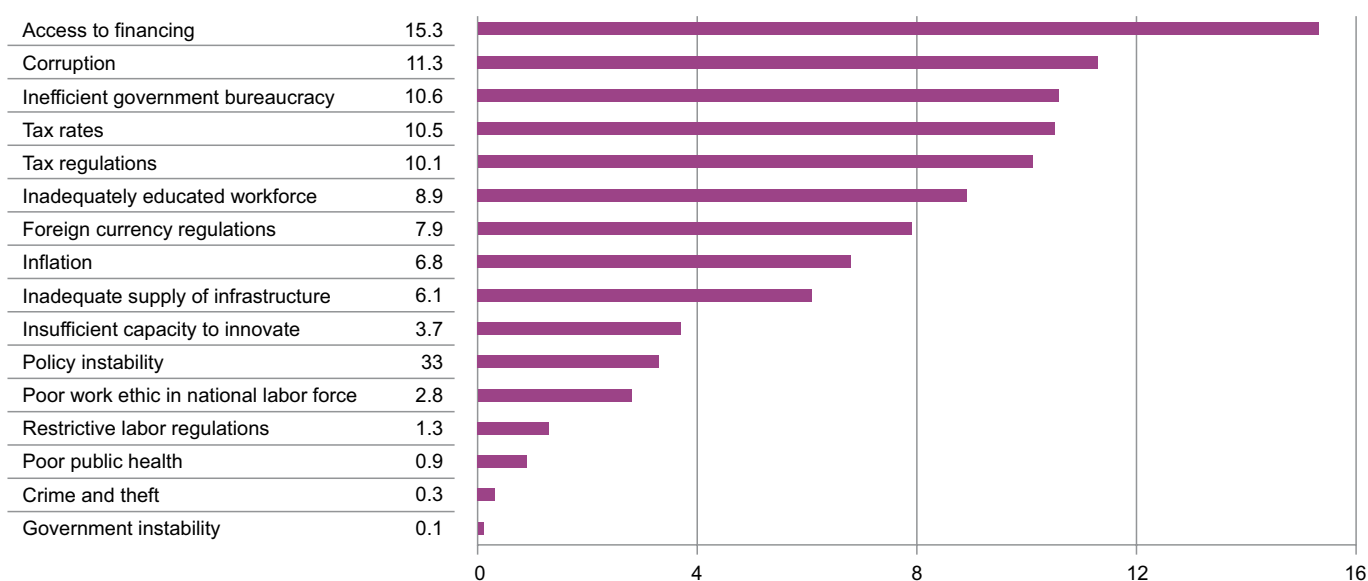
In fact, between 2013 and 2015, only 7 out of 100 micro firms successfully grew into the next size bracket (i.e., employing 5 to 9 employees), and only 1 in 100 grew into the SME category (10 to 49 employees). This means that about 92 percent of micro firms with fewer than five employees were still in the same employment category two years later. Instead, it is more likely that firms shrink. In 2015, about 26 percent of firms with 5 to 9 employees shrank to have fewer than five employees. Moreover, the ability of firms to

grow over their lifecycles has decelerated in recent years. Employment growth over the lifecycle of firms has notably decelerated in recent years, hinting to increasing barriers and costs that firms face to grow in terms of employing more workers or accessing capital. This is consistent with the finding that entrepreneurship seems to be hindered by a lack of access to productive assets (i.e., access to finance, cf. next section).

■ **Third, the high dispersion of productivity and slow growth hints at a lack of competition and a lack of exit, leading to resource misallocation and suggesting scope for improving efficiency by shifting labor and capital to more productive firms.**

Firms in the lowest decile of the labor productivity distribution are three times less productive than those at the highest decile. When compared with neighboring Georgia, the distribution of TFP shows a greater dispersion. Armenia's higher number of low productivity firms suggests the existence of barriers to competition that prevent the exit of inefficient firms and therefore the reallocation of resources to more productive uses. Firm size increases only slowly over its lifecycle, which is a symptom of resource misallocation. In Armenia, old firms (20 years old or more) are, on average, three times larger than young firms (5 years old or younger). In the US, for example, older firms are more than seven times larger than the younger ones. This is well above what is observed in Armenia and suggests considerable scope for reducing barriers to grow and facilitating the accumulation of firm-specific organizational capital for Armenian firms.

Figure 2.7: Most problematic factors for doing business



Source: Global Competitiveness Index, Executive Survey, 2017-18.

the firm level in Armenia can be explained by the policy environment, broadly speaking.³⁹ When asked, surveyed senior executives respond that access to finance, corruption, bureaucracy, and tax are the most problematic factors for doing business in Armenia (Figure 2.7).

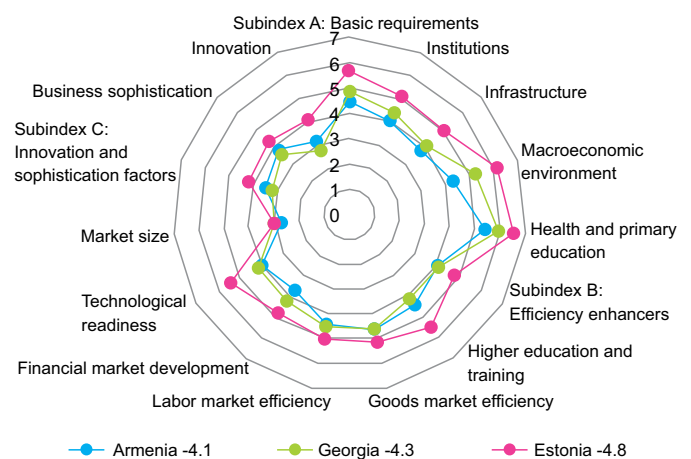
2.27. This section reviews the key areas of improvement in the investment climate in Armenia. It identifies progress made so far and remaining issues to be addressed. Existing challenges pertain to: (i) investment climate and governance gaps despite some progress; (ii) a lack of competition and market contestability despite some progress; and (iii) the need for further financial deepening and access to finance.

a. Investment Climate and Governance Gaps

2.28. Over the past decade, Armenia has begun implementing a number of reforms aimed at removing regulatory obstacles for the private sector and citizens, reducing corruption, and improving the efficiency of the public sector. These reforms include a comprehensive review of the regulatory stock (regulatory guillotine), business inspection reforms, streamlining, and one-stop centers for regulatory procedures, as well as assessments of the impact of new regulations. Other important reforms have included the adoption of a new Tax Code aimed at simplifying tax policy and administration, and making it more transparent. It has unified and simplified tax legislation, both policy and administration, and limited the number of exemptions. As explained above, border management policies and procedures have improved markedly. In addition, the legal framework for protecting property and legal rights are in place, with the legislation providing a basic framework for secured lending, collateral

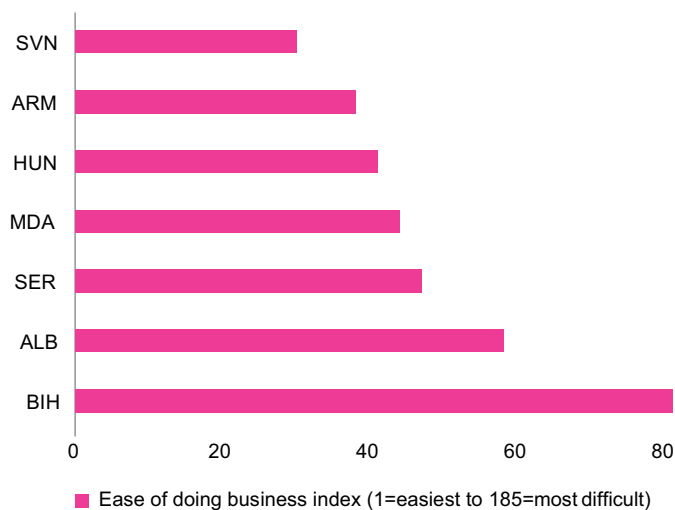
and pledges, and mechanisms to support modern financial transactions and property transfers. A modern registry combines cadaster and registration systems under the State Committee of the Real Estate Cadaster. A regulatory and institutional framework allows for using land and property as collateral, and this practice is increasing, although bank acceptance of land as collateral in rural areas remains limited. Positive steps have been taken to improve public sector efficiency in the area of human resource management systems, e-health and e-police to improve service delivery to citizens. A system of income and asset declarations for high-level public officials has also been put in place. As a result, the business climate in Armenia has improved over the past decade. Armenia has improved its performance in most business climate indicators, increasing its Distance to Frontier ranking in the Doing Business Index (DBI) from 61 in 2010 to 74 in 2017. Armenia has also seen some improvement in its ranking in the Global Competitiveness Index (GCI) from 97 in 2009-10 to 73 in 2017-18.

Figure 2.9: Global Competitiveness Index



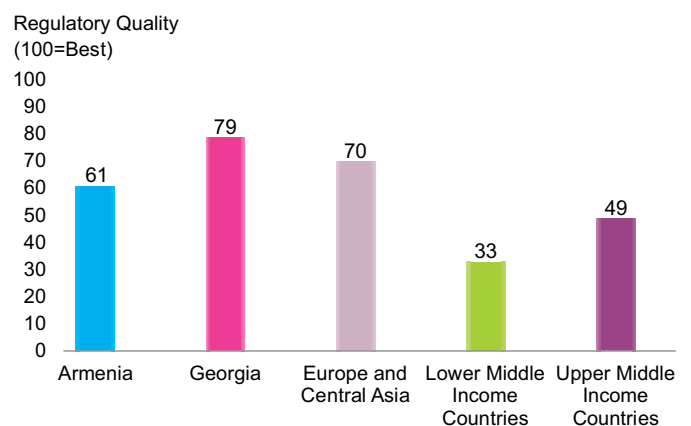
Source: World Business Forum 2016.

Figure 2.8: Ease of Doing Business Index 2017



Source: WBG DBI 2017.

Figure 2.10: Regulatory quality, 2015



Source: Worldwide Governance Indicators.

³⁹World Bank (2015): "Republic of Armenia: Drivers of Dynamisms".

Box 2.6: Income and assets declaration

The system of income and asset declarations for high-level public officials was initially implemented by the tax authorities in early 2004, following which the declarations were published, albeit not regularly and not in the volumes openly available to the public. In 2011, the new “Law on Public Service” included mandatory submission of income and assets declarations by over 500 high-level officials (and their affiliated persons) to the Ethics Commission for High Ranking Officials (ECHRO), constituted by a Presidential Decree dated January 9, 2012. Increasing public focus on state capture by narrow vested interests emphasizes the importance of online publication of the disclosed information to catalyze bottom-up pressure for reform.

The Ethics Commission launched an advanced system and portal for electronic disclosures in the second half of 2013, and in 2014-15 achieved almost 100 percent formal compliance in terms of the collection and publication of declarations. The Ethics Commission has been proactive in signing MOUs with ministries to ensure interoperability of databases necessary for third-party cross-checking of disclosed information. The December 2014 amendment to the Law on Electronic Document and Electronic Digital Signature (and relevant sub-laws) further enhanced interoperability of databases, making the cross-checks more effective. The Ethics Commission also put significant effort into risk-based analyses.

However, given the administrative and jurisdictional constraints, no real (or at least publicly visible) investigations

followed the establishment of ECHRO. A draft package of legislative changes is sought to enhance the jurisdiction and capacity of ECHRO to convert it into an effective corruption prevention agency. The legislative changes are expected to introduce additional disclosure of interests, and criminalize failure to file a declaration or the submission of false information, enabling the publishing of more comprehensive information online that will reflect potential conflicts of interest of public officials. Further enhancements of the system may also require new approaches for accounting for beneficial ownership,⁹ which is impossible to capture through cross-checks with formal registries (databases). Recently, Armenia made specific international commitments to publicize beneficial ownership in the financial and mining industries. In 2016, the CBA approved a regulation to fill some gaps in its legal and regulatory regime for the disclosure of ultimate beneficial ownership of financial institutions and groups in line with international benchmarks (Basel core principles for effective banking supervision [2012]). The CBA should, nonetheless, deepen its assessment of the transparency of the ownership structure and the sources of initial capital to ensure that it has identified all beneficial owners that exert a controlling influence on financial institutions and groups. Joining the Extractive Industries Transparency Initiative (EITI) on March 9, 2017, Armenia committed to disclose beneficial ownership in the mining sector by 2020. Meanwhile, 2018 is the deadline for the adoption of a formal roadmap for preparation and adoption of the necessary regulatory framework.

2.29. While the Worldwide Governance Indicators rule of law has shown progress, regulatory quality and the control of corruption are areas where there is space for improvement. PFM reforms have shown improvement since the last (2014) PEFA. For example, financial and compliance audit manuals have been developed in line with the international standards and applied by the Chamber of Control on a case by case basis. The number of public sector internal auditors including certified internal auditors has increased. However, there is still progress to be made to address the lack of government consolidated financial

statements and transparency, relatively inefficient public internal control framework and weak audit institutions.⁴¹ In the same vein, progress should be made to improve accountability and oversight in the public sector, greater use of evidence-based analysis in policy formulation with strengthened public scrutiny, and strengthening the independence of the judiciary.⁴² Conflicts of interest in the executive, legislative, and judiciary weaken government effectiveness further. This is compounded by a lack of meritocracy in the civil service, with a pay scale that does not reward performance and skills, and allows the use of

⁴⁰The last Public Expenditure and Financial Accountability Assessment (PEFA, 2014) identifies as key issues (which remain valid today) internal controls, internal and external audits, financial statements quality and legislative scrutiny. The oversight of the numerous State Non-Commercial Organization (SNCO) could also be strengthened.

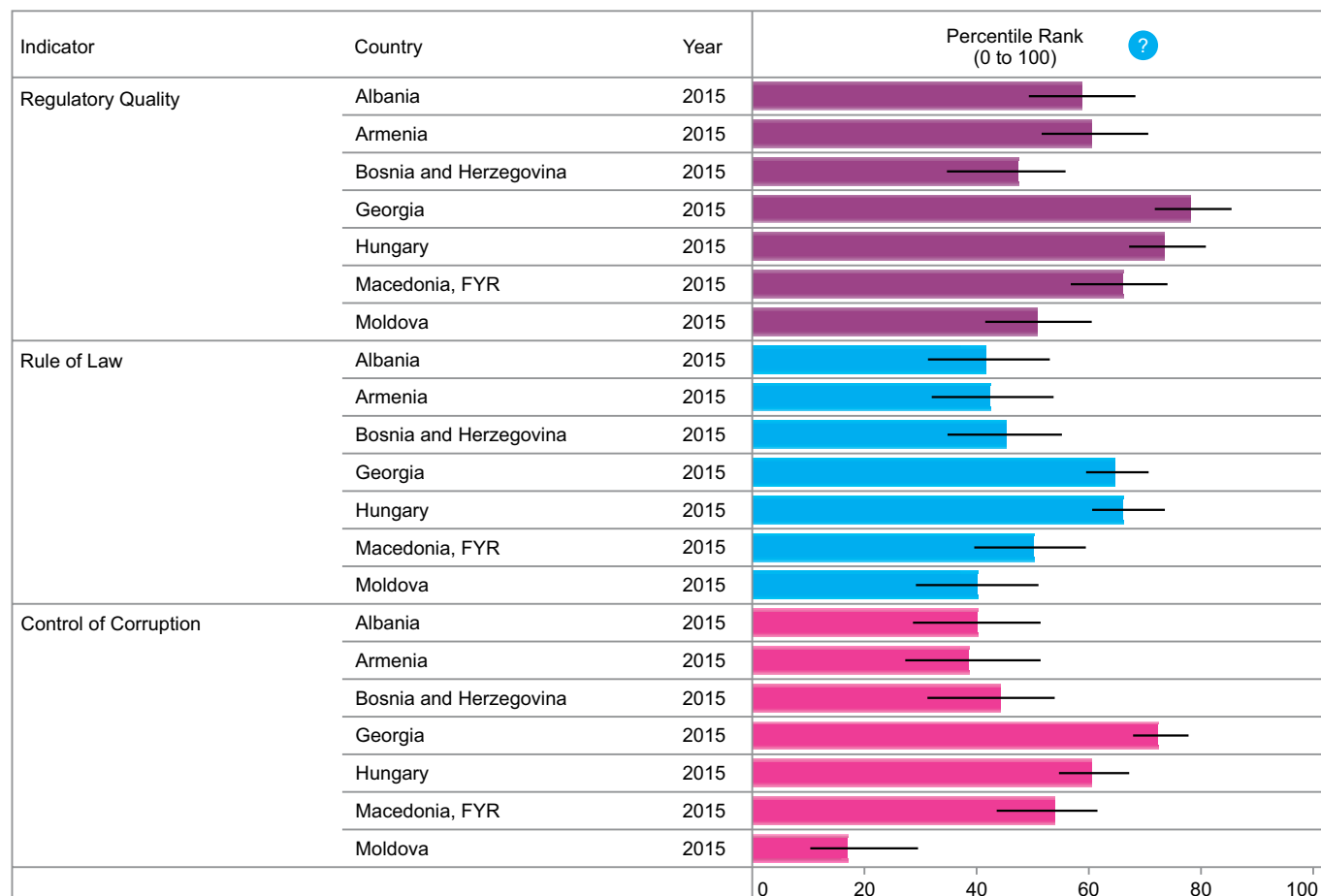
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⁴²The lack of an independent and competent judiciary is an impediment to doing business. It also weakens property rights in the absence of easy settlements of property disputes and alternative mechanisms for judicial recourse. These weaknesses are reflected in the Doing Business survey indicator for the time to enforce contracts, which has remained at 570 days since 2012. Armenian judicial independence ranked 106 out of 140 countries by the Global Competitiveness Report 2015-16. According to Transparency International's 2013 Global Corruption Barometer, the judiciary in Armenia was perceived as one of the most corrupt institutions in the country.

cronyism to allocate positions and promotions. Findings of the 2018 Regulatory Governance Indicators for Armenia show there is scope to strengthen avenues for public

participation by taking measures to close the feedback loop and improve bottom-up participation.

Figure 2.11: Worldwide Governance Indicators, 2018



Source: WBGI 2017.

2.30. A number of reforms are lagging, with a gap between what has been approved on paper (de jure) and what is implemented on the ground (de facto). Examples can be found in the areas of border management, property rights, tax administration, and the competition environment (cf. next section). While starting a business, registering property, enforcing contracts, and accessing credit are made easier by regulations, getting things done to carry out business operations, such as obtaining construction permits, and getting electricity can still be cumbersome (Ease of Doing Business 2018). In addition, as seen in the earlier section discussing connectivity, the price of inputs such as digital services is relatively higher than in peer countries relative to performance, weighing on competitiveness. Similarly, access to quality infrastructure is relatively lower than in peer countries. For example, the poor condition of critical power transmission and distribution assets compromises supply reliability.

2.31. Corporate governance challenges make it difficult to attract FDI or obtain financing from the domestic market. Limited transparency, inefficient Boards of Directors, and limited protection of the rights of shareholders challenge the ability of Armenian firms to attract investors, obtain financing from banks, or establish relationships with reputable international partners, thus significantly limiting their growth prospects. Shadow accounting and underreporting of profits are widespread and partly caused by deficiencies in tax and customs administration. Disclosure of non-financial information (e.g., on ownership structure, strategy, etc.) is generally poor. Boards lack independence, a strategic role, and oversight over the management of the company. While basic shareholder rights appear to be granted by law, it is not clear how shareholder agreements and rights are enforced.⁴³ The Government's ongoing efforts to develop the domestic capital market and scale up FDI inflows in

⁴³Armenia ranks relatively low, at 36th percentile, on GCI's protecting minority shareholders' interest indicator.

Box 2.7: Energy sector's challenges

Power supply adequacy. New generation capacity will be needed to meet the forecast peak load and ensure sufficient supply capability in the power system starting from 2021 when Hrazdan TPP is planned for decommissioning. Energy efficiency is the least-cost option for meeting the electricity demand. The cost of saving 1kWh of electricity is estimated at 25 to 30 percent of the long-run marginal cost of new supply. A focus on energy efficiency would also address affordability concerns as well as contribute to increased energy security, together with the development of renewable energy (2013 National Energy Security Concept).

Governance and investment climate. Starting from 2016, the financial standing of the power sector started to improve due to successful implementation of the Government's Financial Recovery Program. Building on this improvement, the Public Services Regulatory Commission (PSRC) plans to move on with the next phase of regulatory reforms and eliminate cross-subsidies in the end-user tariffs set for various voltage groups. Overall, the legal and regulatory framework in the country is conducive for attracting private investments. Building on the successful reform momentum started in 1997, the sector attracted more than US\$1.2 billion in private investment. With the approval in July 2017 of the Action Plan for Liberalization of the Power Market, the sector will transition from a regulated to a liberalized model, with the objective of introducing contemporary trading rules, further improving the tariff structure, and promoting cross-border trade. Against the backdrop of public debt constraints,

the Government will identify feasible mechanisms to attract long-term private capital into the energy sector to ensure reliability and adequate electricity supply for vibrant growth of the productive private sector.

Reliability. The poor condition of power transmission assets jeopardizes supply reliability. The average interruption frequency per line for 110 and 220 kV overhead transmission lines (OTLs) is 2.5 times higher than for comparator well-performing utilities. The average age of substations is around 35 years and most of the substations have not undergone any major rehabilitation or upgrade. The quality of electricity service, as evidenced by the service quality indicators computed and published by the Public Services Regulatory Commission (PSRC), has deteriorated since 2013 due to increased number of outages at distribution level.⁴⁵ New investments in the transmission and distribution networks will help improve reliability.

Affordability. Traditional indicators show that energy affordability is a salient issue in Armenia, affecting relatively more the poor and vulnerable groups. Energy represents a substantial share of household consumption in Armenia: energy expenditures account for 12.4 percent of overall household expenditures and electricity accounts for 6 percent. About 11.2 and 52.5 percent of the households in Armenia are estimated to be "electricity and energy poor", respectively.¹¹ Electricity tariffs are expected to increase further, given the sizeable expected investments in the power sector.

export-oriented sectors will succeed only if the protection of shareholder rights is strengthened.⁴⁴

2.32. Finally, greater use of innovation, technology, and knowledge absorption would be effective to boost productivity. Innovation does pay off in terms of productivity, suggesting opportunities for improvement should Armenia become more globally integrated. Armenian firms that conduct innovative activities enjoy a large productivity premium: those firms that have introduced a new product or method of production are twice as productive as non-innovative firms. A positive premium is also observed

for firms that engage in organizational innovations, such as business practices, workplace organization, or external relations or invest in R&D.⁴⁸ However, low overall integration may be reducing the scope for gains through innovation. Participation in R&D and innovative activities has declined over time and Armenian firms lag their peers from comparator countries in terms of their innovation activity (in terms, for example, of R&D spending and encouragement for employees to use innovations by employers). Firms may struggle to secure financing for some of these innovations and others may be too small to gain from them.

⁴⁴Armenia ranks relatively low, at 36th percentile, on GCI's protecting minority shareholders' interest indicator.

⁴⁵Source: Corporate Governance in Transition Economies: Armenia Country Report, EBRD 2016.

⁴⁶The country-wide System Average Interruption Duration Index (SAIFI) increased from 5.18 in 2012 to 6.98 in 2016. The country-wide System Average Interruption Duration Index (SAIDI) was in the range of 8.69 in 2013 to 12.66 in 2016. The deterioration of supply reliability may be a result of under-investment in distribution due to distressed financial condition of ENA in 2012-2014.

⁴⁷A household is considered electricity/energy poor if it spends more than 10 percent of its overall budget on electricity/energy.

⁴⁸Source: World Bank SCD Trade and Competitiveness Background Note.

b. Competition and Market Contestability

2.33. The competition environment has shown progress in recent years. Competition perception indicators of the World Economic Forum’s Global Competitiveness Report (2016-17) show that Armenia ranks 91 out of 138 countries on the intensity of local competition, 51 on the extent of

market dominance, and 77 on the effectiveness of anti-monopoly policy.⁴⁹Recent years have seen an improvement in the regulatory framework of certain sectors allowing more competitive environments to develop.⁵⁰ Discussions on how to improve the functioning of various important markets, such as pharmaceuticals, fertilizers, and health services, are ongoing.⁵¹

Figure 2.12: Business risks related to weak competition policies (by component)

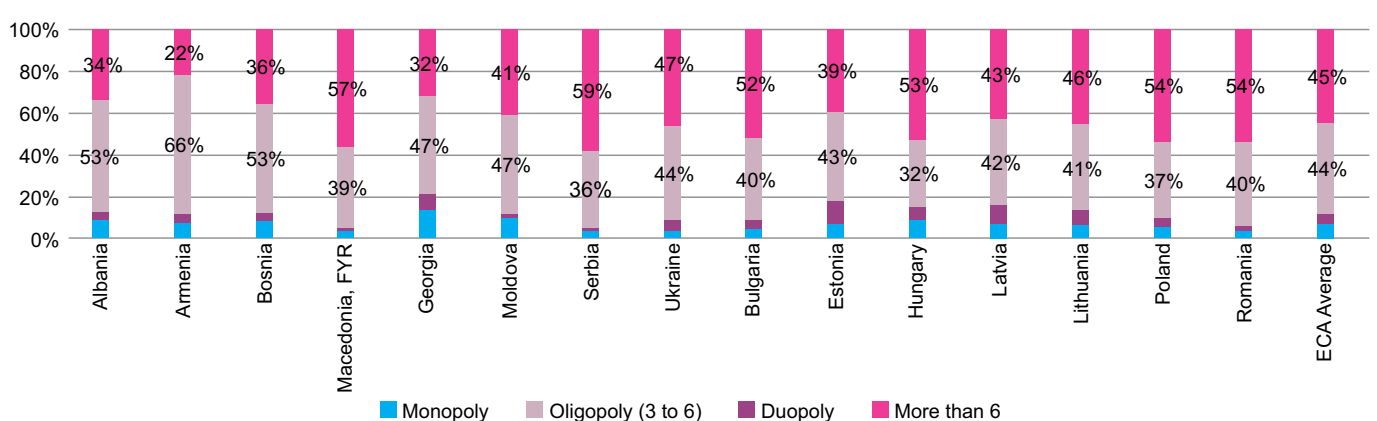


Source: Economist Intelligence Unit, 2017.

2.34. Nevertheless, important concerns remain for investors. While the state-owned sector is limited in Armenia, weak competitive conditions and competition policies are perceived as contributing to a high degree of operational business risk for private sector firms. Investors in Armenia face one of the highest risks in conducting business among other European and Central Asian (ECA) countries

(Economist Intelligence Unit’s [EIU] 2017-18 report). Indeed, according to the EIU’s Risk Tracker, business risks related to weak competition policies are the second-highest in the region, just after Ukraine (Figure 2.11). These perceived risks are mainly related to vested interests and cronyism, and unfair competitive practices that hinder the creation of a level playing field for firms in the market.⁵²

Figure 2.13: Market structure in the manufacturing sector



Source: World Bank, Enterprise Surveys. Share of markets characterized by monopoly, duopoly, oligopoly and more players on the vertical axis.

⁴⁹This represents a significant improvement relative to 2010, when Armenia ranked 138 out of 140 countries on effectiveness of anti-monopoly policy, 136 on intensity of local competition, and 133 on the extent of market dominance.
⁵⁰Sectors such as air transportation, retail, and fuel that used to be highly restrictive have been opened in recent years, but the largest firms continue to dominate these markets.
⁵¹Supported by the State Commission for the Protection of Economic Competition (SCPEC).
⁵²World Bank, Enterprise Surveys, latest available data.

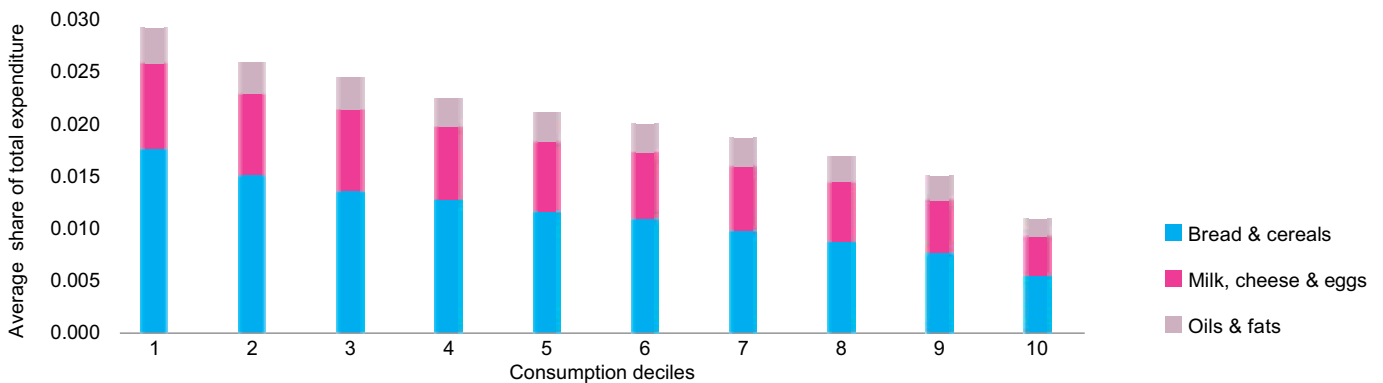
2.35. Entry has been observed in some subsectors but many Armenian markets have few participants or are highly concentrated, increasing the risk of non-competitive market outcomes. Armenia has the highest share of manufacturing markets that are monopolies, duopolies, or oligopolies among peers in the ECA region (Figure 2.13).⁵² Evidence suggests that over time subsectors in manufacturing and services are becoming more concentrated.⁵³ Entry has been observed in some markets but many important markets remain highly concentrated⁵⁴.

2.36. Weak competition and lack of market contestability have negative effects on productivity growth and consumer welfare.⁵⁵ The contribution of the private sector to GDP growth and shared prosperity depends on the degree of competition in markets. Analysis shows that subsectors with lower concentration are associated with higher real labor productivity growth at the subsector level. More concentrated markets are more prone to non-competitive outcomes, such as reduced incentives to innovate and to become more productive. In addition, previous analysis conducted for Armenia has shown that weak competition can have negative impacts on consumer prices that are key

for households.⁵⁶ If we assume that prices of selected food products present overcharges due to weak competition, savings from boosting competition for the bottom decile will double or triple the relative savings for the top consumption decile (Figure 2.13).

2.37. The lack of market contestability and appropriate pro-competition regulation in some sectors that provide production inputs (railways, utilities, internet connectivity) adds to the costs of firms operating in Armenia and reduces their competitiveness. While it is true that the small scale of the market for these services is not as conducive to the operation of various providers, lack of effective regulatory frameworks to simulate competitive pressure in terms of price and quality of services can leave consumers unprotected and distort related markets. Monopolies such as in railway infrastructure, water supply, electricity supply, and telecommunications infrastructure can use their market dominance through the discriminatory or discretionary treatment of business consumers and affect their competitive position in their markets. If allowed by weak regulatory frameworks, this adds to the costs of firms operating in Armenia and reduces their competitiveness.

Figure 2.14: Potential savings due to strong competition in selected food products, by consumption decile (share of total household expenditure)



Source: Estimations based on ECA Poverty & Equity team calculations on ILCS 2014.

2.38. There are various areas in the competition policy framework that require revision. The introduction of a competition perspective to resolve market problems through government interventions has been on an ad-hoc basis, depending on the State Commission for the Protection of Economic Competition’s (SCPEC) focus rather than on a system that incorporates competition principles in regulatory impact assessment. There are still important gaps that reduce the effectiveness of the enforcement of the Competition Law and the possibility of deterring abuse by dominant firms and collusion among competitors. These include investigative powers, level of

finances, and the definition of economic entities to account for individual companies that operate under common control.

2.39. Measures to ensure government competitive neutrality have yet to be put in place. In the area of procurement, various reforms have taken place but anti-competitive practices seem prevalent (Box 2.7). Existing instruments of state aid to foster investment in the country (such as tax exemptions and concessional loans) lack a full framework to minimize distortions on competition. The Competition Law includes some provisions on state aid, which are not enforced.

⁵²Based on firm-level State Revenue Commission data for the years 2011-2015. The distribution of concentration indices that account for number of firms and shares in subsector revenues has moved to the right for subsectors within manufacturing and services.
⁵³That would be true for example for granulated sugar, petrol, banana and poultry. Concentration analysis based on 2011-15 data from Armenia State Commission for the Protection of Economic Competition (SCPEC).
⁵⁴Findings are drawn from the World Bank SCD Trade and Competitiveness Background Note.
⁵⁶Prices of certain essential food products, such as milk, eggs, bread and butter, were found to be higher than in other CIS countries (at least by 23 percent) even after controlling for proxies of market size and transportation costs. See World Bank (2013).

Box 2.8: Procurement in Armenia

The procurement of works, goods and services is a big-ticket item in public spending for private sector growth all over the world. Armenia is no exception, where public procurement expenditure was around 7 percent of GDP in the period 2014-16, accounting for an important share of public spending. Therefore, encouraging competition in these markets could reduce the pressure on fiscal accounts, while crowding in the private sector.

Public authorities have proactively engaged in reforms. As soon as 2005, an online platform was created, Republic of Armenia Armenian e-Procurement System (ARMEPS), listing legislation, procurement plans and appeals, and the necessary information to apply to public contracts advertised or to appeal the Government's decisions. Moreover, in 2010, Armenia joined the WTO's Government Procurement Agreement (GPA), to improve the access to public contracts by international competitors. The Government then approved a revised version of the Government Procurement Agreement (GPA) in 2015, and passed new rules stipulating that invitation to participate to public contracts should be sent to at least three companies, and be reported on the public procurement agency's website. ARMEPS, the country e-procurement system, is up and running. However, its coverage is limited and an important number of procurement selections are not open to competition.

Armenia's experience illustrates the challenge of outsourcing in a small economy where there is little competition among suppliers. An analysis of procurement data reveals that competition in public procurement is relatively limited. While there is a large volume of contracts, there are relatively few open tenders or open competition. Within the latter, the level of participation of firms is very low, with on average between 1.7 and 1.9 bidders. The number of competitors also varies substantially across different methods of procurement. Open tenders feature the highest

level of bidders and largest average contracts, while certain forms of procurement, such as framework agreements, feature a low level of participation (for example, in 2014, 161 framework agreements were signed for the same number of registered firms).

Competition analyses carried out by SCPEC informed the new public procurement law, but also revealed gaps in public procurement practices and the prevalence of anti-competitive agreements among competitors for public contracts. Investigations of anti-competitive agreements in public procurement have involved medicines, food products, office furniture and supplies, computer equipment, construction materials, construction services, and cleaning and sanitary products. These agreements can raise costs for the Government by 49 percent on average (Connor, 2014). Recommendations to boost competition include: clarification of the concept of "related party" to prevent entities controlled by the same economic entity from participating in the same tendering process; improving the appeals process and the independence of the appeal commission; and increasing transparency of information on ARMEPS. The full implementation of these recommendations is pending.

Overall, the country has a tremendous opportunity to use procurement spending more effectively as a tool to promote private sector development. First, information to potential bidders about contract opportunities can be increased by building on the new rules requiring the use of e-procurement in procurement. Second, steps can be taken to encourage registration of SMEs and to encourage bidding. Third, improving competition on larger tenders would provide greater effectiveness and competitiveness. Lastly, improving the detection of bid rigging and discouraging such practices would help to boost value for money in public investment to support productivity growth.

c. Financial Deepening and Financial Inclusion

2.40. Financial depth and financial inclusion have improved over the past decade, but they remain important constraints to growth and private sector development. Substantial progress has been made in implementing the 2012 Financial Sector Assessment Program (FSAP) recommendations. However, the financial sector remains bank-dominated and financial inclusion is

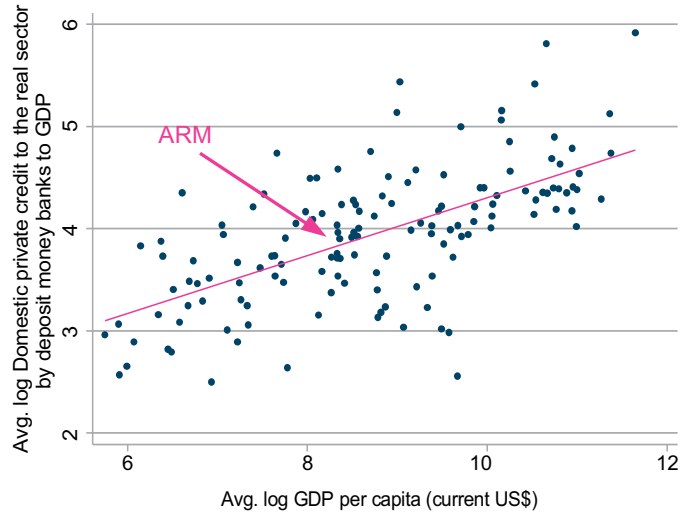
limited, as evidenced by several converging indicators.⁵⁷ The size of the financial sector is broadly in line with Armenia's level of income when using a credit indicator (Figure 2:15), but lags peers when using deposits, suggesting limited domestic savings (Figure 2.14). This limited level of domestic savings is becoming even more binding against the backdrop of scarcer foreign saving, with diminished foreign investment and fierce global competition for financial resources.

⁵⁷Domestic credit to the private sector as a percentage of GDP was at about 46 percent in 2015, in the range of other countries with a similar income per capita. Access to finance is cited as the top constraint in the Global Competitiveness Index and in the most recent BEEPS survey. Only 3 percent of Armenian firms indicated that access to finance was not a problem in 2013, compared with an average of 49 percent across ECA countries. In addition, access is skewed toward large firms (75 percent of them reporting having bank loan, against 31 percent of small firms and concentrated in Yerevan). Only 46 percent of companies have loan or credit lines with banks and less than 10 percent of corporate investment is financed by banks. Collateral is commonly required (89 percent of loans) and appears excessive (264 percent of the loan value on average). Banking services have expanded with the increase in number of ATMs, branches, and loan and deposit accounts. However, only 17 percent of the adult population have financial accounts. In addition, the informal borrowing channels are still popular. Only 20 percent of adults obtained loans from financial institutions in 2014, while 27 percent of adults received credit from their family or friends (IMF Article IV, 2017).

Figure 2.15: Deposit to GDP vs GDP per capita



Figure 2.16: Credit to GDP vs GDP per capita



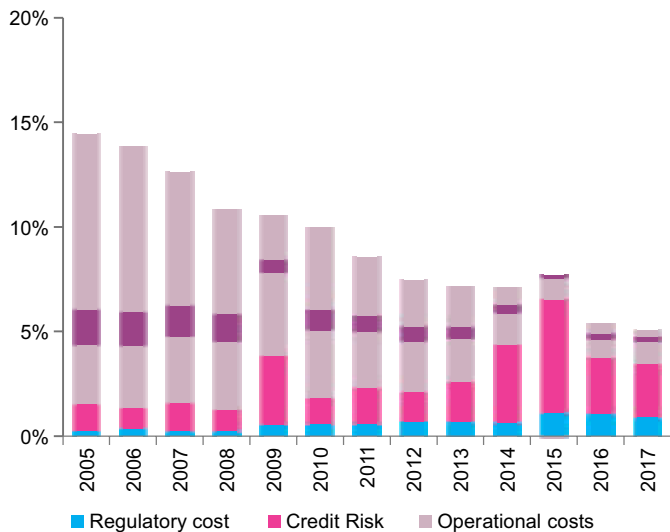
Source: World Development Indicators, Finstats database, World Bank.
 Note: 2014-2015, 143 countries, log transformation.

2.41. Structural challenges hinder financial deepening.

Interest rates are high in Armenia, both due to the high cost of raising deposits and to the high interest rate spread to borrowers. Against a backdrop of poor corporate governance practices, in particular the lack of transparency and absence of reliable financial statements, banks apply high risk premiums to lending rates and require substantial collateral⁵⁸. In recent years, the risk premium has grown while other factors contributing to the spread have declined or remained largely unchanged (Figure 2:17). Armenia’s

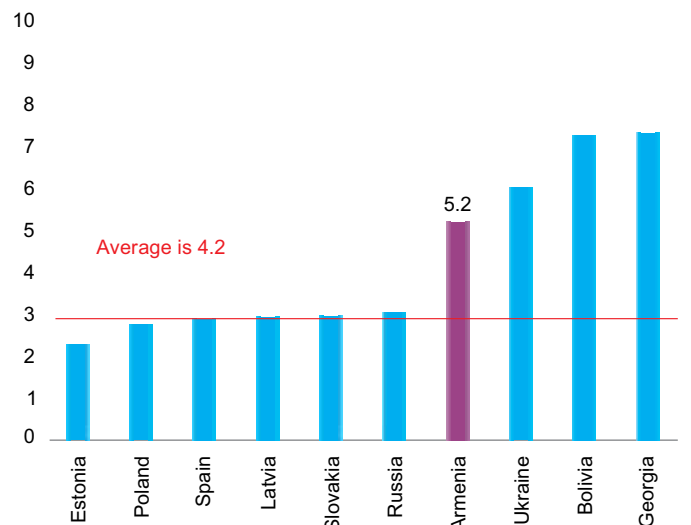
average interest rate spread of 5.2 percent has declined as competition has lowered profit margins, but remains a full point above the regional average of 4.2 percent of its comparators (Figure 2:18). Small borrowers often lack the necessary skills to be considered creditworthy. Lenders often lack the skills to work with small firms to understand their businesses, construct reliable financial statements, and assess their credit applications. Efforts to reduce informality and to increase financial education would be important complements toward financial deepening.

Figure 2.17: Decomposition of interest rate spread



Source: Central Bank of Armenia.

Figure 2.18: Interest rate spread as percentage, 2016



Source: Central Bank of Armenia.

⁵⁸ A new legal framework and pledge registry for using moveable assets as collateral is beginning to expand credit to smaller businesses, but is still under-used by banks in Armenia relative to banks in other countries following similar reforms.

2.42. Developing capital markets to complement bank intermediation will be important in the future to deepen and diversify access to finance. Capital markets in Armenia are particularly small. Armenia’s stock market capitalization to GDP was 8.5 percent of GDP in 2015. The Armenian market still suffers from a high and volatile interest rate environment, as demonstrated by government bond yields in recent years. Therefore, it is challenging for companies to suggest even higher rates to attract investments into corporate bonds. It will be crucial for the Government to deepen the primary and secondary markets for government bonds to boost demand for these bonds and, consequently, lower their interest rates. A strong catalyst for capital market development in Armenia is the Government’s ongoing pension reform program. Armenia’s pension fund assets are one of the lowest compared with its peers. In 2015, Armenia’s pension fund assets amounted to just 0.6 percent of GDP, compared with an average of 14.1 percent for comparators. The pension industry in Armenia has been slowly taking shape with a strong initial accumulation of funds coming from the implementation of a mandatory defined contribution plan from January 1, 2014, covering civil servants and new labor market entrants. Current government plans call for mandatory participation by all workers under the age of 40, beginning on July 1, 2018 (see Section 2.4). As the pension funds accumulate, they can be expected to cause much needed pressure to lower interest rates as they increase demand for bonds and other securities.

2.43. The CBA is committed to addressing constraints on financial deepening and access to finance by: (i) assessing the weaknesses and vulnerabilities of the financial sector; and (ii) jointly setting new goals and tasks with the Government to improve financial intermediation, including by addressing the low level of financial literacy and inclusion; and (iii) supporting the development of capital markets.⁵⁹ However, improving governance in the corporate sector will be key to improving access to finance to enhance firms’ productivity.

C Challenge 3: Labor Productivity

2.44. Employment growth since the GFC has been on the decline reflecting the difficult labor market supply and demand conditions. The number of economically active people—employed, as well as unemployed—is

affected by the size of labor resources, as well as the decision of working-age people to seek work. Since 2008, there has been a slight increase in the percentage of the labor resources that have become economically active. But most of the rise in economically active people has resulted in rising unemployment rather than employment—a reflection of the labor demand conditions and job creation. While between 2004 and 2008 employment grew by 9.4 percentage points (mostly driven by construction), since 2008 employment has been on the decline; employment contracted by 10-percentage-points between 2008 and 2015. Growth in the number of unemployed, which peaked in 2010, has once again picked up since 2013. The analysis in Section B suggests that a vibrant private sector can address this lackluster performance of the labor market by stimulating demand for labor. Recognizing the demographic and skills challenges facing the economy, this section focuses on the supply side of the labor market.

2.45. From the supply side of the labor market, productive labor is essential not only for rejuvenating the private sector but also for lifting workers’ earning potential, especially as technology advances and skills needs change. Over the long run, productivity growth is the economic factor that has the potential to lift living standards for all, especially the poor. The nature of jobs and the skills they demand are changing as agricultural employment declines and the prospects of IT-led sectors grow. While short-term labor migration to work on farms or construction sites in Russia will remain an option for low-skilled Armenian workers (see Annex 4), addressing demand side challenges discussed in Section B complemented with boosting workers’ employability and earnings potential (the focus of the current section) will be important.

i. Labor Productivity and Human Capital

2.46. Labor productivity growth⁶¹ slowed significantly in Armenia in the aftermath of the crises, and the productivity gap with comparator countries is not closing (except with Georgia). After the GFC, output growth recovered but employment began to decline and labor productivity experienced a period of meager growth. In fact, productivity only grew at an annual rate of 2.34 percent during this period (2010-15), which is well below the 12.4 percent growth rate during the previous pre-GFC crisis period (Figure 2.16, left-hand panel). Due to meager

⁵⁹The CBA has requested an FSAP in 2018, which is expected to cover key issues such as capital market development, modernization of the payment system, and pension reform.

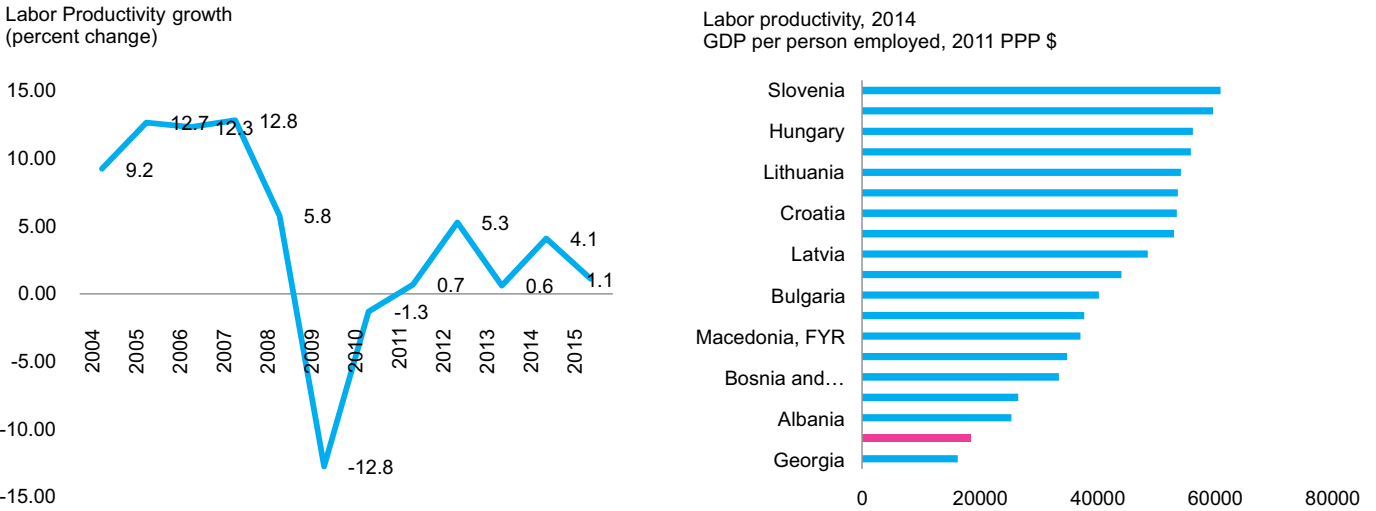
⁶⁰Existing evidence does not indicate that labor market regulations cause the observed employment trends. Firms do not indicate such regulations to be a constraint. For example, a common concern is that minimum wage could be “binding” and discourages job creation among low-skilled workers leading to high unemployment among this group. However, in Armenia, unemployment is concentrated among those with secondary or higher education: in Yerevan, where unemployment rate is high, 38 percent of the unemployed have tertiary education. This suggests that other factors are at play.

⁶¹There are various ways to construct productivity measures. In the evidence presented above, we use as a proxy for labor productivity GDP (in constant 2011 US dollars) per person employed. The GDP series before 2013 has not been adjusted due to the methodological changes. Adjusting the series may affect the GDP growth rates in the period 2009-14. Please note that “persons employed” does not distinguish between full-time and part-time employment. We do not use GDP per hours worked due to unavailability of data. Therefore, our measure of productivity is the product of two components: GDP per hour X hours per person employed (a measure of worker’s effort).

labor productivity growth since 2010, the productivity gap with comparator countries has persisted and is not closing over time. In 2000, Armenian labor productivity was the second-lowest among comparator countries, and it continues to be extremely low in 2014 (Figure 2.16, right-

hand panel). Labor productivity in countries of Southeast Europe is between 1.3 and 2.4 times labor productivity in Armenia. Labor productivity in EU-11 countries is between 2 to 3.3 times the level in Armenia.

Figure 2.19: Labor productivity growth in Armenia after the crisis has been sluggish and much lower than comparator countries

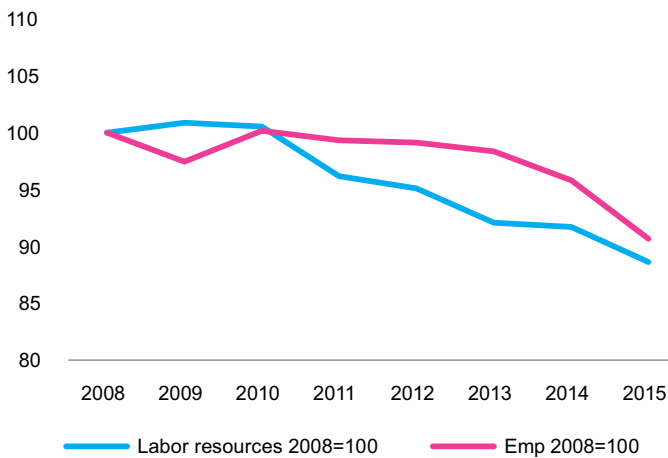


Source: World Development Indicators, Real GDP in 2011 PPP US dollars. Labor productivity measured as GDP per person employed in 2011 in PPP US dollars.

2.47. Low productivity growth is worrying for several reasons. First, with falling productivity, firms cannot afford wage increases and hiring is likely to be dampened. Second, for a country whose labor resources (working-age population) are declining and aging, boosting workers'

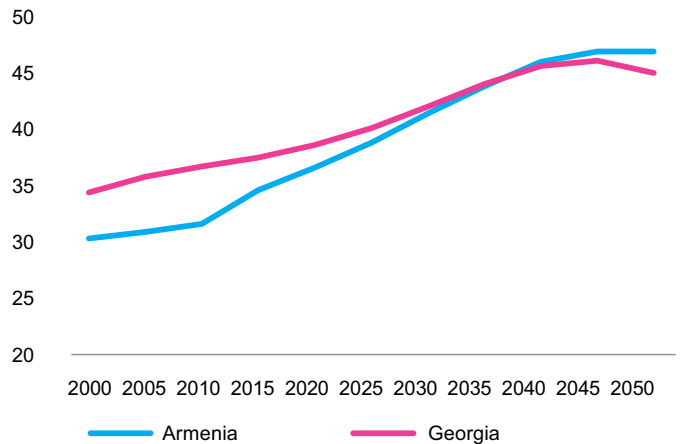
productivity and ensuring that the economy employs all productive workers are crucial for averting a fall in aggregate output. Since 2008-09, employment growth in Armenia has been in decline, partly due to falling labor resources and partly due to labor market conditions (Figure 2.18).

Figure 2.20: Labor resources are declining due declining population growth



Source: World Bank staff calculations based on NSSRA publications.

Figure 2.21: Median age of the population is rising



Source: UN Population Prospect 2015.

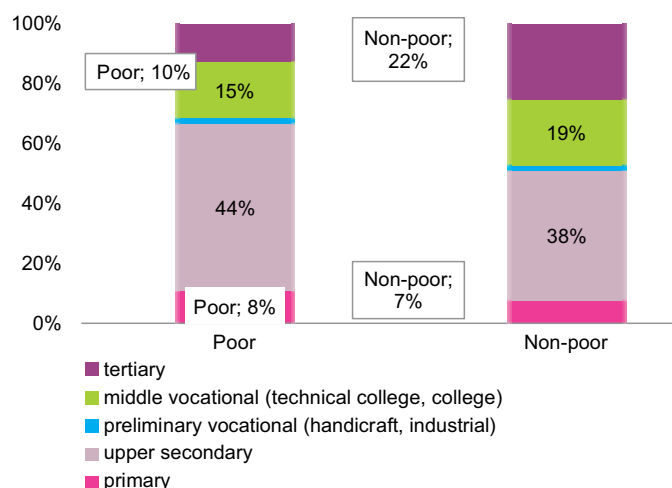
2.48. Recent years have been marked by growth in the demand for highly educated and skilled and technical workers. Armenia's structural transformation has shifted jobs away from agriculture and construction toward services. Services experienced a 6.9 percent average annual growth rate in GDP. Agriculture and industry also experienced some productivity growth. Services now account for almost half of all employment in Armenia. In addition, since 2006, the IT and high-technology sectors have become two of the fastest growing sectors in the country. The driving factor behind Armenia's competitiveness in these sectors has been the availability of educated human resources. Due to the growing number of IT companies in Armenia, demand for IT specialists will continue to increase. Based on conservative estimates, if the market and productivity continue to grow at an average rate of 18 percent and 1 percent, respectively, the absorption potential of additional IT specialists will grow at a rate of 17 percent annually and reach 15,000 workers by 2017 (World Bank, 2014a).

2.49. Human capital assets are therefore an important source of continued growth in labor productivity. Workers' years of schooling, school quality, training, and attitude toward work all comprise their human capital.

Measured in terms of enrollment rates and average years of education, Armenia stands out in the region with average years of schooling⁶² among workers of 12.5 years, high tertiary education enrollment of 52.9 percent, and even higher 91.6 percent enrollment in general education in 2015.

2.50. Education is the most common way to accumulate human capital; the poor have lower levels of educational achievement than the non-poor. It is therefore important to ensure that what students learn in school pays off in the labor market. Among the poor, 44 percent of the working age population⁶³ have completed upper-secondary education (or high school) and an additional 15 percent have completed middle-vocational education, which offers a vocational qualification with a secondary diploma (Figure 2.19). Among the non-poor too, the majority have upper-secondary education (38 percent) or middle-vocational education (19 percent). However, the non-poor have a higher share than the poor of the working age population with tertiary education. Spatially, rural residents have the lowest educational attainment with nearly 50 percent having upper-secondary education (Figure 2.20). Yerevan and secondary cities have higher shares of working age population with middle-vocational education and tertiary education.

Figure 2.22: Majority of the poor have completed upper-secondary education

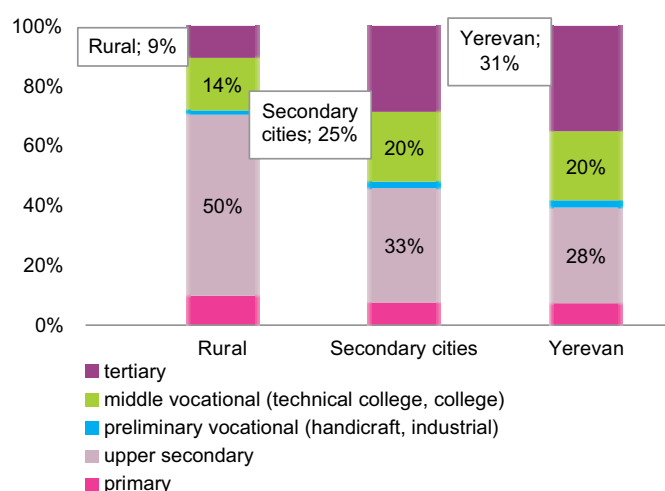


Source: World Bank staff tabulations for 15- to 75-year-olds, based on ILCS 2015.

ii. Constraints to Raising Labor Productivity

2.51. Looking at the supply side of the labor market, Armenia faces at least three constraints to raising labor productivity. The first constraint is the labor market relevance of the education system, especially as it must

Figure 2.23: Rural residents have lower educational attainment than residents of secondary cities or Yerevan



Source: World Bank staff tabulations for 15- to 75-year-olds, based on ILCS 2015.

equip both the poor and the non-poor with the qualifications and skills to integrate into the higher productive sectors emerging as the economy transforms to lower agricultural employment and higher services sector employment. The second challenge relates to the matching of workers to jobs that meet their qualifications; persistent mismatches

⁶² We construct the years of schooling variable (continuous variable) based on educational attainment (categorical variable) using ILCS 2010-15. In Armenia, general/lower secondary refers to individuals who have completed general/basic education (9 years of schooling). Upper-secondary education level means high school, which normally takes extra 2 to 3 years after general education. Tertiary indicates bachelor degree or higher, which needs at least 16 years to complete.

⁶³We follow NSSRA's definition of working age as 15 to 75 years.

can result in a misallocation of talent and therefore lower productivity. The third challenge to labor productivity is posed by demographic forces of population shrinkage and aging that are already affecting the size and age composition of the active working age population. The effect of demographics on the shrinking and aging of active labor resources is further exacerbated by the fact that a significant share of women does not participate in the labor market, despite having high educational attainment.

a. Labor Market Relevance of the Education System

2.52. There are several indicators of how well the education system is preparing students for the labor market. One such indicator is the youth unemployment rate. NSSRA estimates that in 2015 the youth (15-24) unemployment rate was 32.5 percent, the highest for all age groups. In fact, youth unemployment has been persistently high over the past decade. While job creation by firms and friction in workers' job search affects the age composition of unemployment, the labor market relevance of what students learn in school also affects their ability to find employment. The quality of what students learn in school (foundational skills) affects their ability to find a job with ease. The quality of education as measured by test scores shows that, by international standards, Armenian students' achievement in mathematics and science is lagging. Armenia most recently participated in the Trends in International Mathematics and Science Study (TIMSS) in 2003, 2007, and 2011. The achievement level for Armenia in TIMSS 2011 lags those of the comparator countries, outperforming only Georgia in this group, and is slightly below the international average of 500.

2.53. Learning quality can be improved through spending efficiency gains, given that the student population is in decline due to demographic trends. In Armenian general education, total student enrollment of nearly 360,000 in 2010/11 was 100,000 lower than five years earlier, reflecting population trends (World Bank, 2012c). In 2015/16, the total student enrollment was 364,398⁶⁴. While enrollment declined by more than 22 percent between 2005/06 and 2010/11, the size of the teacher workforce and the number of schools remained largely flat. In 2010/11, Armenia's 1,365 general education state schools employed 39,021 teaching staff, compared with 1,367 schools employing 40,069 teachers in 2005/06 (World Bank, 2012c). In 2015/16, there were 38,690 teachers employed in general education schools of the country. Therefore, the average student-to-teacher ratio in Armenia—which was already low at 11.5—further declined to 9.2 by 2010/11 and in 2015/16 it was 9.5. The

Government has responded by decreasing the teaching load to part-time. However, this could have implications on teaching quality due to lower average take-home salaries and possibly less motivation to participate in professional development.

2.54. The education system appears to be lagging in meeting the demand for skills related to IT. The IT and high-tech sectors are two of the fastest growing sectors in Armenia. Nonetheless, the size of these programs within vocational education and training (VET) is small. Low student enrollment in science, technology engineering and mathematics (STEM) at the tertiary level as well means that the education system is not prepared to meet the predicted rise in demand for workers with technology skills. Armenia lags more developed economies in innovation.⁶⁵ Education, particularly in the science, technology, engineering and mathematics fields, is critical for the advancement of innovation. A skills shortage was identified as a major obstacle by firms participating in the 2013 Enterprise Survey, including those at the technological frontier who introduced new products, invested in R&D, and upgraded their existing products during the boom years in Armenia.

b. Mismatches between Workers' Qualifications and Demand for Skills

2.55. Skills mismatches can also constrain labor productivity. For example, a cross-country study of skills mismatches in OECD countries shows a negative relationship between the extent of the skills mismatch and labor productivity (McGowan and Andrews, 2015). Such skills mismatches are also typical of transition economies such as Armenia, as they undergo economic restructuring and structural transformation. If matching does not work smoothly, then mismatches between workers' skills and qualifications and available job requirements can lead to allocative inefficiencies. The transition has induced a growing demand for new skills (not only measured by educational attainment, but also by other proxies that capture cognitive and non-cognitive skills), but the supply of skills has not kept up, despite the fast expansion in coverage of tertiary education. Therefore, over-education is likely to be more common in transition countries than in non-transition countries.

2.56. Evidence of mismatch comes from employed workers' participating in the 2013 STEP⁶⁶ survey who reported whether their qualifications matched what was needed for their job. A recent World Bank study⁶⁷ using data from the STEP household surveys conducted

⁶⁴National Statistical Service: http://www.armstat.am/file/article/soc_15_2.pdf

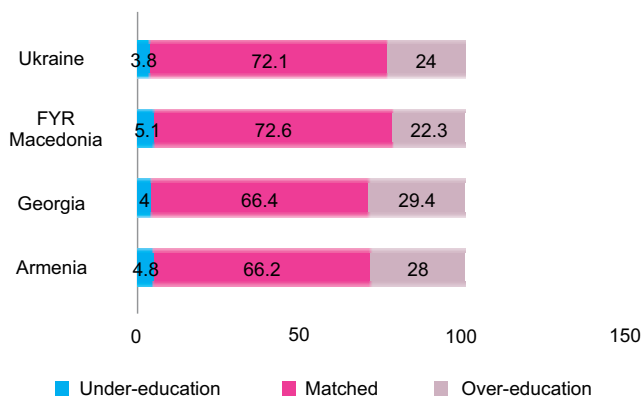
⁶⁵Source: World Economic Forum's Global Competitiveness Report, 2016-2017.

⁶⁶Skills toward Employment and Productivity.

⁶⁷Handel, Valerio and Sanchez Puerta (2016).

Figure 2.24: Education mismatch in Armenia and comparator countries

Individual (actual) match rates between worker education and job required education



Source: Handel, Valerio and Sanchez Puerta (2016). Estimates based on STEPS (Skills Toward Employment and Productivity) household surveys of working-age adults (ages 15-64) residing in urban areas.

in 12 countries, found that education mismatch is high in ECA's transition economies. In Armenia, only 66.2 percent of workers' jobs require education that match their own, while 5.8 percent of workers are in jobs that require less education. However, 28 percent report being over-educated (Figure 2.21). This rate of over-education is similar to Georgia, but higher than in other comparator countries. Unpacking this report of qualification mismatch by STEP survey respondents by age, Kupets (2015)⁶⁸ shows that over-education is highest for older workers aged 50-64 in Armenia (34 percent), Georgia (38 percent), and Ukraine (30 percent). Over-education is also reported by 25 percent of young workers in the Armenian survey. For older workers, over-education can arise due to degrees obtained during the Soviet era now becoming obsolete. For younger workers, over-education can be the result of joining entry-level jobs. Over-education is also highest among those with secondary specialized education (vocational) gained during the Soviet era (Kupets, 2015). The proportion of over-educated workers in this group was 56 percent in Armenia, 66 percent in Georgia, and 40 percent in Ukraine.

c. Declining and Aging Labor Resources

2.57. Like other countries of Central Europe, the Russian Federation, and the Western Balkans, Armenia is experiencing aging and shrinking of its population (Bussolo, Koettl and Sinnott, 2015).⁶⁹ The fertility rate declined from 2.55 children per woman in 1985 to 1.65

children per woman in 2015. This current low fertility rate is well under the rate needed for population replacement or growth. Official estimates put the population at 2,998,600 in 2016, down from 3,018,900 counted in the 2011 census.

2.58. The combination of falling fertility and rising life expectancy have impacted labor resources in Armenia. Household survey data show that half of Armenia's working age population was older than 42 years in 2015—an age range where most would have obtained their education before transition and therefore made their education choices based on a very different set of labor market conditions.

2.59. Aging workers and a shrinking population can result in lower labor productivity. Older workers may be less productive than younger ones if they have been trained through a different educational system, or if their work experience and technical skills are no longer relevant for the new technology and changing skills demanded at the workplace. Firms may also be biased against hiring older workers because of their higher cost or perceived lower productivity. The research on the policy implications of these demographic changes shows that the most effective way to address the potential reduction in labor productivity is to raise labor force participation and provide lifelong learning opportunities to workers to update skills and raise productivity.

2.60. Only 60 percent of women participate in the labor force and this further exacerbates the demographic impact on labor markets. There are 1.5 women for every man enrolled in tertiary education. Yet, almost half the women with intermediate education, and more than one-third of the women with advanced education, do not participate in the labor market. Women's child-caring responsibilities constrain their labor force participation. A simple Probit model estimation of the determinants of participating in the labor force shows that in Armenia marriage and motherhood are strongly associated with lower labor force participation; married women or women living with a partner and mothers of young children show a lower probability of engaging in the labor market. Similarly, there is a negative correlation between the proportion of children aged 6-14 and the participation of women in the labor market. These factors do not appear to affect men's probability of being in the labor market.

2.61. One policy option to address the shrinking and aging of the population is to raise fertility rates to sustainable levels. However, research shows that the key to moving toward a sustainable or replacement fertility level is to facilitate a reconciliation between work and family life. Many aging countries in Europe and Central Asia and

⁶⁸Kupets, O. Education in Transition and Job Mismatch: Evidence from the Skills Survey in Non-EU Transition Economies. Kyoto Institute of Economic Research Discussion Paper No. 915, 2015.

⁶⁹Bussolo, Maurizio, Johannes Koettl, and Emily Sinnott. 2015. Golden Aging: Prospects for Healthy, Active, and Prosperous Aging in Europe and Central Asia. Washington, DC: World Bank.

throughout the world have been experimenting with policies aimed at increasing fertility rates. These policies fall largely into three areas: financial transfers, child care services, and maternity leave policies. Depending on the exact design, most policies have some impact but often affect the timing of births rather than the completed family size. If the goal is to increase the number of births then policies that help women combine motherhood with labor market participation—in particular, child care services—seem to be critical.

D Challenge 4: Resilience and sustainability

i. Macro, Micro, and Environmental Vulnerabilities

2.62. People, firms, and the economy in Armenia face some inherent vulnerabilities driven by macroeconomic, social and natural/climatic conditions.

At the macroeconomic level, Armenia is exposed to some significant vulnerabilities. Growth has been heavily dependent on financial inflows, be they remittances, windfalls from high commodity prices, or other inflows. Since the sudden slump of these inflows in 2008-09, Armenia has had to put in place measures to recover. The fall in commodity prices and the adverse regional external environment prolonged sluggish economic activity in 2015-16, and growth prospects are not encouraging. In addition, the pro-cyclical nature of international remittances exacerbates macroeconomic imbalances of the business cycle during good and bad times.

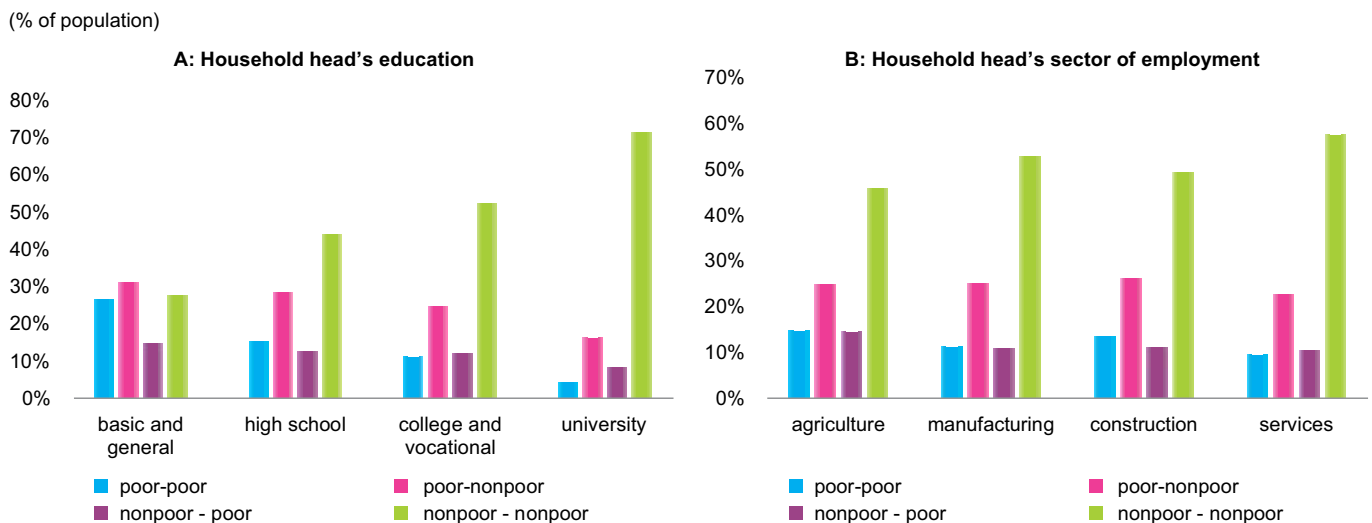
2.63. Households’ wellbeing is directly impacted by shocks such as job loss or illness, and indirectly affected by macroeconomic vulnerabilities. Over time,

the share of the population that is vulnerable to falling into poverty has grown (Chapter 1). Economic mobility analysis shows considerable churning linked to a household head’s education, employment status, and sector of employment (Figure 2.25). Armenia has a sizeable share of households that send migrant workers and these households are therefore directly impacted by international economic downturns, especially in Russia. Moreover, as the economy undergoes structural transformation, at least half of the population is experiencing considerable movements into and out of poverty (churning). Another source of vulnerability for households is the risk of natural disasters, especially earthquakes. Yerevan and secondary cities are exposed to the risk of earthquakes, as the country lies in a region of a high seismicity.⁷⁰ Earthquakes have affected large numbers of people and caused significant economic losses over the past 20 years.

2.64. Functioning credit markets and social protection programs can allow households to cope with the shock and smooth consumption without resorting to strategies such as cutting back on health or children’s education spending.

A public policy concern is that, when faced with shocks, households—especially those that are poor and vulnerable—may choose coping strategies that are harmful for future welfare. Dasgupta and Ajwad’s (2011) analysis of households’ coping behavior between 2009 and 2010 in Armenia, Bulgaria, Montenegro, and Turkey found interesting results. Households affected by income shocks cut health spending—they reduced visits to the doctor, and spending on medicine and medical care. Households also cut back education spending but did not withdraw children from schools. A significant body of evidence shows that

Figure 2.25: Economic mobility in 2010-15



Source: Tiwari, Cancho and Meyer (2017). Author’s calculations based on ILCS 2010 and 2015 using synthetic panel methodology. Notes: Figures show by characteristic of household heads, the percentage of population poor in 2010 and 2015, poor in 2010 and non-poor in 2015, non-poor in 2010 and poor in 2015, and non-poor in both years.

⁷⁰UNISDR, Central Asia and Caucasus Disaster Risk Management, http://www.unisdr.org/files/11641_CentralAsiaCaucasusDRManagementInit.pdf

social safety nets help improve resilience at the household level by increasing their savings as buffer to bad times, reducing distress sales of assets and reducing the need to turn to child labor, for example. Impact evaluations in Brazil, the Philippines and several countries in Africa, have found significant impacts on the probability that cash transfer beneficiaries would save and be more resilient to shocks.⁷¹ (Handa et al. 2013; Bowen 2015; Berhane et al. 2015; De Brauw et al. 2012; Orbeta et al. 2014.)

2.65. The sustainable management of the environment and natural resources is vital for Armenia's future economic growth. Environmental and natural resources provide the foundation for sustained inclusive growth via better performance of sectors such as agriculture, mining, tourism, and forestry, as well as providing a buffer against extreme weather events and climate change. In Armenia in 2005, forest and land were estimated to be worth US\$3,000 per capita, with coal and minerals estimate at US\$100 per capita.⁷² The forestry sector contributed US\$17.0 million to the economy in 2011, or about 0.2 percent of its GDP.⁷³ However, Armenia has had limited success in managing its environmental and natural resources sustainably.

2.66. In secondary cities and rural areas, the lack of access to basic infrastructure heightens household vulnerabilities. Recent investments in infrastructure have helped to reduce the gap between urban and rural areas, but gaps still remain. For instance, 46 percent of rural households and 40 percent of secondary city households have water supply for less than the full 24 hours desired. Most rural households and about one-fifth of households in secondary cities heat with wood. This makes them vulnerable as it exposes them to indoor air pollution, together with depleting an important natural asset.⁷⁴ Households, poor and non-poor, and especially those living in Yerevan and secondary cities, spend on average close to 10 percent of their budget on energy sources (consisting mainly of electricity and gas)—a budget share that is widely considered to be “unaffordable”. Connectivity and accessibility, which are poor in rural areas, are both critical requirements for poverty reduction and shared prosperity. Improving lifeline roads in rural areas would go a long way toward increasing rural access to basic services. A national multidimensional poverty index (MPI), which measures poverty from the perspective of deprivations as captured in access to basic services, housing conditions and employment opportunities, shows a higher rate of deprivation in rural than urban areas.

ii. Constraints to Enhancing Resilience and Sustainability

2.67. The country faces four constraints in making growth more resilient and environmentally sustainable.

The first challenge relates to macroeconomic vulnerabilities. The second challenge is rooted in the country's demographic decline and its implication for the future sustainability of pensions and health spending. The third challenge relates to the measures available to households to smooth consumption in the face of shocks. The fourth challenge arises from climate change and depletion of natural resources, which together affect environmental sustainability.

2.68. There are also important strengths to build on, as Armenia embarks on strengthening its resilience and sustainability on all fronts.

The country benefits from a well-regulated banking sector and has a track-record of sound macroeconomic management, including a flexible exchange rate policy accompanied by a sustainable fiscal policy. The credibility of macroeconomic policies is strengthened by existing institutional arrangements, such as fiscal rules to limit the country's public debt and an inflation-targeting mechanism. To tackle vulnerabilities at the household (microeconomic) level, the country has a targeted cash transfer program, the Family Benefit Program, which, albeit small, is relatively well functioning and could be scaled up to better reach the poor. Armenia has already introduced measures to improve the sustainability of pensions as the share of the elderly in the population rises due to demographic changes. The natural resources and environmental management sector benefits from a well-developed legal and regulatory framework which, if fully implemented, would go a long way toward protecting and managing sustainably natural assets.

a. Macroeconomic Vulnerabilities

2.69. At the macroeconomic level, Armenia is exposed to some significant vulnerabilities. As discussed in Chapter 1, Section 3, economic growth has been heavily dependent on external financial inflows, be they remittances, windfalls from high commodity prices, or other inflows. Since the sudden slump of these inflows in 2008-09, and in 2014 with the Russian crisis, Armenia has been struggling to recover. The fall in commodity prices and the adverse regional external environment prolonged sluggish economic activity in 2015-16.

⁷¹ Handa, S., M. Park, R. Osei Darko, I. Osei-Akoto, B. Davis and S. Daidone. 2013. "Livelihood empowerment against poverty program impact evaluation". Carolina Population Center. University of North Carolina.

Berhane, G., K. Hirvonen, J. Hodinott. 2015. "The Implementation of the Productive Safety Nets Programme, 2014: Highlands Outcomes Report". International Food Policy Research Institute, Washington, D.C.

Bowen, T. 2015 "Social Protection and Disaster Risk Management in the Philippines: The case of Typhoon Yolanda". World Bank Policy Research Working Paper Series 7482.

De Brauw, A., D. Gilligan, J. Hodinott, V. Moreira, and S. Roy. 2012. The Impact of Bolsa Familia on Child, Maternal, and Household Welfare. Washington, DC: International Food Policy Research Institute.

Orbeta Jr., A., A. Abdon, M. del Mundo, M. Tutor, M. T. Valera, and D. Yarcia. 2014. Keeping Children Healthy and In School: Evaluating the Pantawid Pamilya Using Regression Discontinuity Design Second Wave Impact Evaluation Results. Washington, DC: World Bank.

⁷²World Bank. 2011. The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium. Washington, DC: World Bank.

⁷³www.fao.org/3/a-i3710e.pdf.

⁷⁴Experience from other countries suggests that wood use can be managed such that it becomes an efficient and safe heating source.

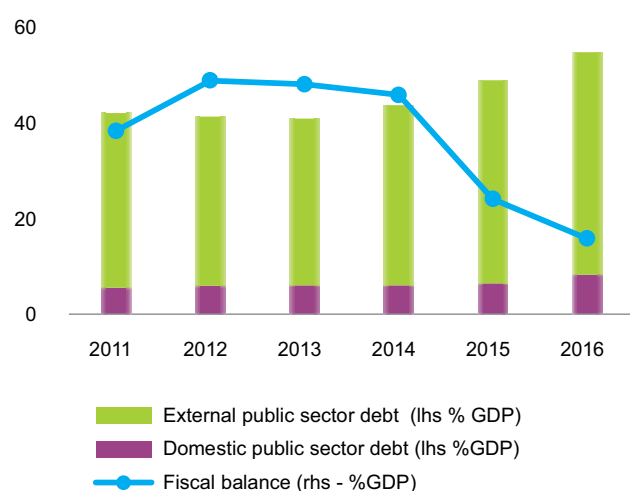
2.70. Armenia’s external position has been very sensitive to volatile private flows and terms-of-trade shocks. Traditionally, Armenia has experienced large current account imbalances. Remittances have helped to cover a portion of this gap, while the rest of the current account deficit was financed through FDI and borrowing. The recent trend to lower current account deficits reflects a significant contraction of imports, combined with a significant reduction in remittances (by 40 percent between 2015 and 2016), but also an improvement in export performance and greater diversification (cf. Chapter 1). However, as the economy recovers it will inevitably see a resurgence in imports. At the same time, prospects for a return to remittances at pre-crisis levels (i.e., at about 18 percent of GDP) seem remote, given the ongoing weakness in the Russian economy (a source for 90 percent of remittances to Armenia). Therefore, to avoid a further deterioration in Armenia’s external balance, rebalancing growth toward exports, as described earlier in this report, will be essential to adjust the country’s significant dissaving and mitigate balance of payments vulnerabilities to external shocks.

2.71. The sharp rise in Armenia’s public debt burden has eroded fiscal space, making Armenia considerably

more vulnerable to shocks, both external and domestic. The rise has been caused by expansionary fiscal policies and a depreciation of the exchange rate, which has led to an increase in the external debt burden expressed in domestic currency. It has also triggered Armenia’s fiscal rule which, with no escape clause, mechanically required that the 2017 budget deficit should be no more than 3 percent of the average GDP for the past three years. This triggering therefore led to an abrupt public spending retrenchment in 2017. Consequently, the authorities are considering revisiting the fiscal rule to adapt it to modern standards.

2.72. Armenia’s debt sustainability is vulnerable to exchange rate movements and growth prospects. With 84 percent of public debt denominated in foreign currency, the exchange rate risk is significant. Debt sustainability analysis suggests that real GDP growth has the largest impact on Armenia’s debt indicators. Without a major effort to address underlying structural weaknesses, the Armenian economy will be highly vulnerable to shocks, particularly in terms of its growth rate or the exchange rate. Were such a shock to occur, debt sustainability would be threatened.⁷⁵

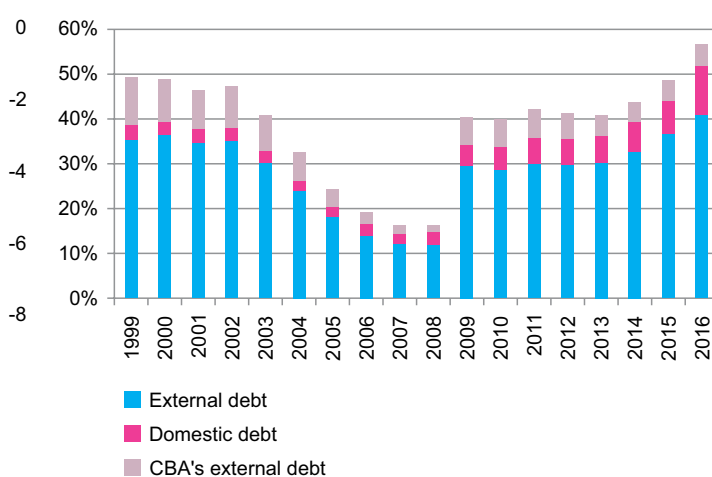
Figure 2.26: Fiscal developments, 2011-16 (% GDP)



Source: NSSRA, MoF and World Bank estimates.

2.73. In the financial sector, vulnerabilities stem mostly from the potential currency mismatches of borrowers, in the context of high dollarization. The Armenian financial sector appears to be healthy and, therefore, well positioned to expand in ways to support the country’s economic development. The sector has remained stable through recent international financial crises. In addition, the CBA

Figure 2.27: Armenia’s debt dynamics, 1999-16 (% GDP)



Source: NSSRA, MoF and World Bank estimates.

has adopted numerous policies and procedures to manage or mitigate risks in the banking sector. However, the high degree of dollarization in the banking sector exposes both borrowing customers to a currency mismatch risk, where an adverse shock would lead to difficulties in repaying foreign currency loans, and non-borrowing customers indirectly, given the subsequent rise in non-performing loans.

⁷⁵ IMF Article IV, 2017.

Box 2.9: Dollarization

Dollarization has been a defining feature of the Armenian economy since independence, although dollarization deepened following the recent crises. Preference for US dollars is, in part, due to the high level of remittances emanating from the large diaspora population (7 million diaspora vs. 3 million in-country) residing in Europe, the US and Russia. The 2008-09 and again in 2014-15, devaluations increased the holdings of US dollars as a safe haven. The annual average loan dollarization has experienced a steady increase over several years: in 2008, it was only 38.4 percent, but this increased to 65 percent in 2016; and 63 percent of deposits are currently in foreign currency.

Banks face four risks from high dollarization. First, direct exchange-rate risks arise if there are currency mismatches between banks' assets and liabilities. In this case, banks are exposed to risks of valuation losses in the case of sharp changes in the exchange rate of the Armenian dram. Second, indirect credit risk continues to rise due to a larger share of loans issued in foreign currency; firms or individuals that borrow in foreign currency but earn their income in dram will have difficulty repaying if the dram depreciates. Third, foreign currency liquidity risks arise when a bank does not have sufficient foreign currency liquid assets, so the bank may suffer a foreign currency liquidity shortage in the case of unexpected needs to repay foreign currency obligations. Fourth, risks also stem from possible distress in parent banks with a significant presence of foreign-owned banks. Foreign-owned banks rely less on customer deposits and fill the gap by funding from parent banks and IFIs. Although the likelihood is low, a possible run on deposits combined with a liquidity shortage in the parent bank (e.g., as occurred in many countries with many foreign banks during the GFC in 2008-09), is a systemic risk.

The high level of dollarization also poses barriers to the development of the securities markets needed by

pension fund asset managers. The development of the money market through the joint initiative undertaken by Nasdaq OMX (the country's stock exchange) could generate sufficient liquidity to support a currency forward market. This initiative should be aligned with further streamlining the yield curve, through a government debt strategy focused on fewer but stronger benchmark points. This would allow for more liquidity in the secondary market and intermediaries could use such instruments to develop a spread curve for Armenian dram risk. The existence of a stronger yield curve could also facilitate the entry of foreign investors taking more strategic positions in the dram, and avoid the unnecessary financial risk to companies of issuing foreign currency debt in dram-earning sectors.

The Central Bank of Armenia (CBA) has employed macro-prudential policy tools to address risks from dollarization. The CBA has applied higher risk weights and higher provisioning for foreign currency lending than for dram lending, to mitigate credit risks associated with foreign currency lending. To reduce the direct currency mismatch risks, the CBA restricts banks' net open position to 7 percent of capital. The CBA has also applied a higher minimum reserve requirement ratio for foreign currency liabilities to stave off deposit dollarization. However, the CBA does not have in place tools to mitigate foreign currency liquidity risks: while the CBA requires banks to meet two liquidity ratios (the highly liquid asset to total asset ratio, and the highly liquid asset to demand deposit ratio), these ratios are required only on the total assets and liabilities, not by currency. Hence, further improvements can be made in the following areas: (i) monitoring the currency mismatch of borrowers; (ii) introducing liquidity coverage ratios by currency; (iii) further clarification of the terms of reference of the Financial Stability Committee; and (iv) greater public communication on systemic risk monitoring and macro-prudential policy formulation.

b. Aging and Rising Economic Dependency Ratios

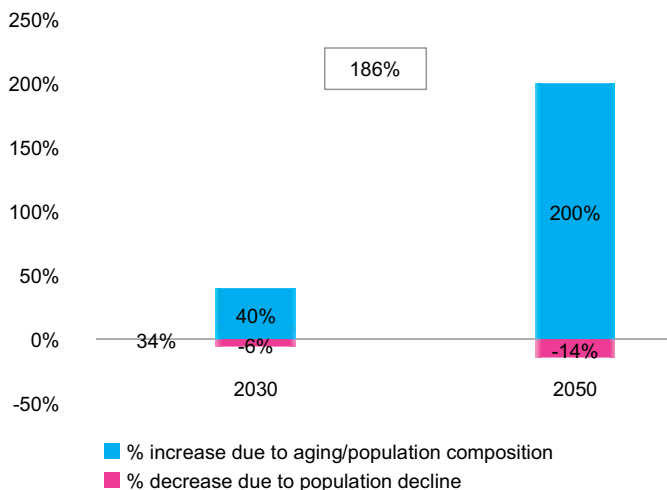
2.74. With population aging, the financial burden on government resources and households' out-of-pocket spending on health stands to increase significantly over time if the current cost of treatment of non-communicable diseases remains unchanged. Armenia's health-care system is already facing an epidemiological shift in morbidity and mortality patterns. Moreover, smoking has elevated health risks for men. The World Health Organization (WHO) estimates that 63 percent of Armenian men aged 15

to 49 are tobacco consumers. This is one of the potential factors behind the much higher mortality rate among men than women at relatively young ages: in the 15 to 44 age-group, the mortality ratio between men and women is almost 3:1.⁷⁶ Similar to many low- and lower-middle-income countries, the country faces a record increase in non-communicable diseases (NCDs).⁷⁷ With population aging, the burden of NCDs will increase. If the cost of treatment remains as in 2015, then health expenditure will increase as follows. Using 2030 population numbers, health expenditure will decrease by 6 percent due to population shrinking but

increase by 40 percent due to a higher share of the elderly. Hence, the total expected increase in health expenditure is 34 percent. In 2050, given that most of the population would be in their 60s, health expenditure will increase by 186 percent, composed of a 14 percent drop due to the population decline counteracted by a 200 percent increase due to the health-care needs of an aging population (Figure 2.25).

2.75. The fiscal space for meeting rising health-care costs through public spending could be a constraint in the future. At 1.9 percent of GDP, Armenia’s public financing for health is among the lowest in the world.⁷⁶ Already most of the health spending in the country comes from out-of-pocket (OOP) spending by households rather than public spending. Households’ OOP spending accounts for 54 percent of total health expenditures, which is well above the recommended WHO level of 20 percent. Thus, with population aging, OOP spending for households could rise unless revenues can expand sufficiently to support an increase in public spending on health. Considering the tight future fiscal space situation, implementing a mandatory health insurance scheme to reduce OOP costs would be a major challenge for the Government, as much of the needed revenues would need to come from rationalization of the Basic Benefit Package and eligibility categories. Other efficiency gains could come through modern and strategic purchasing/provider payment systems, revisions in targeting, integration of care, and pharmaceutical reforms, among others.

Figure 2.28: Simulated total health spending increase due to population changes



Source: World Bank staff estimates. The simulation forecasted population and age distribution for 2030 and 2050.

2.76. Another concern with an aging population is the rise in the cost of preventing old-age poverty. Armenia’s pensions system has been effective in tackling old-age poverty and is an important component of its poverty prevention program for the elderly.⁷⁹ Pension systems generally have two goals: (i) to prevent poverty among the elderly; and (ii) to replace earnings following departure from the labor force (consumption smoothing). In Armenia, pensions cover 60 percent of poorest 20 percent of the population. Moreover, as shown in Chapter 1, pensions have made a significant contribution to reducing poverty overall. Simulations show that poverty would be higher in the absence of pension transfers.

2.77. The rise in the economic dependency ratio could threaten the funding of the pension system. With an aging population and current patterns of labor force participation, the share of economic dependents will rise significantly. The share of economic dependents (children under the age of 14 and adults aged 65 and older) in the economically active population overall (those active among the 15 to 64 age group) was about 60 percent in 2015, but this is projected to rise to close to 80 percent by 2030, dipping only slightly to 77 percent by 2040 (Figure 29, Scenario A).

2.78. However, since 2010, the public pension system has begun major reforms and institutional rationalization to address the issue of funding and the adequacy of pensions. Armenia’s pay-as-you-go (PAYG) pension system has been successfully keeping the elderly out of extreme poverty, while paying low and flat pensions. With pensions that are unrelated to income earned and contribution tied to income, the PAYG system lacks incentives to participate and report income, with poor prospects for future pension benefit adequacy due to population aging. The 2010 pension reform sought to improve future adequacy and incentives by introducing a mandatory funded pillar financed with supplementary contributions of 5 percent matched by the state from 2014. To date, this system has only been implemented for civil servants and new workers under age 40 entering private sector employment. The system is scheduled to be extended to all private sector workers under age 40 on July 1, 2018. It is important for the government to proceed with the coverage extension on schedule to help assure future benefit adequacy for all workers.

2.79. Armenia’s pension system transformed from a pay-as-you-go system to a funded system. The system consists of two components: (i) a defined benefit component that is financed from the state budget; and (ii) a defined contribution program that has been in place since

⁷⁶NSS 2013. 2013. Women and Men in Armenia, 2013. Statistical Booklet. Yerevan, Armenia.

⁷⁷NCDs include cardiovascular disease, cancer, mental health problems, diabetes mellitus, chronic respiratory disease and musculoskeletal conditions.

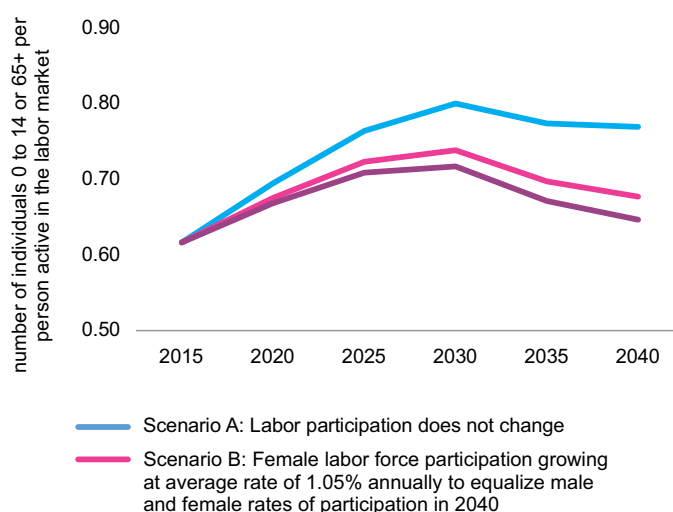
⁷⁸Note that public financing includes health related expenditures of ministries other than the Ministry of Health (MoH). This figure is comprised of the MoH/SHA budget (92.4%), the Ministry of Labor and Social Issues, (4.1%), the National Security Service (0.3%) and the Police (0.1%), and the remaining are from other state administration bodies. Please see pages 26-27 of NHA 2015.

⁷⁹Pension System in Armenia 2015: Outlook and Further Reform Options.

2014, which covers only civil servants and new labor-force entrants since that date. The defined benefit component of Armenia's pension system is primarily intended to prevent poverty among the elderly. The new defined contribution plan is intended to provide the income replacement portion of benefits. The defined contribution plan is financed by a combination of worker contributions that are treated as a tax and matching contributions from the Government. The combined contribution rate from individuals and the Government is equal to 10 percent of earnings up to a wage ceiling. The system covers all civil servants and new labor-market entrants since the system began on January 1, 2014. Current government plans call for mandatory participation by all workers under the age of 40, beginning on July 1, 2018. Workers aged between 40 and 50 have a one-time option to join the defined contribution plan prior to July 1, 2018, while workers older than the age of 50 remain in the defined benefit plan only.

2.80. The pension reform and the 2014-2025 Armenia Sustainable Development Program have also programmed the catch-up of PAYG pensions with the Minimum Consumption Basket (MCB) to further reduce poverty among the vulnerable elderly. If generously indexed, the PAYG system would become fiscally costly. A mandatory second pillar offers the prospect of longer-term improvement in pension adequacy for all. It requires additional fiscal costs in the short run, but

Figure 2.29: Ratio of economically dependents to economically active persons, 2015-40



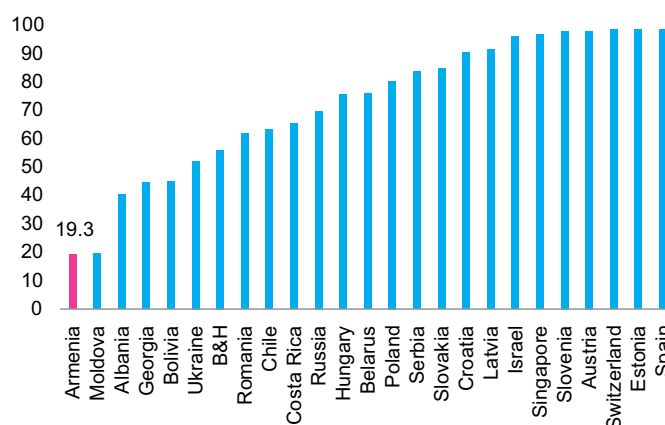
Source: World Bank staff calculations using age specific UN population projections and modeled ILO estimates of labor-force participation for 15-64.

generates savings in the long run. Further adjustment of PAYG parameters, especially a higher retirement age and tighter disability criteria, would yield savings and contribute to overall reform package sustainability. A more gradual implementation of the ambitious pension targets set in the 2014-2025 Armenia Sustainable Development Program would also ease the short-run PAYG financing requirements. It is important for the government to proceed with mandatory participation for all private sector workers on July 1, 2018 without further delays.

2.81. Together with pension reform, raising female labor-force participation rates could halt the rise in the economic dependency ratio. In 2015, there was nearly a 20-percentage-point gap in male and female labor-force participation among those aged 15 to 64. If this gap were to close by enabling more women to seek and find work, the adverse trend in the economic dependency ratio could be significantly reduced (Scenarios B and C, Figure 2.26).

c. Availability of Formal Financial Services and Social Protection Transfers

Figure 2.30: Account at a financial institution, older adults (% ages 25+), 2014



Source: World Bank staff calculations using Findex data.

2.82. In the absence of an adequate insurance market, people can buffer economic shocks by drawing down on savings, or access credit when confronted with a shock. Insurance is an important part of the financial sector that helps firms and households manage and cope with shocks. Armenia's insurance sector, however, is small and underdeveloped, and therefore does not serve this purpose. The limited development of Armenia's savings and credit markets suggests that they too are inadequate to enable firms and individuals to respond to shocks. Indeed, as noted

in Chapter 2, the share of adults in Armenia with a formal account in a financial institution is low and bank deposits are correspondingly low as well. Only 19.3 percent of adults (aged 25+) had an account at a financial institution in 2014. This is the lowest among peer countries, which had an average of 74.5 percent (Figure 2.28). With such low usage of financial institution accounts, the penetration of deposit services in Armenia remains among the lowest in the region.

2.83. When it comes to coping with the financial implications of treating health shocks, the Basic Benefit Package of health services offers only limited protection. The Basic Benefit Package (BBP) is the program under which the Government provides extensive coverage of essential health services. The BBP is financed from general government revenues. Low public financing for health, and co-payments for services covered under the BBP, as well as a lack of coverage for expensive aspects of health care (hospital care and outpatient pharmaceuticals), have resulted in high out-of-pocket (OOP) spending by households on health. Very few pharmaceuticals are provided through the BBP and pharmaceuticals are a major item of household expenditure in Armenia, amounting to 74 percent of total household OOP expenditure in health in 2014. The high levels of OOP spending increase the risk that households could be impoverished when faced with high levels of health spending, and reduce the potential redistributive capacity of any health financing system. Small improvements in targeting of the BBP could lead to substantial gains. Given that about 30 percent of Armenia's population of 3 million lives below the poverty line, a 1.0-percentage-point increase in the coverage of the poor and an equivalent decrease in the coverage of the non-poor in Armenia translates into an additional 9,000 poor people becoming eligible, and the same number of non-poor becoming ineligible.

2.84. Poor and vulnerable Armenian households also are eligible to the country's flagship social assistance program, the Family Benefit Program (FBP), although only 27.5 percent of the poor are covered by the program. The FBP is a hybrid means-tested non-contributory cash transfer program. While the main program's coverage has varied over time, little progress has been made in improving the targeting and the coverage of the poor. The number of FBP recipient families declined from 121,000 (annual average) in 2008 to around 91,000 in 2011, and then increased steadily again to 107,000 at end-2016. According

to survey data, this program reached around 13 percent of the population in 2015. However, there is further scope to improve its targeting—only 61 percent of its resources went to the poor.⁸⁰ The coverage of the poor is generally low, since only about 27.5 percent of the poor (below the upper poverty line) received the transfers in 2015.

2.85. The scale and supply of active labor-market programs (ALMPs) for job-seekers and youth transitioning from school to work is limited. It is also important to ensure that workers have the skills required by modern sector jobs and ALMPs are critical policy instruments. With the removal of unemployment benefits, active labor-market programs remain the main component of labor-market policy. However, these programs are not a major part of Armenia's social protection system. The capacity of the State Employment Agency (SEA) is constrained both in terms of staffing and resources allocated for active labor-market policies. The budget for ALMPs has been declining since 2006, due to a shrinking envelope for wage subsidies and public works.

2.86. Promoting labor activation among FBP beneficiaries remains a primary policy goal. Several factors may discourage social assistance beneficiaries from taking up formal employment, including the lack of formal jobs, their low level of education, care-giving duties, and high labor taxes (low net income) relative to the loss of social assistance benefits, especially for lower paid jobs. Given the limited capacity of SEA to serve vulnerable groups, work incentives could be embedded in the FBP benefit design. Critically, these activation measures would have to be complemented by a parallel investment in the capacity of SEA to serve a larger number of clients, both in terms of vacancies collected and ALMPs, and by integrating the information systems to allow the monitoring of compliance with conditionalities.

2.87. Looking ahead, the Government has initiated the implementation of an integrated approach to delivering social protection services. The main beneficiaries of the new model of service provision are marginalized and vulnerable members of society. One of the main objectives of the integrated service delivery model is to improve the outcomes of service users, while minimizing the clients' cost of accessing services and benefits. This is of importance for the most vulnerable population groups—people who face multiple and complex problems, and are usually furthest away from the formal labor market.

⁸⁰ The indicator is calculated as the sum of all benefits that go to poor (defined as below the official upper poverty line) FBP beneficiaries in one year divided by the sum of all FBP benefits paid in one year. FBP beneficiary households are defined as those households reporting to receive the family benefits in the "diary of household income and revenues" module of the ILCS (item 5 "family benefit"). The consumption aggregate used to define poor households is the total adult equivalent consumption subtracting all social assistance benefits (the FBP benefit, the child benefit and other benefits corresponding to items 5, 6, and 8 in the income module, respectively). This is different from the consumption aggregate used to estimate official poverty which is "post social protection transfers", including FBP, child benefits and pensions. However, for purpose of assessing the targeting accuracy of the FBP the consumption aggregate without social assistance transfers is considered as the population that should be targeted by the FBP is the "pre-transfers" poor.

d. Climate Change

2.88. Over recent decades, climate change has significantly increased the frequency and intensity of hazardous hydro-meteorological phenomena (HHMP) in Armenia. These events include extreme frost and the number of days with heavy rainfall and hailstorms. In recent decades, extreme weather events (drought, hot dry winds, hail, spring frosts) have become more frequent and longer lasting, inflicting great damage on agriculture. In 2010 and 2013, the financial losses to Armenia's agriculture from extreme weather events were estimated to be AMD 35.5 million and AMD 23.9 million, respectively. From 2009 to 2013, the overall damage from extreme weather events related to crops amounted to AMD 72.71 billion (about US\$177 million). Future climate trends are expected to exacerbate the high climate variability that already affects Armenia today and to increase Armenia's vulnerability to natural disasters.

2.89. Climate change impacts have the strongest impact on agricultural production and on water availability for agriculture and other sectors. A recent comprehensive World Bank report⁸² assesses the risks of climate change for the agricultural sector in Armenia as a particularly immediate and important problem, because most of the rural population depend either directly or indirectly on agriculture for their livelihoods. The key negative impacts of climate change on agriculture are expected to arise due to the reduction of soil fertility and a more intensive degradation of land; the redistribution of agro-climatic zones; increasing share of irrigated areas; and the need for additional irrigation water.

2.90. Armenian farmers are not well adapted to the current climate and they need to undertake more adaption actions to prepare for impact of climate change. The large adaptation deficit of the agricultural sector in Armenia includes: unsustainable management of soils; insufficient irrigation; and high vulnerability to natural hazards such as droughts, floods, frosts, and severe storms. Evidence suggests a low adaptive capacity to the present climate. The rural poor will be disproportionately affected because of their greater dependence on agriculture, their relatively lower ability to adapt, and the high share of income they spend on food. If unaddressed through a comprehensive national adaptation plan, climate impacts could impede the dynamism and resilience of agriculture and adversely impact food security and economic growth in vulnerable rural areas. While the impacts of climate change on farm productivity are relatively well understood in terms of crops, they are less well understood for the livestock.

2.91. The Government recently ratified the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC), and defined its mitigation and adaptation targets in the Nationally Determined Contribution (NDC). The government announced that the "(i) NDC will be based on the principle of 'Green economy' and be compatible with the social and economic development goals of Armenia". The overall NDC objective is to "achieve ecosystem neutral GHG emission in 2050" (this target is fully conditional on the availability of international support).

e. Depleting Natural Resources

2.92. Mining is one of the largest contributors to GDP and exports. There are concerns about the economic, social, and environmental sustainability of mines. The dominance of one single operation over the Armenian minerals sector makes it vulnerable to possible external shocks and this threatens the longer-term sustainability of the sector. Forming linkages with other sectors of the local economy is one way of enhancing economic performance and social sustainability. Although linkages and "local content" exist in Armenia, there is considerable scope for increasing the participation of local and Armenian businesses within the wider mining sector. None of the existing metal mining operations appears to be environmentally sustainable. The small metal mining companies that are involved in poorly managed "mining/exploration projects", which were first discovered during the Soviet era, cause significant damage to the environment (both to air and water). Plans and funds to enable reclamation and rehabilitation of mine sites and associated waste facilities appear to be inadequate. Given the high seismic risk, and overall high risk of land instability, significant risks exist for waste facility collapses and/or accidents. There are many mines and waste facilities that are either no longer mined, or no longer used, and as yet no efforts have been made at rehabilitation and reclamation.

2.93. Environmental laws and regulations that could potentially address most of the above problems do exist. However, these laws are not properly implemented. Laws are also ambiguous and not streamlined. Existing fines and the consequences for non-compliance with environmental laws are too low and may not be a sufficient deterrent against breaking the law. Furthermore, among many companies, knowledge of the law and understanding of compliance with the law might be limited.

2.94. Other natural assets are also being depleted. Natural rangelands are being degraded, resulting both in deterioration of the environment, livelihoods, and mountainous areas, together with threatening the

sustainability and future growth of agriculture and livestock. Armenia is one of the least forested countries in the Europe and Central Asia region, with resources that are scarce and disappearing. Forests make up less than 10 percent of the land area and have declined by more than 10 percent since 1993.⁸³ This decline in forest resources is partly the result of overuse by forest-dependent people, which in turn is primarily a result of perverse policy incentives and a lack of an enabling environment for the implementation of sustainable forest management practices and investment in the sector.

2.95. Management of water resources is crucial for sustainable growth, especially as the future availability of water could be impacted by climate change.

About 80 percent of the country's crops are irrigated. Hydropower accounts for 40 percent of total electricity production. Groundwater is the source of 96 percent of drinking water. The Ministry of Nature Protection (2010) projects a 4°C increase in temperature and 9 percent reduction in precipitation by 2100. The Ararat Valley region (an important agricultural and fish-producing area) is projected to experience higher warming and thus higher future irrigation demands. As a result, according to the Ministry of Nature Protection (2009), a 25 percent reduction in river flow is projected to result in a 15 to 34 percent reduction in the productivity of irrigated cropland (average 24 percent). The total future losses to the agricultural sector are estimated at around AMD 75 billion to AMD 170 billion (US\$180 million to US\$405 million). The energy sector will also be affected, as Armenia uses its rivers for hydropower generation, and cooling water for nuclear and thermal power plants. The country's energy program to further develop hydropower could be at risk.

The delivery of irrigation water and drinking water faces challenges. For irrigation water, the high cost of services (in part related to the need in some places to use expensive pumps) and the current low cost recovery in these systems continue to result in a sector that is performing below par. For

drinking water, over the past 15 years the implementation of a successful public-private partnership (PPP) program has enabled a significant improvement in the quality and reliability of the potable water supply. For instance, the population in the capital Yerevan has benefitted from safe, continuous (24/7) potable water supply for several years now. However, about 450,000 people do not have access to 24/7 drinking water. This population is spread across about 560 municipalities, equivalent to 20 percent of the national population, but as much as two-thirds of the area of the country. This corresponds mostly to villages and remote settlements, but also towns that for historical reasons have retained their own responsibility for their water supply. People in these municipalities have been left aside by the successive PPPs that have been implemented over the past 15 years. Although this segment of the population has access to improved water sources, this is only rarely through piped water and household connections. Even then, the water supply is often highly intermittent and the potability is not guaranteed.

Most households connected to the water distribution network are also connected to a sewerage collection network, however, virtually all collected sewage is released untreated into the environment. This situation generates major environmental degradation, not just in rivers but also in ecologically sensitive areas, such as Lake Sevan (940 km²).

Outdoor air pollution occurs mainly in the form of particulate matter (PM). The annual mean ambient PM_{2.5} concentration was reported to be 17.75 micrograms per cubic meter in 2013. There is a lack of understanding of the full extent of the impact of outdoor air pollution due to a lack of information/data collection in the form of monitoring stations (outdoor air pollution), and household surveys that collect information on individuals' exposure to indoor air pollution. It is very likely that PM_{2.5} and PM₁₀ concentrations are under-reported, as monitoring is very limited in the South Caucasus.⁸⁴

⁸¹Republic of Armenia. Third National Communication on Climate Change under the United Nations Framework Convention on Climate Change. 2015.
World Bank. Unbreakable: Building Resilience of the Poor in the Face of Natural Disasters. World Bank Report. 2017.

⁸²World Bank. Reducing the Vulnerability of Armenia's Agricultural Systems to Climate Change. World Bank Study. 2014. ⁸³GIZ 2014. <http://biodiversersouthcaucasus.org/wp-content/uploads/2015/02/GIZ-2014-BioFact-Forest-Cover-of-Armenia.pdf> (High resolution multispectral satellite images (Rapideye) have been ordered for the whole territory of RA based on which the total forested area of RA has been assessed.)

⁸⁴www.euro.who.int/__data/assets/pdf_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf



CHAPTER 3: PATHWAYS, POLICY PRIORITIES, AND ACTIONS

3.1. For inclusive growth with resilience, a new model of economic growth grounded in productivity improvements needs to be embraced to address the challenges identified in Chapter 2. Four pathways toward achieving the twin goals are identified (Figure 3.1). Growth needs to rebalance from being demand- to being supply-driven, and toward exports/tradeable goods and services, and away from non-tradeable and domestic demand (Pathway 1). To increase growth dividends and renew inclusivity, job creation needs to be reignited through productive firms and individuals' productive labor-market participation (Pathways 2 and 3). Lastly, Armenia needs to strengthen its resilience to shocks at all levels, to be able to keep and sustain over time the gains from such inclusive growth (Pathway 4). Reform areas and priorities are selected according to the most binding constraints to achieving the twin goals. This prioritization also draws from feedback from country team experts (Annex 6).

3.2. The pathways are inter-related and share strong complementarities. To simplify, the pathways and their reform areas are presented successively. However, they share strong complementarities, supporting simultaneous implementation. For example, while removing constraints to international trade and enhancing multi-connectivity are

certainly important priorities to rebalance growth toward tradeable and exports, they will not be sufficient. They will need to be complemented by an enhancement of firms' productivity, which will be the fundamental engine of this rebalancing. To become more productive, firms will need to access the right skills, while more economic growth through more productive jobs will call for higher labor-market participation. Systems need to be put in place (access to finance, social protection and pensions) for individuals to cope with shocks to preserve their gains from economic growth and avoid falling back into poverty. Sound macroeconomic policies supportive of growth need to be in place as a prerequisite for a virtuous productivity-growth-rebalancing cycle to occur. Finally, the country needs to manage natural assets and adapt to climate change for long-term sustainability.

3.3. Recognizing the importance of connectivity and competition for prosperity in Armenia, the policy areas can be sorted into the following priorities. The diagnostics demonstrate that for Armenia multiple challenges can be tackled when private sector development is unleashed. The analysis provided in Chapter 2 points to significant slack in the labor market—a reflection of the limited job creation in Armenia's economy. Private sector development,

productivity, and competitiveness have been lagging, while exports are below potential. So, the top priority is to expand its export markets and enhance private sector development to boost growth and job creation. For this to happen, it will be important to leverage export enablers and bypass land connectivity barriers. Also needed are on-the-ground improvements in the investment climate and governance, starting with market contestability and financial inclusion, as well as the interaction between the private and public sectors. This will re-balance growth drivers, transform structurally, create jobs, and support inclusive spatial development.

3.4. The next three priorities help the country raise labor productivity, while managing the implications of a declining and aging population by increasing labor market participation and supporting individuals' resilience. This will require ensuring that the education system provides skills relevant to the labor market, starting with improving teaching quality. It also calls for facilitating women's labor market participation, particularly, expanding early childhood education (ECE) that has the dual payoffs of promoting women's work, as well as developing children's school readiness and wellbeing. Strengthening micro resilience, including raising households' access to finance, continued investments in pensions, and protecting and better targeting health and social protection spending will also be important.

3.5. Two cross-cutting "must have" policy areas include: strengthening macroeconomic and environmental management. The former calls for more flexibility and efficiency in fiscal management and enhancing the counter-cyclicality of macroeconomic policies. The latter could start with better water management and a focus on the impact of climate change.

Pathway 1: To rebalance growth, Armenia should seek to open markets, seize exports opportunities, and overcome existing connectivity constraints

3.6. As shown in the Chapter 2 analysis, connectivity constraints underpin low export performance, while a number of opportunities exist. Constraints were found in trade and transport facilitation (logistics and border management), and in ICT infrastructure and access, as well as in internal connectivity. Opportunities were identified in: trade policy and trade agreements; leveraging better trade in services; leveraging the digital economy through its many dimensions to overcome physical landlockedness constraints; leveraging Armenia's diaspora in a more systematic manner, providing better export intelligence; taking advantage of EEU membership by positioning the country as a base for market-seeking investors looking to access the wider EEU market; and seeking trade and investment agreements beyond the EEU.

Figure 3.1: Twin goals, pathways, and reform areas



Policy area 1: Leverage export enablers

3.7. The top priority is to boost exports and to do so by leveraging the multi-connectivity links available to Armenia. Addressing this binding constraint will require a multi-pronged approach combining actions in several domains. The following are recommendations of actions to contribute to addressing this top-priority:

- **Connect through better logistics and infrastructure.** This includes improving basic transport infrastructure by addressing gaps at the local and regional levels, and the efficiency of road expenditures and sustainable institutional arrangements to preserve the domestic road network. It also entails enhancing services and transport facilitation through: (i) modernizing supply-chain management, improving the legislative framework governing freight-forwarding and logistics, reducing informality, professionalizing logistics, and ensuring market competition; and (ii) streamlining transit, improving connectivity and upgrading basic services to improve the connectivity of Armenia to regional and global markets, and actively promoting improved corridor performance using modern logistics tools.
- **Connect through digital economy levers,** which have the potential to open markets beyond domestic borders. Internet is changing trade, firm productivity, demand for skills, and labor-market arrangements. For example, supporting access to competitive internet connectivity, developing e-commerce, and supporting digital technology adoption by

firms and skilled individuals would foster Armenia's multi-connectivity agenda.

■ **Connect through services as a platform for the sophistication of exports** (increased knowledge content of exports). To do this will require attracting FDI into the sector and seeking agreements that reduce the costs for services firms (e.g., software developers) to penetrate foreign markets. A typical example would be agreements on double taxation. More broadly, this will require a business-friendly, open, and predictable investment climate (see policy area below).

■ **Connect through people.** There is room for greater leverage of diaspora trade, investment, and knowledge networks, and promoting export intelligence. Connecting to diaspora business networks, finance, and know-how through innovative financial instruments could be useful in attracting investment associated with knowledge and technology into Armenia. Making use of modern export promotion institutions could help to reduce the fixed costs that firms face when entering new markets by ensuring that available information about potential export markets circulates among firms.

3.8. Other priorities pertain to:

■ **Taking advantage of Armenia's EEU membership** by positioning the country as a base for market-seeking investors wishing to access the wider EEU market. Armenia could attract more market-seeking FDI if its policy environment were more supportive than those of other EEU members and if investors came to regard Armenia as a base for expanding into the wider EEU market. If increased FDI brought new technologies to Armenia, positive productivity spillovers could compensate for the disadvantages of trade diversion.

■ **Seeking beneficial trade and investment agreements outside the EEU.** Such agreements with the EU and beyond would help place exporters, particularly those in GVC-prone sectors, on an equal footing to compete with neighbors such as Georgia.

Pathway 2: To develop a vibrant productive private sector and create more jobs, Armenia should remove constraints for firms to enter markets and grow

3.9. In order for firms to invest, grow, and innovate they require a stable, predictable, and supportive investment climate broadly speaking. Despite progress, Armenia's investment climate is left with a number of important gaps. In addition, Armenia exhibits a significant lack of market contestability, which hinders firms' entry and growth. With a supportive investment climate, labor and skills, and capital,

technology and knowledge would be able to flow to the most productive firms and sectors. This would in turn support greater productivity, which at the macroeconomic level would underpin the rebalancing called for under Pathway 1. To address these gaps, the following measures could be considered:

Policy area 2: Ensure on-the-ground market contestability and competition

3.10. The top priority in the investment climate and governance is to improve competition and domestic market contestability, including in those sectors that are input providers of exporting firms. Doing so would support greater foreign investment and at the microeconomic level would allow firms to enter markets and grow. Addressing this binding constraint will require a multi-pronged approach combining actions in several domains. The following are recommendations of actions that would contribute to addressing this top-priority:

■ **Strengthen the competition framework.** A comprehensive competition framework rests upon fostering pro-competition regulations and government interventions, guaranteeing the Government's competitive neutrality in markets; and enforcing economy-wide the Competition Law. The effectiveness of the Competition Law can be strengthened by: (i) including competition principles in regulatory impact assessment, which will reinforce ad-hoc interventions by the SCPEC to remove regulatory restrictions on competition; (ii) introducing true investigative powers; (iii) adjusting the level of fines; and (iv) articulating a definition of economic entities to account for individual companies that operate under common control. Measures to ensure competitive neutrality should be put in place, such as implementing state aid control. The e-procurement framework needs to be fully implemented with competition and transparency pro-actively supported. More broadly, a fact-based assessment of ownership and market dynamics would help to reconcile perceptions and evidence, and formulate recommendations accordingly.

■ **Strengthen public governance.** This includes strengthening voice and accountability, improving oversight of the executive, enforcing the rule-of-law, and fighting corruption. In doing so, strengthening limits on conflicts of interest in the public sector would go a long way (see separate point below). The policy formulation process should become evidence-based and subject to thorough public scrutiny to limit the influence of narrow vested interests. Strengthening core downstream PFM controls (internal controls, internal and external audits, financial statements and legislative scrutiny) will be also key. In addition, enhanced stakeholder consultations and citizen engagement would strengthen

the effectiveness of policy design and implementation. Civil service reform could usefully focus on the adoption of a law integrating the civil service and decentralizing human resource management in the public and civil service. It is also important to integrate the multiple public service training facilities.

■ **Strengthen the conflicts-of-interest framework and follow through on cases.** While the system of income and asset declarations by high-level officials is effective, little follow through and few investigations have occurred. The Ethics Commission for High Ranking Officials' jurisdiction and capacity need to be expanded to an effective corruption prevention agency with investigation powers. Upcoming legislative changes are expected to introduce additional disclosure of interests, criminalize the failure to file a declaration or the submission of false information, and enable the publishing of more comprehensive information online that will reflect the potential conflicts of interest of public officials. Further enhancements of the system may also demand new approaches for accounting for beneficial (as opposed to de jure) ownership.

■ **Improve corporate governance.** Good corporate values help to achieve firms' longer-term goals: formulate and implement strategy, increase efficiency, enable good risk management, attract capital, ensure smooth inter-generational transitions, and attract and retain talent. To do this, Armenia needs to improve corporate transparency, including the disclosure of financial and non-financial information, strengthening Boards of Directors, and protecting the rights of shareholders. Improving corporate governance could go a long way toward better mobilizing foreign savings by attracting global investors.

Policy area 3: Fill other investment climate gaps

3.11. Other priorities pertain to:

■ **Improving other aspects of the lagging investment climate.** Starting a business, registering property, enforcing contracts, and accessing credit are made easy by regulations. However, getting things done to carry out business operations can be cumbersome. A number of reforms are lagging, with a gap between what has been approved on paper and what is implemented on the ground, for example, in border management, property rights, and tax administration. Stronger institutionalized mechanisms for regulatory scrutiny are needed. This includes tools such as introducing a regulatory impact assessment and ex ante strategies for execution already at the start of the regulatory planning process.

■ **Ensure reliable and adequate electricity supply, and sustain the financial health of the sector.** Rehabilitation of power transmission, and distribution assets and construction of new generation capacity are needed to ensure adequate electricity supply to the economy. To attract long-term private capital into much needed infrastructure investment, renewable energy regulatory and legal frameworks will need to be improved by industry standards, building on the success of past reforms. The adequate maintenance and expansion of energy infrastructure include preventing non-core business-related expenditures by power sector companies and adjusting tariffs to the cost of supply, including eliminating cross-subsidies of end-user tariffs.

■ **Improve access to finance.** Access to finance is seen as an important constraint to firms' growth. To improve access to finance the following measures could be considered. First, implement the new secured transactions framework. This would broaden the possibility for MSMEs to use moveable property as collateral and would allow them to secure loans. Armenia now has a new legal framework and registry, but its use remains limited because of a lack of capacity or awareness of the banks. Training of staff at banks and universal credit organizations (UCOs, which are microfinance institutions) will be needed. Second, develop the capital markets, so banks that currently compete for large corporate clients go down market to SMEs as the corporates raise funds in the capital markets. Third, promote savings. Armenia is about average in delivering credit, but is half of the average in mobilizing savings. Banks seem to have little incentive to attract deposits. Fourth, improve skills in MSMEs and in lenders (banks and UCOs) to address the lack of capacity and mistrust both in MSMEs and lenders. A financial inclusion assessment is underway to identify the key policy and institutional constraints to access to finance, and its results will be used to design a financial inclusion strategy.

■ **Enhance access to innovation and knowledge.** A World Bank 2015 report⁸⁵ proposed measures that remain valid in this regard and consist of inter alia: creating innovation institutions bringing together public and private stakeholders; connecting public research organizations with the national economy; analyzing the prospective benefits of new technologies and promoting projects that generate tangible economic benefits; strengthening intellectual property rights; supporting the dissemination and commercialization of new technologies; creating a marketplace for innovation; strengthening access to the skills, resources and professional networks of Armenian scientists abroad; and adopting international standards for evaluating R&D and private-sector innovation, and the feasibility of implementing them.

⁸⁵ World Bank (2015): "Drivers of Dynamism".

Box 3.1: How can SCD policy directions address regional differences in wellbeing?

Seventy percent of Armenia's poor live in secondary cities and rural areas—away from country's economic center in Yerevan. What should the GoA do about this spatial imbalance? Should policies try to generate jobs in these “lagging regions”? As WDR 2009 explains, growth is inherently unbalanced in terms of geography, with some parts of a country doing better than others. With the right policies in place, people should be able to move to leading regions and benefit from economic opportunities. The SCD found that Armenians do move, but they are more likely to do so internationally with people from economically lagging regions migrating, especially to Russia.

Economic geography principles discussed in the WDR 2009 suggest that countries should aim for inclusive and spatially balanced development and not necessarily spatially balanced economic growth.

Continued strategic investments in transport infrastructure should be made with the aim of improving provision and access to basic services (Pathways 3 and 4), and optimizing connectivity between and throughout regions (Pathway 1), which would allow for reducing distance and costs. In part, the idea here is that strategic investments will help prevent congestion in more urban areas from undermining the building of density. In addition to improving network efficiency, transport improvements may be needed for accessing basic services such as schools, health facilities, and local markets. While access to these services is important for people to improve their welfare, and make the most of local opportunities, the costs of providing,

Source: WDR 2009; World Bank (2014).

maintaining, and sustaining traditional transport services are higher in isolated areas. These policy investments include also improving ICT to increase the flow of information and ideas.

When the poor are concentrated in lagging areas, as in Armenia, spatially blind institutions that promote the mobility of labor (internal mobility is low in Armenia) and capital, and ensure the provision of basic services must be supplemented by policies to improve the access of entrepreneurs in lagging areas to markets (Pathways 1 and 2). Better infrastructural links between lagging and leading areas, by improving market access, may allow some activities to flourish in lagging areas, especially those that can either benefit from the agglomeration economies/economic density of secondary cities (e.g., ICT), or do not need such agglomeration economies (agriculture, labor-intensive manufacturing). Of course, Yerevan-based firms could also benefit from better connectivity with lagging regions.

“Spatially-targeted” interventions to stimulate economic development should be considered very carefully. These measures include investment subsidies, tax rebates, location regulations, local infrastructure development, and targeted investment climate reforms, such as special regulations for export processing zones. It is important to consider such policies only after investing in information to identify sources of comparative advantage, and to amplify the benefits from spatially-blind and spatially-connective policies.

Pathway 3: For renewed inclusive growth, Armenia should remove barriers to work and improve individuals' productivity

3.12. Raising productive capacity of the working-age population and removing barriers to economic participation will be important to meet the human resource needs of a growing economy. In addition, supporting women's participation in the labor market is a “win-win” for Armenia, as higher levels of employment among women would not only compensate for the decline in labor resources but also drive economic growth higher.

3.13. Efforts to address these challenges fall into three elements: ensuring that the education system provides skills that are relevant to the labor market; supporting the matching of workers to jobs; and facilitating women's labor

market participation.

Policy area 4: Ensure the education system provides skills relevant to the labor market

3.14. To ensure that students of the Armenian education system graduate with skills that are relevant to the labor market, teacher education and training and students' STEM performance must be prioritized with efficient education spending. These investments in teachers will address the skills mismatch of the labor force by equipping the aging teacher workforce with the most up-to-date and relevant pedagogical practices. Recognizing the growing importance of jobs in certain STEM fields, it is also important that the education system promote students' learning and performance in STEM subjects. Armenia's population is shrinking, which will affect the size of the student population.

To maintain efficient spending in general education without compromising quality, Armenia should continue to provide per-capita financing.

■ **Redefining teacher education and training to provide educators with the tools to teach higher-order skills in the classroom.** The Government should consider updating its teaching program curricula and in-service training. Curricula and training should incorporate more pedagogical guidance on strengthening the use of cognitive, socioemotional, and technical skills in the classroom, and at all levels of education, particularly in rural areas. These core skill groups have been proven not only to lead to higher educational outcomes, but also to greater long-term economic prosperity. Teaching is becoming an aging profession in Armenia. The number of teachers working who are past retirement age matches that of the youngest cohort of teachers just graduating from education programs. There is a slight skew toward older teachers, with more than half of all employed teachers over 45 years of age. These figures are comparable in both rural and urban areas. Meanwhile, the number of graduates entering the teaching profession has declined by 49 percent since 2012. The low number of teachers exiting the profession at retirement age not only perpetuates the already low student-to-teacher ratio but could also mean that a smaller share of teachers has updated pedagogical skills.

■ **Creating a clearer pathway to STEM education.** To increase student performance in science, technology, engineering and mathematics (STEM), the Government should reform STEM curricula, pedagogies, and materials, and train teachers to incorporate more innovative and student-centered learning, which has been found to motivate student learning. To tackle low STEM outcomes, the Government should continue to administer the universal entrance exam and regularly participate in international assessments, such as TIMSS, to use the findings to inform education policymaking. To increase enrollment in STEM in higher education, higher education institutions (HEIs) should partner with private and social sectors to provide secondary students with competitive and subsidized pre-university academic preparation, and university scholarships for STEM. Special emphasis should be placed on attracting more female students to STEM.

■ **General education rationalization.** Any savings from general education can then be applied to other critical and underserved areas of education, including early childhood, vocational, and tertiary education. To tackle multiple efficiency challenges in general education, such as the very low (9.2) student-to-teacher ratio, expected student population decline, and part-time teaching, Armenia should consider introducing hub-and-satellite schools, multi-grade teaching, and training teachers to teach multiple disciplines.

These practices have been successfully introduced in other countries in the region with similar education sector contexts as Armenia. Learning from their implementation could prove valuable for Armenia.

3.15. There are additional priorities for the education system over the longer term. Not only do the vocational education and training (VET) institutions need reforming, but modernizing the entire workforce development system is also needed over the longer term.

■ **Improving the quality of existing VET institutions.** For greater accountability, standardization, and integration with the labor market, the Government should consider reforming and improving the regulation of the National Center for VET Development and the National Council for VET Development. In addition, more integration of cognitive, socioemotional, and ICT skills in pedagogies and curricula would help to meet the needs of Armenia's emerging ICT and high-tech sectors.

■ **Modernizing the workforce development system.** Over the longer term, a dual VET model that begins in general education and partners with the private sector to provide students with apprenticeships similar to those found in European countries, such as in Austria, Switzerland, and Germany, could be explored in the Armenian context.

Policy area 5: Support matching of workers to jobs

3.16. The role of employment services institutions, such as the State Employment Agency (SEA), is to facilitate the best job-worker matches and help to reduce skills mismatches. Employment services can address mismatches, especially shortages of some types of skills, by providing career guidance and necessary active labor market programs (ALMPs). Effective activation calls for greater investment and requires an integrated approach that considers local labor demand, an increased capacity of SEA to provide ALMPs, and counseling services and active case management. Low-income workers may face specific challenges because of lower education and other constraints to participating in the labor market, and thus face worse labor outcomes. To be inclusive, ALMPs need to be better coordinated with social assistance programs, such as the Family Benefit Program and the Emergency Benefit Program, especially in the absence of unemployment benefit (discontinued since January 2014).

■ **Improving job-worker matching by strengthening the State Employment Agency (SEA) calls for higher levels of investment. Improved monitoring and evaluation (M&E) systems, including advanced statistical profiling techniques, would contribute to directing SEA's scarce resources more effectively.** Considering capacity

constraints, the use of an advanced system for the profiling of work-able beneficiaries could help to identify those who are more likely to need access to the services offered by SEA and those who are easier to place. Armenia could consider adopting a statistical profiling system that would prioritize some households for ALMPs. Examples from Ireland, Sweden, and Australia show that administrative data can be used to generate statistical models that are easily implementable in the public education system and can predict the duration of the unemployment spells of the registered unemployed, from the day of registration. This allows the early identification of different segments of job-seekers who are most vulnerable. Such a system would help one-stop shops or employment services to manage the large inflow of beneficiaries and prioritize clients.

■ **Low-income groups, including social assistance beneficiaries, need targeted activation policies to facilitate their transition to (more productive) employment and/or have preferential access to existing ALMPS programs.** In the context of Armenia, characterized by low labor demand and decreasing rural employment, programs supporting entrepreneurship through business grants accompanied by business training have proven to be successful instruments in providing job opportunities to the most vulnerable (the lower educated, women and those in rural areas). Making FBP receipt fully or partially conditional on formal job-offer acceptance in (urban) areas where there is unmatched labor demand could be considered a design feature to incentivize activation of social assistance beneficiaries. Promoting labor activation among FBP beneficiaries could be achieved by embedding work incentives in social assistance benefit design (to make ‘work pay’ for benefit recipients), and not to penalize beneficiaries. In urban areas, additional design features could include: (i) promoting mandatory registration with the SEA; and (ii) defining and specifying a maximum duration of the SEA unemployment certificates’ validity to encourage active job-seeking behavior. Critically, these activation measures need to be supported by a parallel investment in the capacity of the SEA to serve a larger number of clients, both in terms of vacancies collected and ALMPs, and by integrating the information systems to allow monitoring of compliance with conditionalities.

Policy area 6: Facilitate women’s labor market participation

3.17. Raising women’s labor participation and tackling gender stereotypes will not only help support women’s entry into the labor market but also address some of the sources of gender wage gaps. A sizeable literature provides evidence that increased availability of formal childcare options results in improved labor-force participation among women, while also providing children with solid foundation

for success in school and subsequently in the labor market. While most of these studies are from developed countries, recent studies in middle-income countries, mostly in Latin America, show evidence of consistently positive effects of access to childcare on women’s probability of being employed, and on the probability of mothers working more hours.

■ **Expand provision of quality preschool education, especially for children aged under 3 and in rural communities.** The ongoing Education Improvement Project, which includes expansion of early childhood education (ECE) coverage as one of its objectives, is a good precedent and experience for implementing ECE systematically across the country. Lessons learned from countries with similar ECE challenges, such as Bulgaria and Mexico, could offer additional opportunities for Armenia to provide local municipalities with more financial and capacity-building support, and generate greater parental demand through a conditional fee education program.

■ **The education system should address stereotypes of women and men, and girls and boys, in general and higher education.** To tackle such stereotypes in the public education system, which have been shown to negatively correlate with women’s subsequent career paths, the Government should explicitly and more consistently ensure that there is equality in educational standards, curricula, syllabi, teachers’ guides and training, and textbooks so that they are more balanced regarding men’s and women’s social and economic roles.

Pathway 4: To achieve sustained and inclusive growth, Armenia should build resilience on several fronts

3.18. Vulnerabilities need not result in economic hardship if policies supporting resilience are put into place. A sustainable growth model—one that does not jeopardize future growth—must also be based on policies that build resilience, and help the economy and households adapt and bounce back. To protect current and future aggregate output and people’s consumption and wellbeing, policies supporting resilience and sustainability help to manage vulnerabilities at multiple levels. To address identified vulnerabilities in Armenia, the following recommendations are proposed at the macro and microeconomic levels:

Policy area 7: Strengthen macroeconomic management supportive of stability and growth

3.19. Mitigating fiscal risks and supporting macroeconomic stability are key for Armenia’s resilience to macroeconomic shocks.

■ **Re-build fiscal buffers and mitigate fiscal risks.**

Important elements here would include improving revenue collection through the sustained implementation of the Tax Code, prioritizing efficient, productive (and equity enhancing) public investment spending, improving value for money in public procurement, and encouraging public-private partnerships (PPP) to deliver selected public services, while carefully assessing risks. Reviewing the existing fiscal rule to enhance the credibility of the fiscal framework, while protecting growth, will also be critical, as already decided by the Government Program. Financial sector policy should continue to focus on supporting the resilience of the sector and strengthening the macro-prudential framework.

■ **Macroeconomic policies should be broadly supportive of macroeconomic stability and growth.** Macroeconomic stability is the cornerstone of any successful effort to increase private sector development and economic growth. Ensuring that the macro-fiscal policy mix remains well balanced and that countercyclical policies are applied will be important to that end.

Policy area 8: Strengthen environmental management and adaptation to climate change

3.20. Managing natural resources and disaster risks effectively, tackling pollution, and prioritizing adaptation to climate change are the key priorities.

Better implementation of existing environmental laws and regulations would go a long way toward improved management of Armenia's natural resources, as the sustainability assessment of mining sector has shown.

■ **Strengthen the management of water resources to ensure sustainable and productive use.** Overall, three aspects must be addressed. First, to improve water management, a strategic plan for the development of priority small reservoirs in Armenia is needed to build small water-storage capacity. Second, it is important to build a strong foundation of monitoring and measurement of water use. To enhance the current monitoring system, a comprehensive view should be developed using updated technology to expand the number of monitoring points and adopt new approaches to data collection, verification, and management. The sharing of data among different agencies and providing better access to data by the public should also be promoted. Third, analysis and knowledge of what would be the best allocation for the different water users in each basin is needed to ensure the full economic potential of water resources is realized. Currently, the planning of irrigation, water supply, and hydropower investment programs—all of which are managed at the central level—has a limited relationship to river basin management plans that have been prepared. There is a disconnect between the basin plans and sector programs and budgets. In addition,

reforms in specific areas include:

i) **Irrigation water:** To maximize overall irrigation water productivity, needed interventions include investments in rehabilitating irrigation infrastructure (both main and secondary), introducing more efficient irrigation systems at the farm level, reducing the dependence on expensive pump energy, and implementing reforms in the irrigation institutional structure (to improve technical and financial sustainability).

ii) **Drinking water:** Finding a viable institutional solution to ensure that the 450,000 people who have been left out of the PPP reform so far can also benefit from the successful potable water reform and receive quality water supply is an important priority.

iii) **Waste water treatment:** Protect endangered water resources (such as Lake Sevan) from raw wastewater discharges. The Government will need to identify the most sensitive discharge areas, assess the various technologies best suited to the local context, and duly prioritize future Waste Water Treatment Plant (WWTP) investments.

■ **Strengthen the response to climate change with a clear and comprehensive plan for adaptive actions in the agriculture and water sectors.** This would include steps for aligning agricultural policies with climate change, for developing key agricultural institutional capabilities (providing agriculture-specific hydromet forecasts), and for making needed infrastructure (i.e., improving irrigation schemes and water-use efficiency, and increasing national water storage capacity) and on-farm risk mitigation and adaptive measures (selecting climate-tolerant seeds; improvement of farmer access to agronomic technology and practices to improve crop yields), as well as agricultural insurance.

■ **Enhance the capacity of Armenia's Disaster Risk Management (DRM) system.** In the two decades since the 1988 earthquake, the Government has passed significant legislation to improve disaster risk reduction and emergency management systems. Strengthening the capacity of this DRM system will be crucial. It will also be important to mainstream DRM in urban planning and building disaster resilience in key infrastructure sectors such as schools. Strengthened DRM system will be needed also to raise the country's resilience to higher frequency and intensity of hazardous hydro-meteorological phenomena due to climate change.

■ **Tackle pollution from mines by implementing existing environmental laws and regulations; strengthen fines and the consequences for non-compliance; and raise public awareness.** The Law on Environmental Impact

Assessment (EIA) and the Law on Waste Management set standards for responsible mining to align the industry with global environmental best practice. Environmental laws and regulations that could potentially address most of the pollution arising from mines already exist. However, these laws are not properly implemented, and there are also significant problems related to legal ambiguity and of laws not being streamlined. There are also concerns that the fines and consequences for not following existing environmental laws are too low and do not constitute an adequate deterrent. Furthermore, among many mining companies, especially the smaller ones, there may be a lack of knowledge of the laws, as well as a poor understanding of what is required to be compliant with them.

3.21. Additional priorities include:

■ **Translate the Nationally Determined Contributions (NDC) into an effective implementation strategy to deliver on its adaptation and mitigation targets by promoting cross-sectoral dialogue.** The NDC remains a high-level document that should be translated into an actionable implementation strategy to provide clear policy signals to influence behaviors of domestic households and investors, and attract necessary international support (including climate finance). The NDC implementation strategy can also be used as an additional platform to strengthen the dialogue between sectoral institutions to ensure alignment of policy incentives and increase the efficient use of scarce public resources.

■ **Improve management of forests.** For forestry, strengthen forest management capacities in cooperation with neighboring Georgia. There are also opportunities to achieve sustainability of forestry through climate-change dialogue on both mitigation and adaptation, as well as explicit forestry climate-change links and support for Armenia's NDC.

■ **Scale-up development of energy efficiency measures and clean renewable energy resources.** The Government could consider scaling up existing successful models for financing public energy efficiency investments to include other social, public, and residential buildings. Environmentally sustainable development of small hydro power plants (HPPs) and the rehabilitation of large HPPs are critical for sustainable management of water resources. Moreover, development of new mid-size HPPs set in the recently adopted Hydropower Development Strategy of Armenia, as well as exploration and use of the potential of other renewable energy resources, including solar and wind, will contribute to a greener generation mix and the Government's strategic objective of increasing energy security.

Policy area 9: Strengthen micro resilience through access to finance, social protection, and tackling pension and health implications of population aging

3.22. Micro resilience must be built both through social protection (pensions, health, and social assistance) and financial services (credit, savings and insurance).

Armenia's demographic changes make it imperative to plan pro-actively for alleviating old-age poverty and rising health spending needs. Expanding and deepening financial services will help families cope with shocks. For poor and vulnerable families, improved design of the social assistance program will provide effective support. Recognizing that vulnerable families often face multiple deprivations that reduce their ability to cope with shocks, an integrated model of delivering social services will be effective.

■ **Consider a more gradual implementation of pension targets for the defined benefit component (PAYG) and pursue as planned the re-establishing of the defined contribution component in 2018.** A more gradual implementation of the ambitious pension targets set in the 2014-25 Armenia Sustainable Development Program would ease the short-term PAYG financing requirements. It is in the interest of both individuals and the public to re-establish the second pillar in 2018 as planned, accelerate the opt-back option for private sector employees, and attract as many individuals between the ages of 40 and 50 as possible to join voluntarily.

■ **In the absence of an adequate insurance market, strengthen both access to credit and savings instruments.** As recommended for firms' productivity, the deepening and broadening of credit, savings, insurance, and capital markets will be important. The expansion of capital markets will also strengthen the insurance sector. Given Armenia's good laws and regulations, developing insurance will be an interrelated and mutually reinforcing matter of good practice on the part of the insurance sector (serving customers well, honoring their contracts), and of trust on the part of the population (including seeing the value of insurance). The Armenian insurance sector will likely take many years to develop, and such development will happen only with insurance companies consistently providing good service and honoring contracts promptly, together with improving financial literacy on insurance products. The Central Bank of Armenia (CBA) has initiated a financial inclusion review, which will review and formulate recommendations in this regard.

■ **Given the constrained fiscal space, improve targeting of the Basic Benefit Package (BBP) to make health spending affordable and improve the efficiency of the health system.** Given that roughly 30 percent of Armenia's population of about 3 million people live below the poverty

line, a 1.0-percentage-point increase in the BBP's coverage of the poor and an equivalent decrease in the program's coverage of the non-poor translates into an additional 9,000 poor people becoming eligible and the same number of non-poor becoming ineligible. Other efficiency gains could come through modern and strategic purchasing/provider payment systems, integration of care, and pharmaceutical reforms, among others.

■ **Improve the coverage of the poor and the efficiency of spending of the Family Benefit Program (FBP).** To increase targeting accuracy (hence, how well the current budget reaches those who are really in need or its efficiency) and coverage of the poor in the program, continued efforts are needed to improve the design and implementation of the scoring formula to determine eligibility to social assistance benefits, reach out to the poorest and encourage them to apply, and strengthen the management and monitoring of FBP.

■ **Implement the integrated delivery of social services, especially for marginalized and vulnerable families.** With the introduction of its integrated social services delivery model, Armenia has initiated substantial reforms in how the social protection system functions. A comprehensive family assessment and joint social case management would ensure that the needs of each family member are adequately addressed and services are delivered in a coordinated and coherent way. The development of a methodology for social case management as an instrument to enhance the integration of social services and improve the assessment and verification of social vulnerabilities is among the top priorities of the government plan 2017-2022. Social case managers, as mandated by law, would help these vulnerable populations improve their social inclusion and livelihoods by connecting them to available services and programs, including active labor-market programs and job-search services.



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ANNEX 1:

TRADE AND COMPETITIVENESS

SELECTED ISSUES

1 Firms' Dynamics

Armenian firms show high dispersion of productivity suggesting scope for improving efficiency by reallocating resources to higher productivity firms. The productivity ratio between the 10 percent of most productive firms to the 10 percent least productive is almost three, about 20 percent greater than for comparators (Table A 1:). When compared with neighboring Georgia, the distribution of total factor productivity shows a greater dispersion (Figure

A 1). A higher number of low productivity firms (indicated by a fatter left tail in Figure A 1), in particular in 2013, is consistent with the existence of barriers to competition that prevent the exit of very inefficient firms. Were these inefficient firms to exit, resources would be reallocated away from less-productive and into more-productive firms, increasing aggregate productivity. In fact, international evidence shows that resource misallocation results in high costs in terms of aggregate productivity (Hsieh and Klenow, 2009).

Figure A1: Distribution of TFP: Armenia versus Georgia

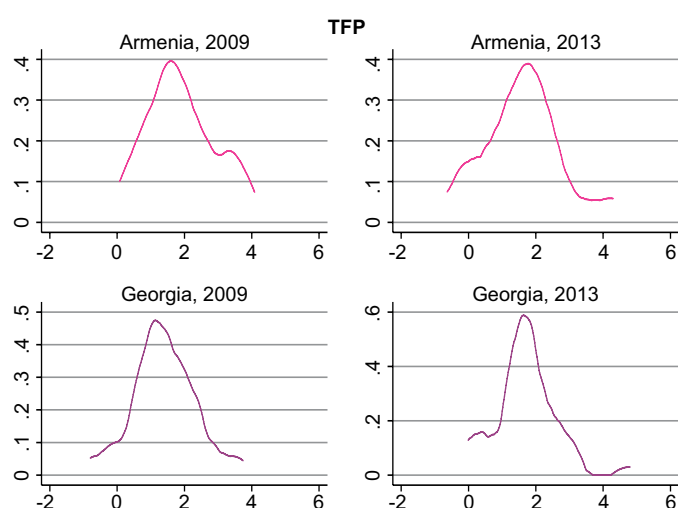


Table A 1: Measures of dispersion of TFP

Measure	TFP 2009	
	Armenia	Others
CV	0.54	0.59
72-25	1.48	1.21
90-10	2.91	2.54
Measure	TFP 2013	
	Armenia	Others
CV	0.74	0.54
72-25	1.25	1.10
90-10	2.90	2.53

Note: World Bank staff calculations from the World Bank Enterprise Survey. On the table “others” indicates the simple average of dispersion measures for Albania, Georgia, Hungary, Serbia, Macedonia, Bosnia and Herzegovina and Moldova. Slovenia is excluded from the labor productivity analysis because data on labor productivity are not available. CV = coefficient of variation, 75 – 25 is the difference between the 75th and 25th percentiles, and 90 – 10 the 90th vs. 10th percentiles.

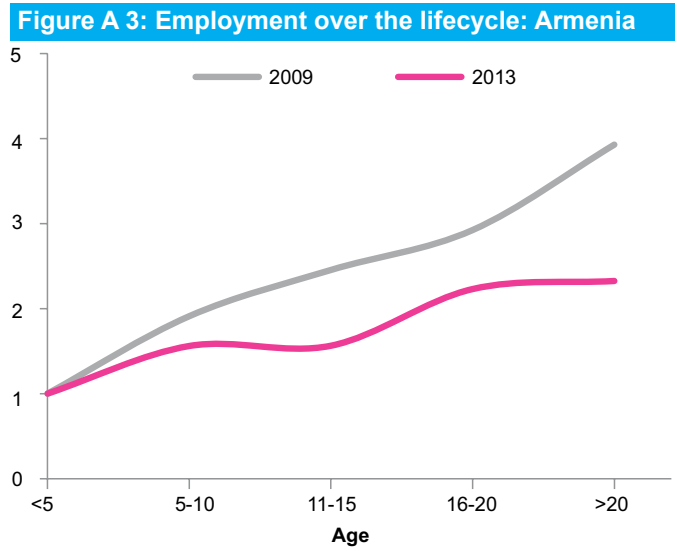
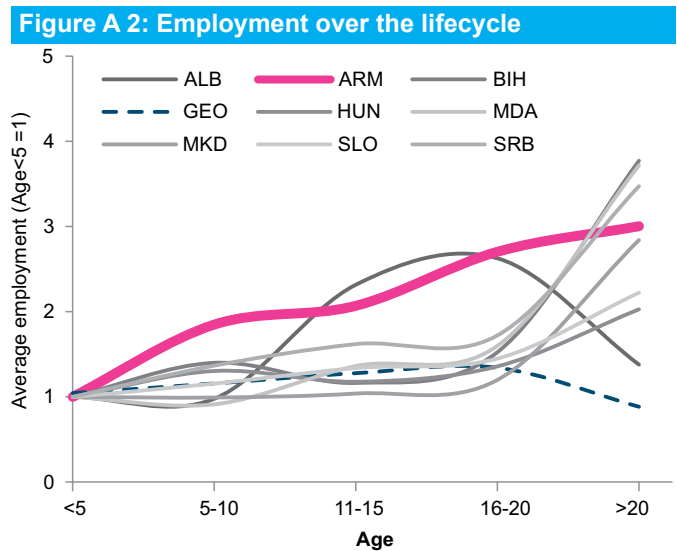
Moreover, the levels of productivity have not dramatically increased when comparing 2009 and 2013. Indeed, the two distributions practically overlap, contrasting with what is observed in Georgia where, on top of a reduction in the dispersion mentioned above, productivity increased (the distribution of productivity shifted to the right over time).

Firm size increases over the lifecycle of a firm, but the ability of firms to grow over their lifecycle has decelerated in recent years. Evidence shows that low growth over the lifecycle is a symptom of resource misallocation and this can have important adverse effects on aggregate productivity (Hsieh and Klenow, 2014). In Armenia, old firms (20 years old, or more) are, on average, three times larger than young

firms (5 years old, or younger) (Figure A 2). This result is similar to that observed in Bosnia Herzegovina, Macedonia, Moldova and Serbia. Data also show stable firm growth (measured in terms of employment growth) throughout the lifecycle (this is not the case in comparator countries, where growth occurs only at a later stage, or does not occur at all as in Georgia). However, employment growth over the lifecycle of firms has notably decelerated in recent years, which could be associated with increasing barrier costs that firms face to grow (in terms of employing more workers, or accessing capital). The growth rate of employment across firms was more sustained in 2009 than in 2013 (Figure A 3). Lifecycle employment growth can occur either because more productive firms survive (selection), or because firms create

jobs (firm productivity growth). High-income countries show that both forces contribute to overall employment growth. In the United States, for example, older plants are more than seven times larger than the younger ones (Hsieh and

Klenow, 2014). This is well above what is observed in both years in Armenia and suggests great scope for reducing barriers to grow and facilitating the accumulation of plant-specific organizational capital for Armenian firms.



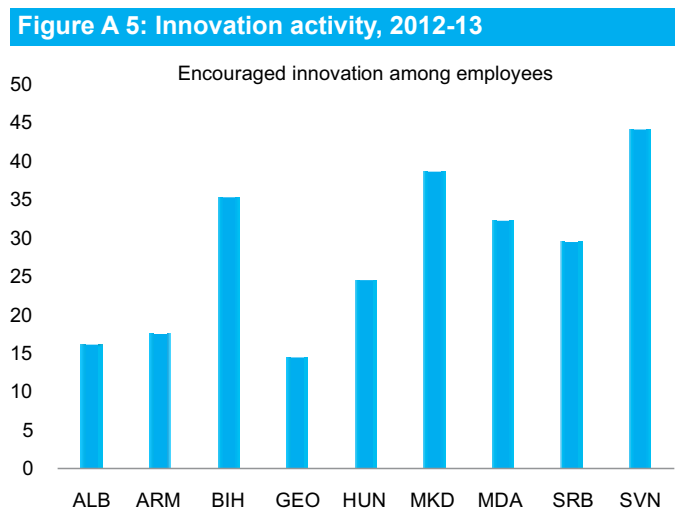
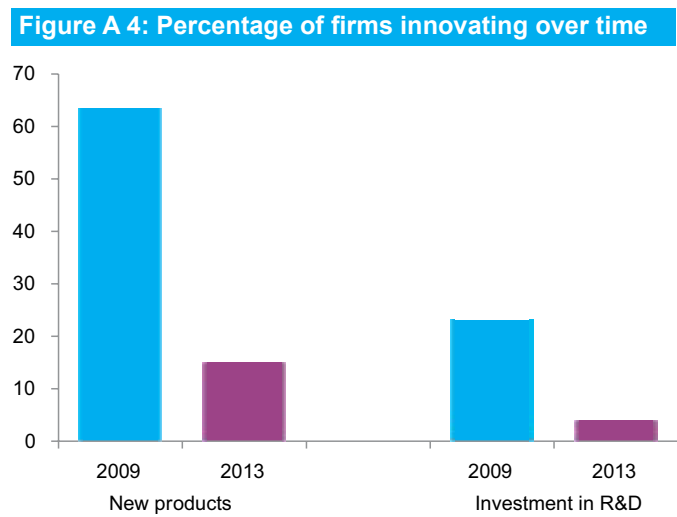
Note: World Bank staff elaboration from the Enterprise Survey. The graph plots average employment and the geometric mean of labor productivity and TFP. Productivity and employment in the youngest group (age < 5 years) is normalized to 1 in each country. The employment and labor productivity covers both the manufacturing and service sectors. TFP is only available for the manufacturing sector. Figure on the left use data pooled across both available waves of the survey, i.e. 2008-09 and 2013. The figure on the right shows the two waves separately.

2 Innovation among Armenian Firms

Participation in R&D and innovative activities have declined over time. Regardless of how strict or lax one is in the definition of ‘innovation’, data reveal that innovation trends show a negative time trend. The share of firms that declare having introduced new products during the past year declined from 63 percent in 2009 to less than 16 percent in 2012-13. If instead the focus is placed on a stricter definition of innovation—whether firms invest in R&D—the share declines from 23 percent to less than 5 percent over the

same period (Figure A 4).

Armenian firms lag their peers from comparator countries in terms of their innovation activity. In 2012-13, less than 5 percent of Armenian firms reported an increase of expenditures in R&D during the three previous years (Figure A 5). These low levels of R&D spending are below those of smaller peers such as Bosnia and Moldova. Only 17.5 percent of Armenians reported encouraging innovation among employees, compared with 35.3 percent of firms from Bosnia and Moldova, respectively.

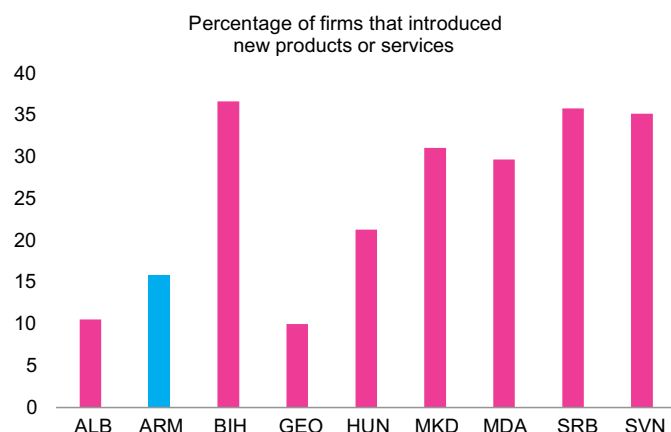


Source: Authors’ calculations based on data from BEEPS.

Limited levels of innovation in terms of product and service development, as well as operational and management processes, may also contribute to low productivity growth. Less than 16 percent of Armenian firms surveyed reportedly introduced new products or services in the post-crisis period, compared with over 35 percent of

firms in peer countries, such as Bosnia, Serbia and Slovenia (Figure A 6). While less than 7 percent of Armenian firms experimented with new production/supply or management practices, 12 percent reported innovating in terms of marketing methods. Only Albanian and Georgian firms lagged Armenian businesses in these categories (Figure A 7).

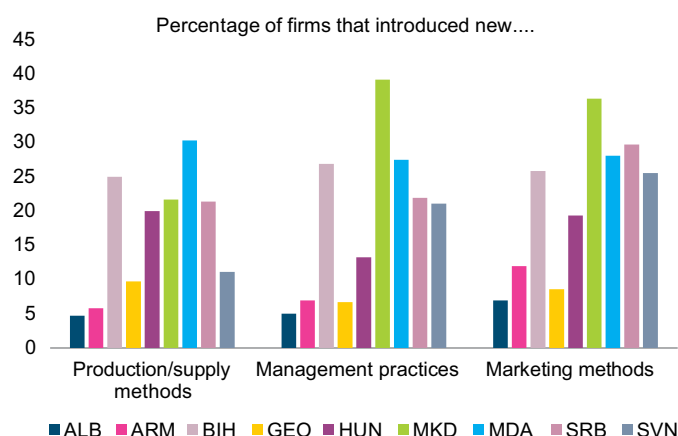
Figure A 6: Goods and services innovation



Source: World Bank staff calculations based on data from BEEPs.

Innovation pays off in terms of productivity. In fact, firms that conduct innovative activities enjoy a large productivity premium. Armenian firms that have introduced a new product or method of production are twice as productive as non-innovative firms (Table A2).⁸⁶ In 2009, the premium was larger than that observed in other countries, with the exception of Georgia. It remained above other countries in 2012-13, although it stood at a much lower level (68 percent). A positive premium is observed also for firms that engage in organizational innovations such as business practices, workplace organization, or external relations. Organizational innovation encourages the reallocation of inputs and factors of production across activities within firms. A positive productivity premium is

Figure A 7: Operational/process innovation



Source: World Bank staff calculations based on data from BEEPs.

also observed for firms that invest in R&D (Table A2), in particular in 2012-13, where innovative firms appears to be 2.5 times more productive than other firms. However, firms may struggle to secure financing for some of these innovations and others may be too small to gain from them. Interviews with the private sector in the textile and apparel sector revealed, for example, that the usage of electronic inventory management systems (highly prevalent in firms operating in advanced economies) is not widespread. The managers argued that first, many firms are small, and they may not see the need for them as they will not be cost effective. Second, even if these innovations do improve efficiency, firms report lacking the financial means to introduce them.

Table A 2: Innovating activities impact

Country	Product innovation (2009)	Product and process innovation (2012-13)	Organizational innovation (2012-13)	Marketing innovation (2012-13)	Investment in R&D (2009)	Investment in R&D (2012-13)
Albania	N/A	31.45	-10.97	-2.6	N/A	N/A
Armenia	108.66***	68.38*	98.09***	-1.33	15.49	154.50***
Bosnia Herzegovina	62.86**	41.34*	24.96	50.99*	52.54**	26.95
Georgia	315.38***	32.67	10.18	159.22***	531.29***	22.27
Hungary	75.81***	5.41	-21.75	38.59	55.45	41.13
Moldova	47.50*	204.46***	1.47	27.31	59.79*	389.36***
Macedonia	60.23**	68.72***	31.63	-7.38	20.31	104.37***
Serbia	29.58	8.33	52.46**	-14.01	6.81	-9.50

Note: the results are obtained by regressing a dummy indicating whether the firm has undertaken one of the types of innovative activity reported on the header on the log of labor productivity and controlling for the employment, age and sector of the firm. *** indicates significance at the 1%, 5% (**) or 10% (*) level.

⁸⁶ Process and product innovation can increase firm productivity through more efficient use of intermediate inputs and factors of production, and through learning-by-doing (Lopez-Acevedo, 2016). Notice, however, that the causality between innovation and firms' performance may run the other way. It may be that only better performing firms can afford.

Innovation and firms' integration into the global marketplace are associated, but low overall integration may reduce the scope for gains through innovation. Participation to export markets has been showed to have a two-way relationship with innovation. Innovation affects a firm's decision to export, and in turn is influenced by the experience of exporting through a 'learning-by-exporting' effect (Aw et al., 2011). Exporters are more likely to be

exposed to increased competition, foreign technologies, and know-how that tend to increase pressures for them to innovate. Indeed, Armenian exporters are 90 percent more likely to have introduced a new product (Figure A 8) and 50 percent more likely to have invested in R&D (Figure A 9). On the other hand, Armenian firms are not well integrated in the international market and exposure to international trade remains limited as further discussed below.

Figure A 8: Export and product innovation, 2012-13

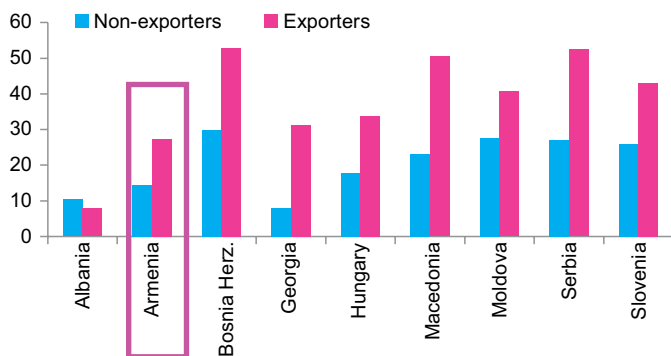
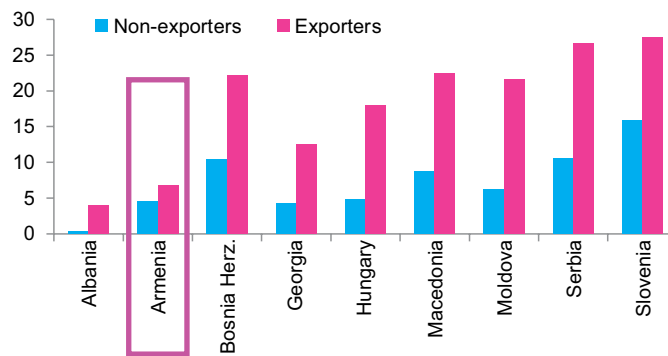


Figure A 9: Export and R&D investment, 2012-13



Note: World Bank staff elaboration from the World Bank Enterprise Survey. The graph plots the percentage of firms adopting a new product (left) and investing in R&D (right) across countries. Data are pooled across both available waves of the survey, i.e. 2008-09 and 2013.

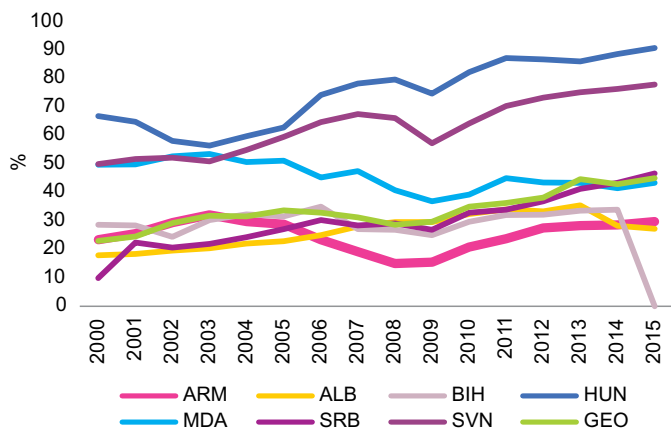
3 Trade Competitiveness

How has Armenia performed in terms of export competitiveness? Examining the evolution of trade, export market shares, diversification, quality upgrading, and survival patterns is useful to assess the evolution of overall competitiveness. This is the focus of the subsection that follows.

Armenia's exposure to international trade remains limited, particularly compared with its peers. Exports of goods and services as a percentage of GDP, which reached 31 percent in 2004, remained below 30 percent in 2015. Only Albania and Bosnia exhibit lower levels of

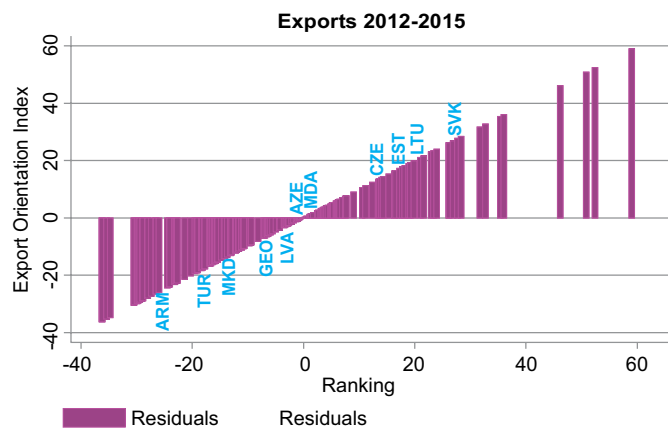
export openness than Armenia (Figure 2.1: This also emerges when looking at the position of Armenia and comparators in an export-orientation ranking that measures trade-to-GDP ratios purged of the effect of the size of the economy and other physical characteristics, such as being landlocked (Figure A 11). Armenia is less integrated into global markets than comparators. Firm-level data confirm the limited participation in the international market (Figure A 12). Only 15 percent of Armenian firms export (directly or indirectly). This is well below the average of comparator countries (24 percent) and despite the large share of firms having internationally recognized quality certification (45 percent). Evidence shows that the adoption

Figure A 10: Exports of goods and services (% of GDP)



Source: World Bank staff calculations based on data from WDI

Figure A 11: Export orientation index

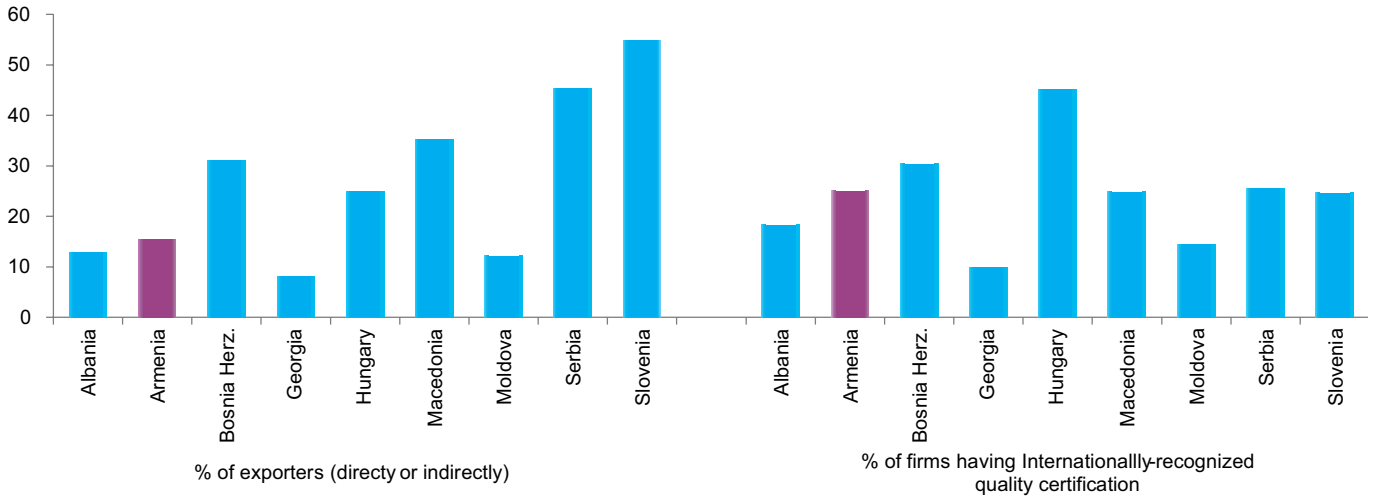


Source: World bank staff calculations based on data from WDI.

of internationally recognized quality standards helps firms to export, and this seems especially relevant to exports from developing countries (Swann, 2010). Still, while the

diffusion of internationally-recognized quality standards in Armenia is above that of Serbia and Slovenia, export participation is much lower.

Figure A 12: Integration in the global marketplace at the firm level, 2009 and 2013
(Percentage of firms that export, percentage of firms with internationally recognized quality certifications)



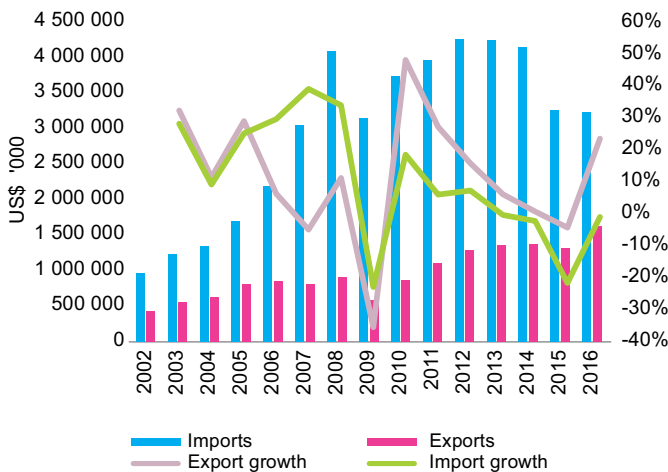
Note: World Bank staff elaboration from the World Bank Enterprise Survey. The set of column on the left indicates the percentage of exporters across countries (2009 and 2013) while that on the right indicate the percentage of firms adopting internationally certified quality standards such as ISO (2009 and 2013).

Growth and Market Shares

Armenia’s trade balance has improved in the post crisis period but remains negative. Exports grew at an average 17 percent between 2010 and 2016. Despite a slight decrease in 2015, exports expanded by 24 percent in 2016. However, imports have remained well above exports for the whole period (Figure A 13).

Armenia has been slowly gaining market shares. In 2005, out of every US\$100,000 of merchandise exported globally, US\$8 were originated in Armenia. This had increased to US\$9 by 2015. This means that overall, Armenian merchandise exports grew faster than world exports. However, Armenia’s market share over the past decade has grown less than those of its peers (Table A 3:).

Figure A 13: Merchandise trade



Source: World Bank staff calculations based on data from Comtrade.

Armenia’s services exports have exhibited significant dynamism. Exports in services more than doubled between 2005 and 2015, growing at an average annual rate of 14.4 percent. Trade in services grew from 20 percent in 2005 to

Table A 3: Market shares

	2005	2015	CAGR
Georgia	0.009	0.011	1.6%
Latvia	0.035	0.075	8.0%
Moldova	0.008	0.009	0.2%
Macedonia	0.022	0.029	3.2%
Armenia	0.008	0.009	1.2%
Czech Republic	0.826	1.033	2.3%
Slovakia	0.336	0.493	3.9%
Lithuania	0.127	0.167	2.7%

Source: World Bank staff calculations based on data from Comtrade

29.6 percent in 2015 (Figure A 15Error! Reference source not found.). However, the ratio of trade in services-to-GDP for Armenia is lower than for comparator countries, such as Albania, Hungary, and Georgia (Figure A 15:).

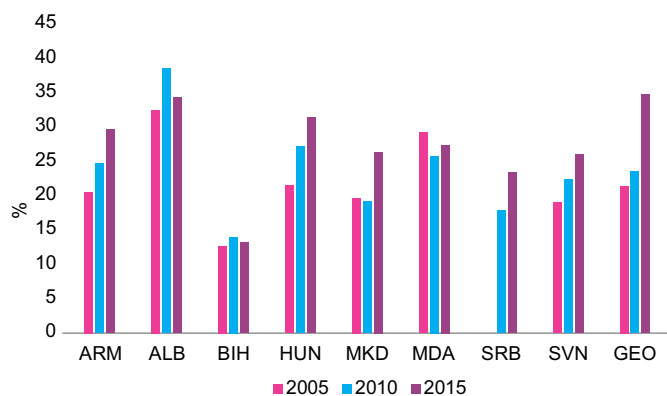
Figure A 14: Trade in services, 2005-15



Source: World Bank staff calculations based on data from UNCTAD.

The Armenian economy has experienced some productive transformation, although not necessarily toward sophistication. The revealed comparative advantage in animal, foodstuffs, and mineral products expanded significantly between 2005 and 2015. Indeed, the RCA index in foodstuffs almost doubled during this

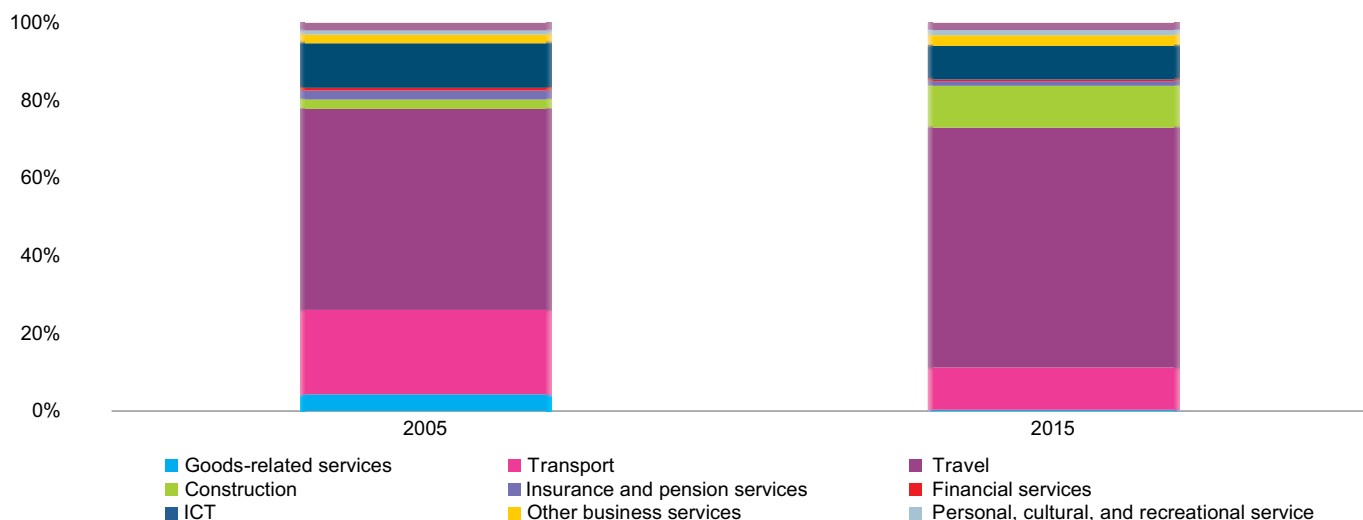
Figure A 15: Trade in services (% of GDP)



Source: World Bank staff calculations based on data from UNCTAD.

period, going from 4.13 in 2005 to 7.56 in 2015. The comparative advantage in textiles and clothing also grew from 0.19 to 0.80 during this period. In contrast, Armenia saw its revealed comparative advantage (RCA) in stone and glass products dramatically eroded between 2005 and 2015.

Figure A 16: Services exports, 2005 and 2015



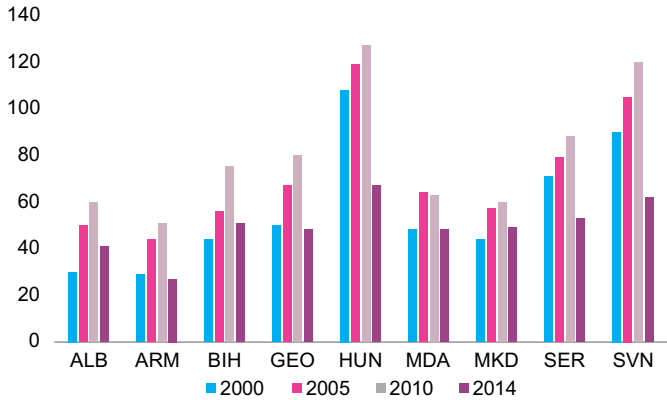
Source: World Bank staff calculations based on data from UNCTAD.

Trade in services has shown less of a productive transformation. In 2005, travel services accounted for more than half of Armenian services exports, followed by transport services, which represented 22 percent of total exports. The share of travel services had grown to 62 percent by 2015, while the share of transport services fell to 11 percent. The share of ICT services also fell, albeit slightly, from 11 percent in 2005 to 9 percent in 2015 (Table A 16). In contrast, construction services increased from 2 to 11 percent, reflecting the recent recovery of the construction sector.

Trade Diversification

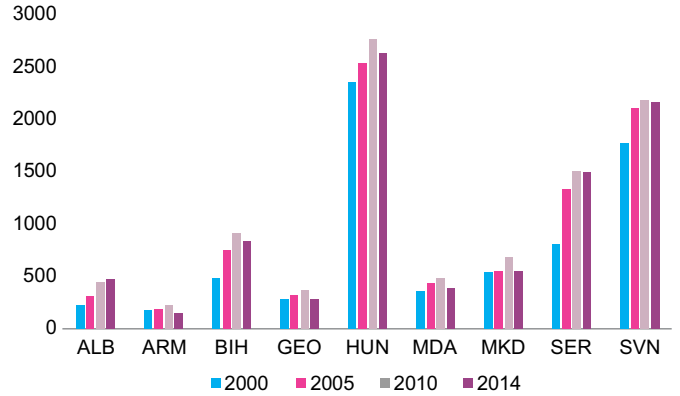
Armenia exhibits low diversification both in terms of products and markets, particularly compared with its peers. Armenia increased its market reach from 30 in the early 2000s to 60 in 2010 (Figure A 17). While the number of export markets fell again in 2014, the market concentration of Armenian exports has declined, with the share of exports going to the three top destinations falling from 50 percent in 2005 to 39 percent in 2015. In terms of products, Armenia has not expanded the number of varieties it exports. The level of product concentration of Armenian exports has also fallen, with the HHI dropping from 0.18 in 2005 to 0.09 in 2015. These diversification patterns place Armenia behind most of its peers.

Figure A 17: Number of export markets reached



Source: World Bank staff calculations based on data from Comtrade.

Figure A 18: Number of exported products



Source: World Bank staff calculations based on data from Comtrade.

Export Survival Patterns

Survival of firms in export markets is a challenge in Armenia, particularly after 2006, preventing firms from fully profiting being integrated in the global marketplace.

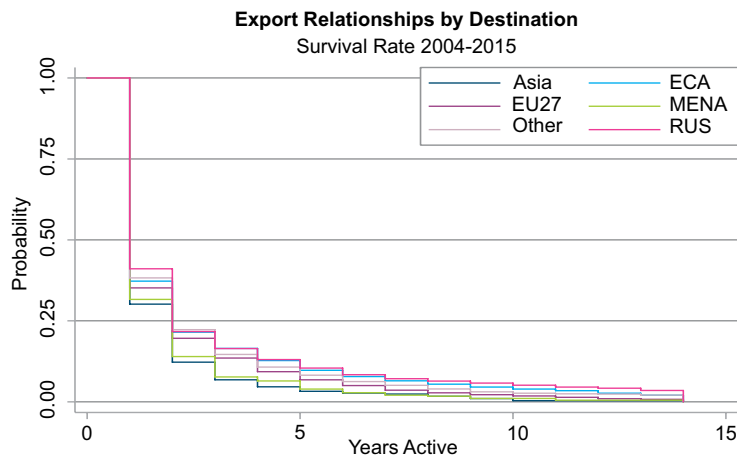
Table A 4: shows the export survival probabilities for export flows originating in Armenia and comparators. Armenia, together with Georgia and Albania, show the lowest survival chances. Our analysis suggests that out of 100 export flows

that start in Armenia in a given year, only 36 of them remain active one year later. This puts a halt to the consolidation of export growth and can create inefficiencies if the fixed costs of entering export markets are high. Low export survival reflects informational failures, which hinder firms' learning processes, leading them to rely on trial and error.⁸⁷ Survival rates also seem to vary with across destinations, with exports to Russia and other ECA countries exhibiting a higher rate of survival (Figure A 19).

Table A 4: Export survival rates for Armenia and comparators

Spell Length	BIH	ARM	ALB	GEO	HUN	MDA	MKD	SRB	SVN
1 year	47.8%	36.8%	38.9%	38.5%	54.6%	45.9%	43.7%	48.9%	59.1%
2 years	29.2%	16.8%	20.7%	19.9%	37.3%	26.9%	26.5%	30.4%	42.0%
5 years	13.4%	5.0%	7.1%	5.5%	19.2%	11.4%	11.9%	13.9%	23.6%
10 years	4.2%	1.3%	2.1%	1.2%	9.4%	3.7%	3.5%	5.0%	13.1%

Figure A 19: Export survival by destination



Source: World Bank staff calculations based on data from Comtrade

⁸⁷Informational failures are important obstacles to good export performance (which implies growth, diversification and survival). As argued by Hausmann and Rodrik (2003), learning what one is good at producing is an important challenge faced by countries in their path to development. Because self-discovery is costly, and the appropriability of the discovery is low once it occurs (because other entrepreneurs could easily imitate the discoveries), there is typically an undersupply of 'learning of what can be produced and successfully marketed'. Exporters need to learn about the characteristics of foreign demand (tastes, willingness to pay, volume, etc.), about the intricacies of the exporting activity (dealing with customs regulations, freight forwarders, insurance companies, etc.), and about the actual production costs (technologies, minimum efficient scale, sources of inputs, etc.). In the absence of information, firms learn through trial and error, typically leading to low export survival, which can be inefficient in the presence of the generally important sunk costs of entry and exit to export markets. The absence of information also restricts firms' ability to obtain credit, since the financial sector, like the entrepreneurs themselves, are uncertain about the future profitability of export projects, and thus, reluctant to lend.

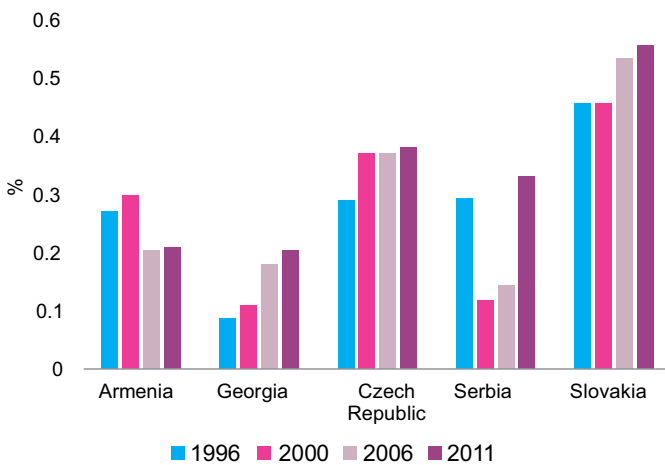
GVC in Focus

For small economies, global value chains (GVCs) can be powerful platforms for integration. How integrated is Armenia into GVCs? Integration into GVCs can be measured in two ways. First, if you are closer to final demand, you may be integrated as a “buyer”, sourcing inputs that are produced further upstream in the process. Integration as a buyer can be measured by the portion of foreign value-added that is embedded in a country’s exports (also known as ‘backward integration’). Second, if you are positioned upstream in the production process, you may be integrated into a chain as a seller. Integration as a seller can be measured by the portion of Armenia’s value-added exports that is embedded

in the exports of third countries (also known as ‘forward integration’).⁸⁸

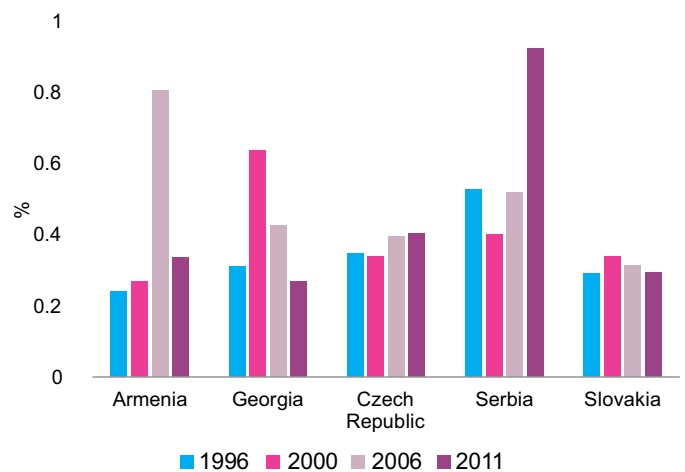
An international comparison shows that Armenia’s participation in GVCs has been limited, both as a seller and as a buyer. The import content of Armenia’s exports, measured in value-added, has declined over time, from 29 percent in 2000 to 21 percent in 2011, suggesting that Armenian firms have lowered their reliance on foreign intermediates to produce exports (Figure A 20). Armenia’s integration as a seller is even lower, although it has increased slightly in recent years. The share of Armenian value-added to foreign exports increased from 26 percent in 2000 to over 30 percent in 2011.

Figure A 20: Share of foreign value-added in home exports



Source: World Bank staff calculations based on EORA.

Figure A 21: Share of home value-added in foreign exports



Source: World Bank staff calculations based on data from EORA.

An analysis of performance of key GVC-prone sectors in Armenia suggests that it is in final and intermediate apparel and footwear where firms have managed to integrate most with international production networks. Textiles and apparel, electronics, and vehicles tend to be those sectors in which trade is dominated by GVCs. Of these sectors, it is apparel and footwear, where Armenian firms have gained market shares (Figure A 22). Indeed, the textile and apparel sector—one of the oldest industries in the country—has been experiencing a revival and has become of the main suppliers of garments in the region. In 2015, of every US\$10,000 of world exports, US\$1.3 originated in Armenian firms, up from less than US\$0.6 in every US\$10,000 in 2000.⁸⁹

apparel products that have experienced the most export growth between 2000 and 2015. The main destination for these products is Russia, which accounts for over 90 percent of these exports, except for trousers made of synthetic fibers, 70 percent of which are exported to Germany.

A small number of products and one destination explain most of Armenian exports of apparel. Anoraks, trousers, overcoats, jerseys and pullovers, and cotton t-shirts are the

Armenian apparel products exhibit a strong quality performance, with these products located close to the top of the quality distribution among competitors in the same segment, as proxied by the unit value they secure for these products (Figure A 23). The exception is trousers made of synthetic fibers, where Armenian firms have substantial scope for quality upgrading. The challenge is twofold: being price-competitive to be able to serve more than one destination, and moving up the low margin cut-make-trim activities (where most firms currently operate) into fashion design, introducing new styles and quality labels, targeting high-end customers. Results from focus

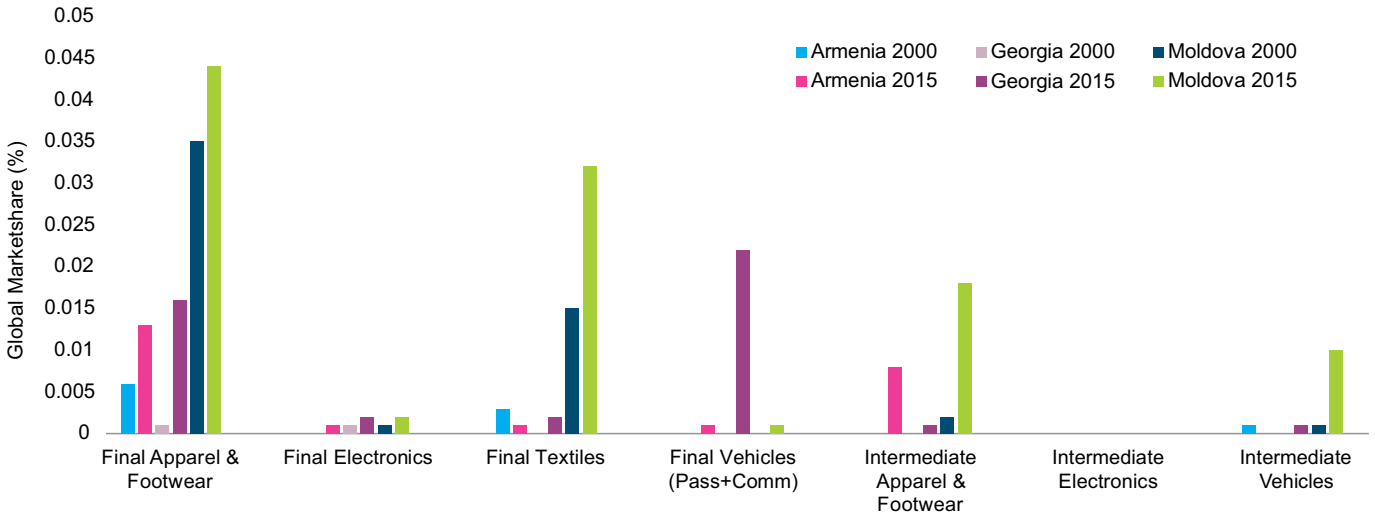
⁸⁸Backward integration provides access to quality inputs, which contributes to downstream competitiveness; it also has significant potential to deliver productivity spillovers through access to global frontier technologies. As such, backward integration tends to be particularly important for countries as it links to several measures of structural transformation. Similarly, forward integration is an indicator of integration into value chains and also provides opportunities to benefit from technology spillovers.

⁸⁹Identified by the government as one of the 11 “strategic” export-oriented sectors, and its revival made a priority “as a means to create jobs, boost value-added trade and expand exports by exploiting a number of comparative and historical advantages both in the region and internationally.” The companies produce cotton and woolen yarns, cotton, woolen and silky clothes, carpets, knitted fabric, stocking socks, sewing products and textile, art goods, leather and fur, specialized garments.

groups conducted with Armenian firms in the textile and apparel sector—most of them being exporters—suggested that firms struggle to secure competitively priced financing (in fact, bank loans to the sector have been falling over the

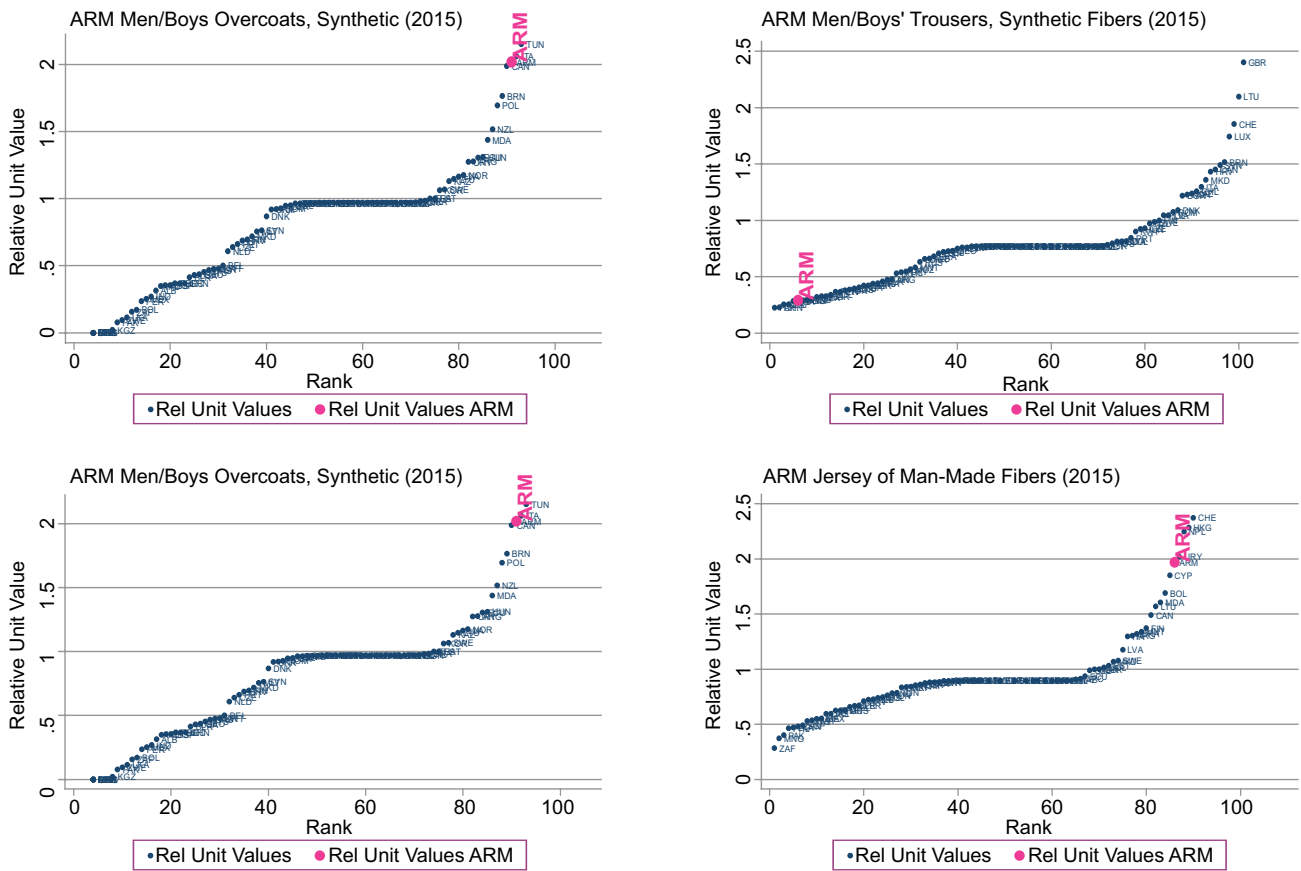
past two years, according to statistics from the Central Bank of Armenia).⁹⁰In addition, these firms struggle to secure trained professionals that are willing to work for competitive wages.⁹¹

Figure A 22: GVC-prone sectors: apparel/footwear, electronics and autos



Source: World Bank staff calculations based on data from Comtrade.

Figure A 23: Quality ladders for key export products



Source: World Bank staff calculations based on data from Comtrade.

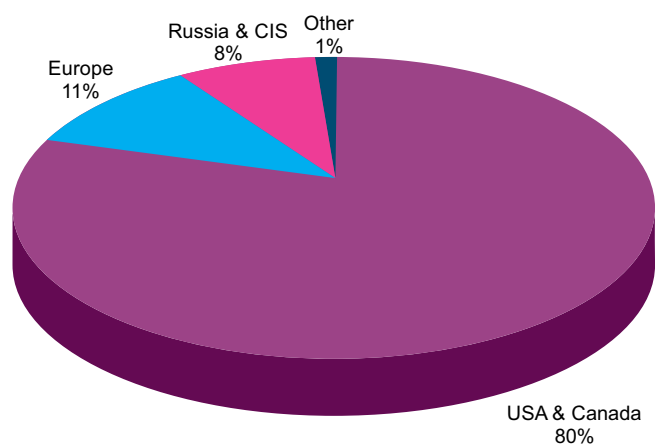
⁹⁰Indeed, bank loans to the sector fell to AMD 2.17 billion in March 2017 from AMD 4.34 billion in July 2014 (source: Central Bank of Armenia).

⁹¹This obstacle is similar to that observed in Georgia by the booming textile and apparel sector.

Another GVC-prone sector is ICT, where Armenian firms have expanded over the past 10 years, increasing links to global suppliers and clients. ICT services account for a sizable share in services exports, as well as growing portion of FDI inflows. Total revenues in the sector reached US\$559 million in 2015, an increase of 17.7 percent from 2014. The number of ICT companies in Armenia has also grown from 55 in 2000 to 450 in 2015. Indeed, Armenia has come to be regarded as a “hub” for software development and industrial computing.

The ICT sector is primarily oriented toward exporting software, with North America and Europe as the main destinations. Eighty percent of ICT exports in 2015 went to the US and Canada, while 11 percent was destined to European countries (Figure A 24). Russia and the CIS is the third main destination, accounting for 11 percent of all ICT exports. A third of companies in the sector are foreign-owned, with the US and Canada topping the list of foreign investors, followed by European countries and Russia.

Figure A 24: ICT exports, 2015



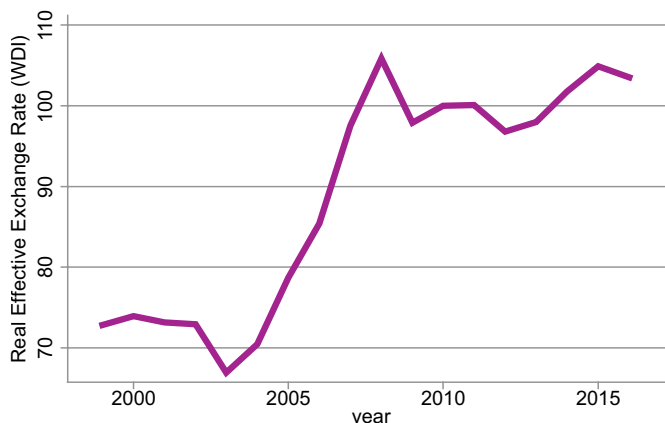
Source: Enterprise Incubator Foundation.

Price Competitiveness

A key condition for export competitiveness is a conducive macroeconomic environment and, in particular, a competitive real exchange rate. For example, when the Armenian dram depreciates against the US dollar, Armenian products become cheaper relative to American ones, when expressed in the same currency, leading to expenditure switching at home and abroad away from US and into Armenian products.⁹² In practice, how sensitive have exports been to changes in the real exchange rate? And what role did real exchange rate movements play in the low survival rates observed among Armenian exporters.

In the recent years, price competitiveness as measured by the real effective exchange rate has declined in Armenia. Between 2003 and 2011, the dram appreciated

Figure A 25: Real effective exchange rate in Armenia (increases are real appreciations)



Source: World Bank staff elaboration based on WDI.

in real terms by 49.5 percent (Figure A 25). More recently, although the sharp appreciation process decelerated, since 2012, the domestic currency appreciated by an extra 7 percent in real terms. Anecdotal evidence obtained through focus groups suggests that firms care about the evolution of the real exchange rate, in particular exporters. Indeed, most textile and apparel producers that were interviewed revealed that the “appreciated” real exchange rate is to some extent an obstacle for their operations. **Armenian exports, and their survival prospects, are sensitive to real exchange rate movements.** A careful analysis of export flow patterns in Armenia over the period 2000-15 reveals that a real appreciation of the domestic currency by 10 percent leads to a decline in US dollar-exports of 8.7 percent, all other things being equal. In addition, a real appreciation of the same magnitude increases the chances of an export flow of a given product to a given destination to be discontinued by 3 percentage points, implying a proportional increase of the probability of exiting of 5 percent (Table A 6:).

Other factors also play a role in export performance, among which information provision and demand conditions stand out. Information matters both for boosting export values and export survival. As more and more export products reach a given destination, the survival rate of export flows to that given destination increases. Indeed, a 10 percent increase in the number of products that reach a given export market reduces the likelihood of a flow to that export market becoming extinct by about 4.2 to 4.4 percentage points, and increases exports by about 1.6 to 3.0 percent. This is because, as more exporters sell to a given market, more information about the requirements to export

⁹²International evidence points to a role of real depreciations in boosting export performance. Freund and Pierola (2012), for example, show that export surges are associated with large real depreciations. The effect is larger in developing countries – where market failures preventing reallocation into tradables are more pervasive, and it operates mostly through the extensive margin: more entry into new markets or products. More recently, a decline in the effect of real exchange rates on export performance has been documented, due to a greater import content of exports due to GVC-related trade, however, the channel continues to be at work (see, for example, Cheng et al (2016), Ahmed et al (2015), Amiti et al (2012) or Bernard and Jensen (2001)).

to that given market become available, becoming less costly for firms to obtain. A similar effect is found for the number of destinations reached with a given product, an indicator of information availability about the specifics of exporting that given product, although it mainly operates on export values rather than on the chances of survival. Moreover, exports are boosted by positive product or destination specific demand shocks, as would be expected (Table A 6:).

4 Investment

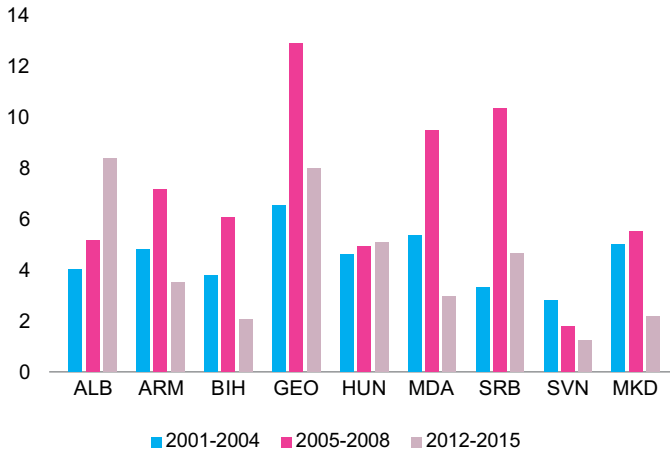
Another key determinant of productivity and competitiveness relates to investment, and in particular the ability to attract high quality FDI and gain from it through spillovers.

FDI inflows have remained strong over time but have yet to recover to pre-crisis levels. FDI inflows, which

peaked at US\$944 million in 2008, fell significantly in the aftermath of the GFC. FDI as a percentage of GDP decreased from 9 percent in 2009 to 1.8 percent in 2015. Armenia lags behind some of its peers, such as Georgia, Hungary, and Albania, in terms of investment attraction (Figure A 26). In the post-GFC period, however, Armenia outperformed Slovenia, Moldova, Macedonia, and Bosnia. Moreover, Armenia is slightly above the expected levels of FDI inflows given its income per capita (Figure A 27).

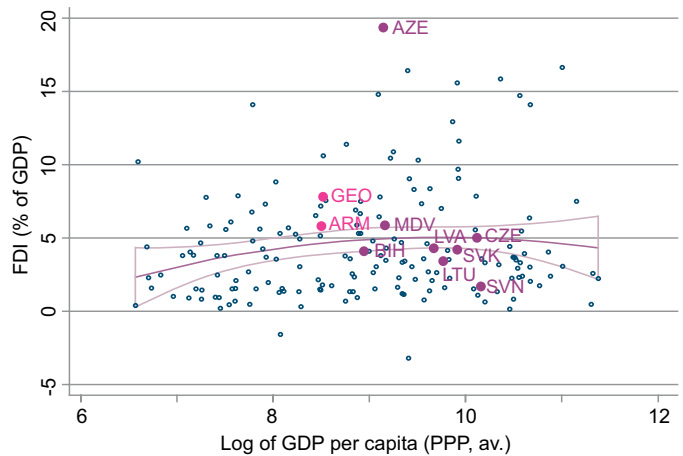
Russia remains the largest source of FDI inflows to Armenia. From 2001 to 2012, Russia accounted for 40 percent of FDI flows. Western European countries, in particular France, Germany, and the Netherlands, have expanded their shares in total FDI inflows to Armenia since 2010. By contrast, Canada, the US and Greece have significantly decreased their investments in Armenia.

Figure A 26: FDI (% of GDP)



Source: World Bank staff calculations based on WDI.

Figure A 27: FDI integration

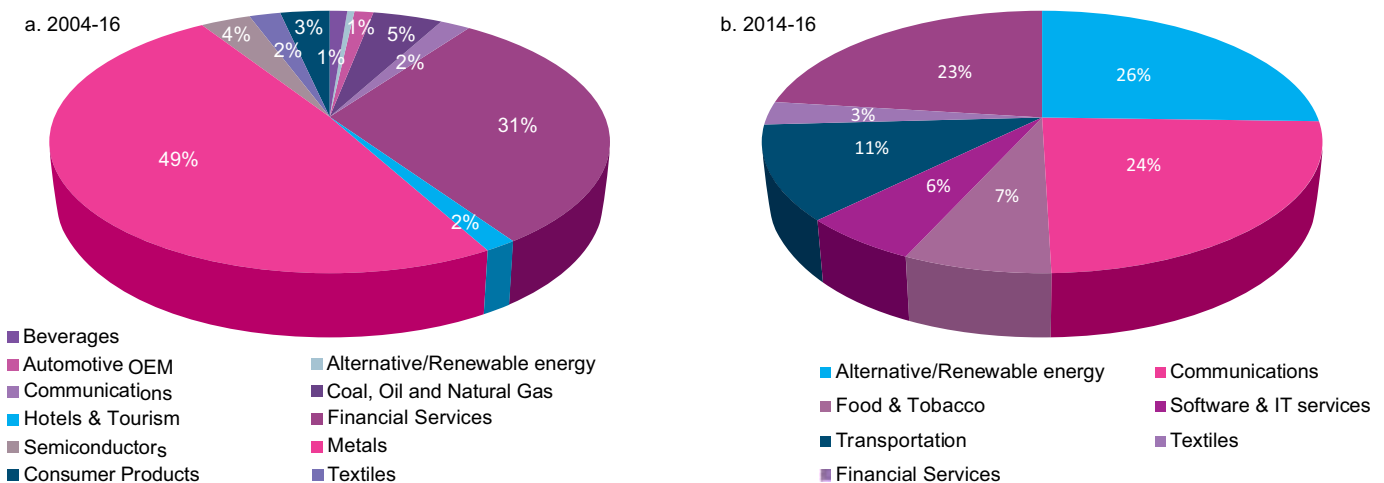


Source: World Bank staff calculations based on WDI.

A shift in sectoral composition in FDI inflows reflects the Armenian economy’s gradual productive transformation. Between 2004 and 2016, financial services, communications and metals have been the main

targets of FDI. However, in 2014-16, the share of FDI in communications, software and IT services, and renewable/ alternative energies has increased significantly (Figure A 28).

Figure A 28: FDI inflows by sector



Source: World Bank staff calculations based on data from FDI Markets

Table A 5: Growth accounting decomposition: 2000-15

	2000-2003	2005-2008	2012-2015
Growth of GDP, log change	10.50	11.25	4.17
Contribution of Labor Quantity	-2.61	0.48	-0.44
Contribution of Capital Services provided by ICT Assets	0.41	-0.34	0.13
Contribution of Capital Services provided by Non-ICT Assets	0.08	3.05	0.80
Growth of Total Factor Productivity - Estimated as a Tornqvist Index	12.62	8.06	3.68

Source: World Bank staff calculations based on Conference Board.

Table A 6: Determinants of Export Performance (values, and probability of exit)

	Log Exports	Log Exports	Log Exports	Log Exports	P(Exit)	P(Exit)	P(Exit)	P(Exit)
(Log) Number of products exported to destination d		0.302***	0.161***	0.159***		-0.0421***	-0.0432***	-0.0440***
		-0.0476	-0.0461	-0.0468		-0.0114	-0.0119	-0.0123
(Log) Number of countries reached with product i		0.579***	0.141	0.158*		-0.0569***	0.0370*	0.0368*
		-0.0888	-0.0879	-0.0934		-0.0149	-0.019	-0.02
(Log) World imports of product i			0.250**	0.248*			0.0659***	0.0603**
			-0.126	-0.136			-0.0228	-0.0246
(Log) World Imports from destination d			0.423***	0.397***			-0.100***	0.0907***
			-0.0853	-0.0922			-0.0167	-0.018
(Log) Number of competitors for product l in destination d				0.146**				-0.0228
				-0.0613				-0.0181
REER	-0.00433***	-0.00720***	-0.00841***	-0.00869***	0.00473***	0.00507***	0.00327***	0.00298***
	-0.00131	-0.00131	-0.00131	-0.0016	-0.00029	-0.00029	-0.00032	-0.00038
Constant	5.232***	2.748***	-6.837***	-6.876***	-0.00326	0.230***	0.842***	0.860***
	-0.126	-0.394	-1.323	-1.387	-0.0281	-0.063	-0.251	-0.264
Product-Destination Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,449	7,449	7,070	6,548	13,597	13,597	12,524	11,527
R-squared	0.004	0.063	0.109	0.113	0.026	0.03	0.023	0.019
Number of cpid	1,925	1,925	1,873	1,776	4,672	4,672	4,435	4,157

Source: World Bank staff calculations based on UN Comtrade and WDI.

Annex 1 References

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ANNEX 2:

DATA DIAGNOSTICS FOR ARMENIA

Armenia scores 92.2 out of 100 with the 2016 Statistical Capacity Indicator (SCI) using the old methodology. The country scores are relatively balanced between the three dimensions: Methodology (100), Source Data (100) and Periodicity (76.7). With the new SCI, the capacity of Armenia is assessed by evaluating four dimensions of the system (Methodology, Standards & Classifications (MSC); Censuses and Surveys (CS); Dissemination Practices & Openness (DPO); Availability of Key Indicators (AKI)) that expand over the old methodology. With more indicators

assessed and some existing criteria tightened, Armenia received a total overall score of 64.99 out of 100, which shows a relatively lower level of statistical capacity (with 2014 data used for AKI section). This indicates that with the weaknesses identified by the new SCI, there is a need for capacity improvement of the statistical system to properly inform evidence-based decision-making processes, as well as monitoring and evaluating the development progress in coming years.

Country: ARMENIA | Date completed: October 24, 2016

Section 1: General Information about the Statistical System	
Legal status of NSO	The National Statistical Service of Republic of Armenia (NSS RA) is an independent government agency
Statistical Legislation (latest)	Objectives and tasks of statistics are based on the Law of Armenia "On State Statistics", which entered into force as of 10 May 2000. http://www.armstat.am/en/?nid=183
NSDS/Statistical masterplan	Three-Year State Statistical Work Program of the Republic of Armenia for 2016-18

Section 2: Micro data						
Type of census/survey	Latest (Year)	Second Latest (Year)	Representativeness (national, regional, urban/rural)	Data Accessibility (open access/ with permission/ no access)	Disaggregation (Y/N) Optional	
					Sex	Regional
Censuses						
Population census	2011	2001	National	Open access to main results and tabulates	Y	Y
Agriculture census	2014					
Business/establishment census				No access		
Surveys						
Household Survey on income/consumption ⁹³	ILCS 2015	Yearly 2001-2014	National	With Permission	Y	Y
Household survey on education (e.g. MICS) Household survey on health (e.g. DHS, MICS) http://armstat.am/en/?nid=81&pthid=demo&year=2016&submit	STEP DHS 2015	2013 2010	National	Open Access	Y	Y
Labor force Survey (LFS, household survey on labor only)	LFS 2014 (2015 to be available probably in January 2017)	LFS 2014	National	With permission	Y	
Business/establishment survey	Enterprise survey 2013 (IBRD-WB)	2009 (2005, 2003)	National/regional (4 regions, city and the surrounding area)/ industry (manufacturing, retail and other services)/ firm size (L, M, S)		Y	
Other (specify)						

⁹³All HHS since 2000 listed in Country Profiles.

Section 3: Macro data

Does the country subscribe to the IMF SDDS or participate in the eGDDS?	SDDS			
If eGDDS - eGDDS Data Category	Periodicity		Timeliness	
	SDDS	Country	SDDS	Country
National accounts: Gross Domestic Product by Production and Expenditure at Current and Constant Prices. http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=NAG00	Q,A [Annual: for complete accounts by institutional sectors]	Q,A	2M/4M Quarterly: 90-92th day after the reference quarter. Since 2012: 60-62th day after the reference quarter. [Annual: on April 30 of the second year (after the reference year).]	
Consumer price index http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=CPI00	M	M	5D Data are published in 5 days after reference month.	
Central government operations http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=CGO00	M	M	M 1 month after the end of the reference period.	
Balance of payments http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=BOP00	Q,A	Q,A	1Q/2Q One quarter after the end of the reference period, for quarterly data. Two quarters after the end of the reference year for annual data.	
External debt http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=EXD00	Q,A	M,Q,A	1Q One quarter after the end of the reference period. Annual data are published in the corresponding handbook.	
Merchandise trade http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=MET00	M,A	M,A	3W/1M Preliminary data on exports and imports are disseminated on the 20th day and revised one month after the end of the reference period.	
Production index http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=IND00	M	M	3W/1M Preliminary data are published on the 20th day after the reference period, and final data are published one month after the end of the reference period.	
Employment http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=EMP00	Q	Q	3M The data are published in three months after the end of the reference period.	
Unemployment http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=UEM00	Q	M,Q	3M Data are published in three months after the end of the reference period.	
Producer Price Index http://dsbb.imf.org/Pages/SDDS/DQAFBase.aspx?ctycode=ARM&catcode=PPI00	M	M	3W/1M Preliminary data are published on the 20th day following the reference month. Final data are published one month after the end of the reference period.	

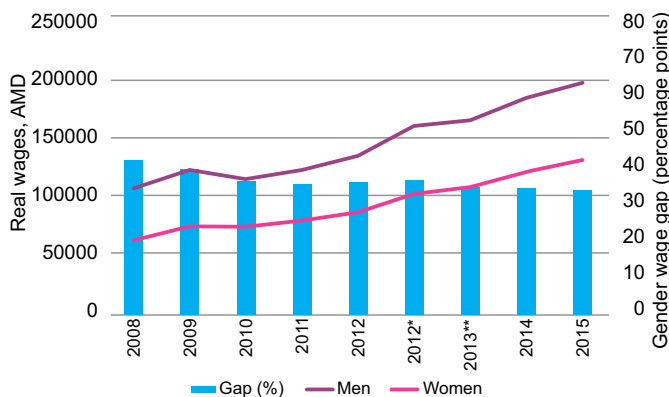
ANNEX 3:

EARNINGS AND THE GENDER WAGE GAP IN ARMENIA⁹⁴

In Armenia, the proportion of women among employed workers increased from 45 to 48 percent between 2008 and 2015. This evolution was accompanied by a fall in the gender earnings gap from 41 to 33 percent.

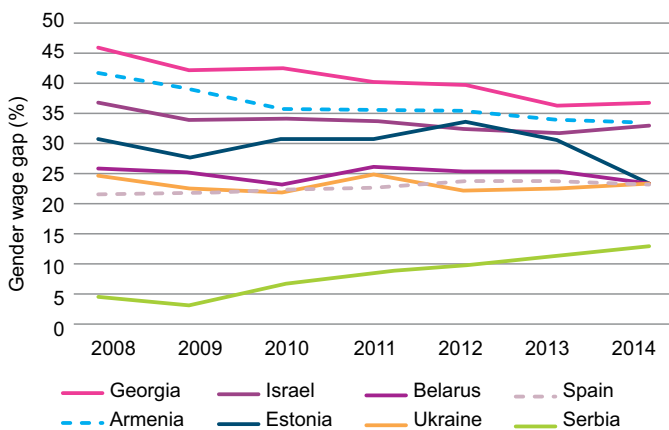
Analysis based on data from the Labor Force Survey shows that earnings adjusted only for changes in the cost of living (inflation) followed an increasing trend between 2008 and 2015 for both women and men in Armenia. However, wages for women have grown relatively more so that the difference with men's wages has closed over this period. Despite this progress, women in Armenia still earn on average 33 percent less than men (Figure A 29).

Figure A 29: Trends in real wages and the unadjusted gender wage gap, 2008-15



Source: World Bank staff calculations based on WDI.

Figure A 30: The gender pay gap in monthly earnings, selected countries 2008-14

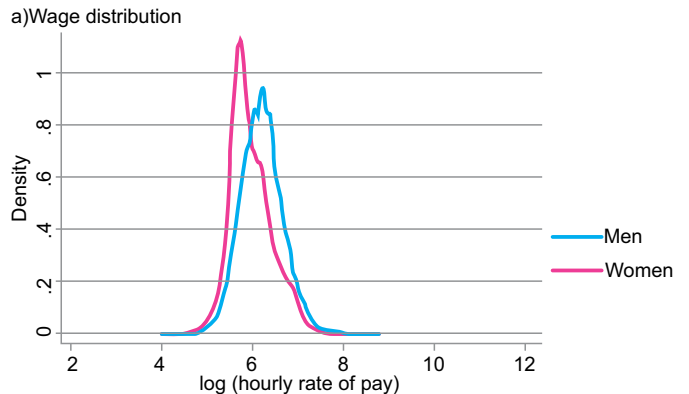


Source: World Bank staff elaboration based on UNECE Statistical Division Database (2016) and NSS of RA (2016) for 2013 and 2014 data for Armenia.

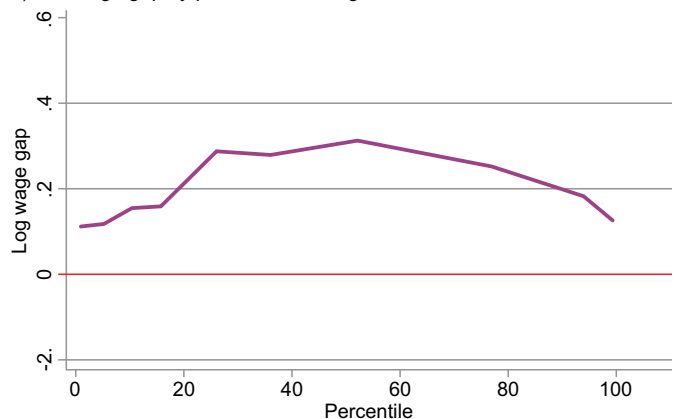
The difference in average wages between men and women is still among the largest compared with countries in the Europe and Central Asia region. Just below Georgia and with a similar level to Israel, the gender gap is some 10 percentage points higher than in Estonia, Belarus, Ukraine and Spain in the most recent year. The dynamics over the past decade in Armenia have been similar to those in Georgia, although with relatively lower levels (Figure A 30).

The wage gap is not homogeneous across the wage distribution. In fact, looking at the different percentiles it is observed that the disparity in wages in Armenia in 2015 shows an inverted-U shaped form (Figure A 31). The gap is larger in the middle of the distribution with the bottom and the top of the distribution showing less differential in wages between men and women. The gap seems to increase substantially around the percentile 20th and expands even more until percentile 50th, after which it starts to decrease.

Figure A 31: The wage distribution for men and women and the wage gap by percentile, 2015



b) The wage gap by percentiles of wagedistribution



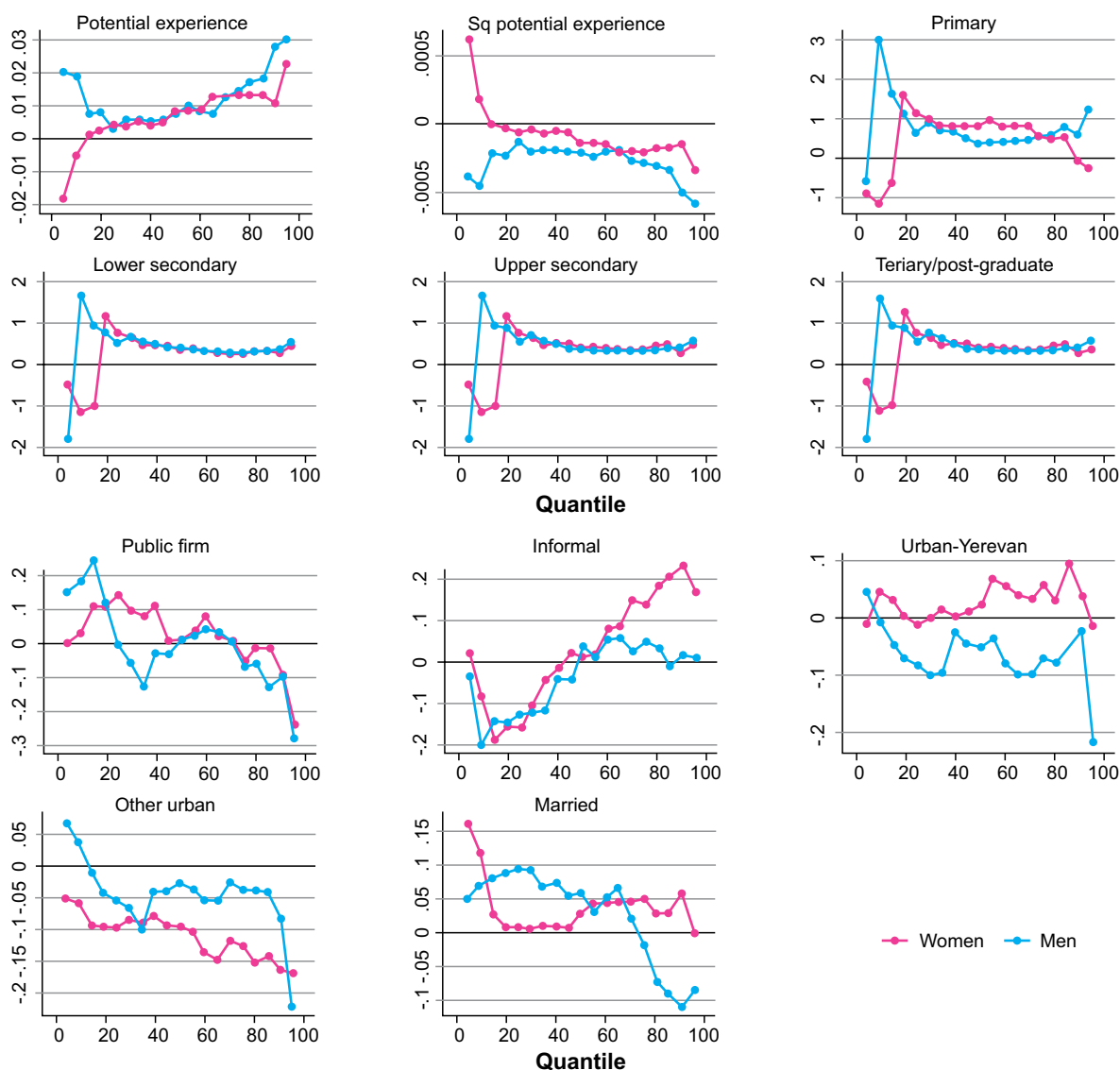
Source: World Bank staff elaboration based on LFS 2015.

⁹⁴Based on Rodríguez-Chamussy, L., N. Sinha and A. Atencio. 2017. "The gender wage gap in Armenia". World Bank. Mimeo.

Behind the difference in earnings by gender there is a complex interplay between economic and institutional mechanisms. Social and demographic characteristics have a clear differential impact on wages across the distribution, for example, the effect of experience is positive

and decreasing along the wage distribution with larger magnitudes for women.⁹⁵ The impact of being married reduces earnings at the top of the distribution for women and has a positive impact for men at the bottom of the distribution.

Figure A 32: Returns to characteristics across quantiles (unconditional wage distribution) by gender, 2015



Source: World Bank staff elaboration based on LFS 2015.

Three main results characterize the current differences in pay: First, the impact of education is important at the bottom of the distribution and has a positive effect for women. Second, working in informal sector has a negative impact on earnings in the first half of the distribution both for men and women; for men, the effect is close to zero in the upper part of the distribution but for women it is positive and large. Third, working in the public sector has a negative impact on earnings, except for women between the 20th and 40th percentile. Finally, women at the top of the wage distribution

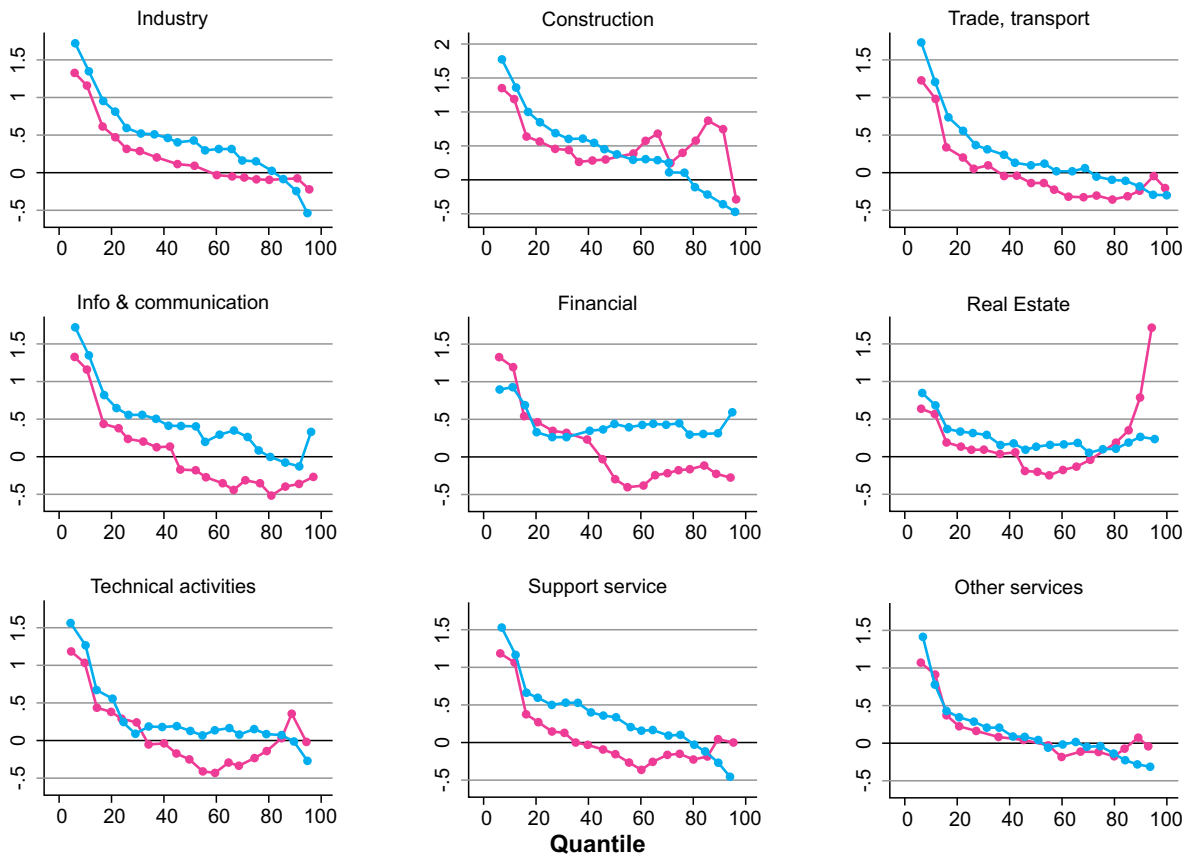
have lower returns than men, especially in ICT activities and in the financial sector, which are among the better paid on average.

Factors driving the gap across the wage distribution

The difference between men and women's wages can arise from differences in the distribution of observables characteristics, such as education ("composition effect"), or differences in how the labor market rewards male and female workers for their characteristics ("wage structure

⁹⁵The results on experience need to be taken with caution because given data limitation the variable experience is constructed subtracting from age the years of schooling therefore being imperfect as measure of work experience.

Figure A 33: Returns by economic sector and occupation across quantiles (unconditional wage distribution) for men and women, 2015



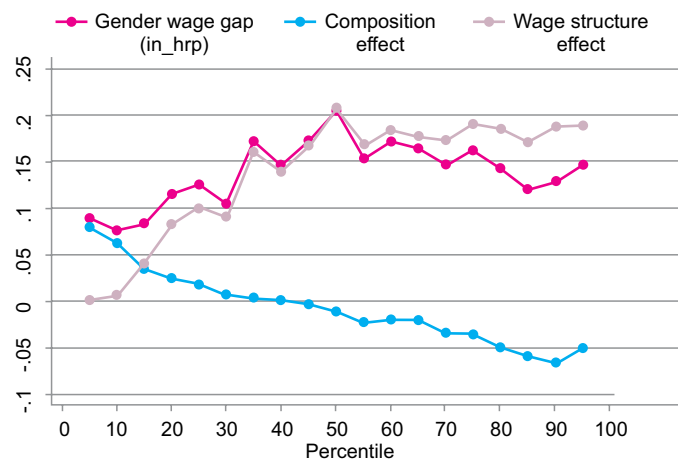
Source: World Bank staff elaboration based on LFS 2015.

effect”). Structural effects are considered to reflect labor market discrimination. In Armenia, the wage gap along the distribution is driven mostly by the wage structure effect (Figure A 34). An exercise of decomposition based on the Recentered Influence Function (RIF) methodology shows that in 2015 the wage structure (that could be linked to discrimination) accounts for almost all the wage gap in the middle part of the distribution (30th to 55th percentiles); at the top of the contribution of the wage structure is greater, but better educational endowments of women offset to some extent the effect of the wage structure. In the bottom part of the distribution, however, the composition effect is larger, consistent with lower human capital endowments among women.

The results of the decomposition showing a stronger wage structure effect at the top of the distribution suggest a ‘glass ceiling’ phenomenon, which refers to ‘unseen’ barriers (discrimination) that keep women from advancing beyond a certain level in the corporate hierarchy and obtaining higher wage, irrespective of their qualifications or achievements. In fact, the negative composition effect in the top 40 percent of the distribution indicates that for a large proportion of wage levels women are overqualified compared with men in the same percentile of earnings.

Overall, the findings for Armenia suggest that occupational and industry segregation are important contributors to the gender pay gap. Skills-enhancing policies are important for women in low-wages activities. However, greater gender equality in pay would mostly come from policies that help to break the glass ceiling, for example policies to remove barriers for women to fill management and decision-making positions.

Figure A 34: Decomposition of the gender wage gap by percentile, 2015



Source: World Bank staff elaboration based on LFS 2015.

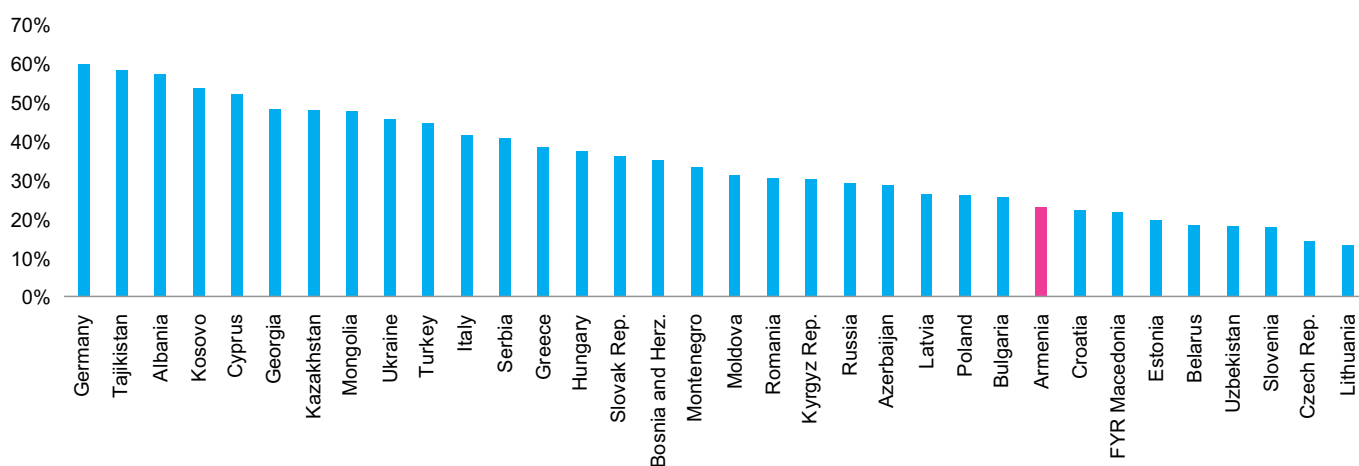
ANNEX 4:

INTERNAL MOBILITY AND INTERNATIONAL MIGRATION⁹⁶

Given the generally slack labor market and low informality rates outside agriculture, it is not surprising that men and women do not move internally for employment. According to the recent Life in Transition Survey (2016), only 22 percent of Armenians reported that they were willing to move within the country for employment reasons. This is a low share

even among ECA countries, where there is evidence that aside from weak labor demand other forces might be at play. Incentives, demographics, and institutional factors may play a role here. An older and aging population, together with underdeveloped housing and liquidity constraints associated with frictional credit markets, may play a role too.

Figure A 35: Limited internal mobility in Armenia



Source: World Bank staff calculations based on Life In Transition Surveys (EBRD, 2016).

The y axis measures the share of those who are unemployed and willing to move within the country for employment reasons.

Short-term labor migration⁹⁷ is the predominant form of external migration in Armenia. The exact figures on the number of migrants are unavailable. The Russian-Armenian study (2015) reports that the share of population participating in short-term migration increased from 24.3 percent in 2007-13 to 33.8 percent in 2012-15. According to the OECD/CRRRC (2017), which draws on data from the United Nations, there were 937,000 Armenian migrants abroad in 2015, about 31 percent of the total population. The dominant migration corridor is between Armenia and Russia (facilitated by visa free travel and familiarity with Russian language). Nearly 70 percent of short-term migrants interviewed in the Integrated Living Conditions Survey (ILCS) 2015 reported Russia (mainly Moscow) to be their destination. Most of this type of migration comes from households outside Yerevan. Similar to most migration flows from low-income to high-income settings, there is a strong sectoral focus in the jobs Armenian migrants take up in Russia: mainly construction and low

skilled jobs. The OECD/CRRRC (2017) report also shows that most migrants are involved in low-skilled agricultural or construction sector work.

Push factors are the dominant reason for decisions to migrate for work. Bellak et al. (2014) studied men's migration to Russia for a sample of Armenian households during 2006-10. Their study finds that being unemployed significantly raises the probability that a person will migrate for work. Unemployment rates in Moscow have no impact on this decision. Moreover, being tertiary educated reduces the probability that a man will engage in short-term migration to Russia—consistent with the type of work that is taken up in the destination country. The OECD/CRRRC (2017) analysis confirms the dominant role of push rather than pull factors in migration decision. The report finds that participation in vocational training programs (active labor market policy) and receipt of subsidies by agricultural households is associated with a reduced intention to migrate.

⁹⁶This Annex draws on the following sources:

Bellak, Christian, Markus Liebrecht, and Mario Liebensteiner, 2014, Short-term Labour Migration from the Republic of Armenia to the Russian Federation, *Journal of Development Studies*, 50 (3), 349-367, <http://dx.doi.org/10.1080/00220388.2013.858125>. Russian Armenian (Slavonic) University, 2015, Three Year Monitoring of External Migration of Republic of Armenia, OECD/CRRRC-Armenia (2017), *Interrelations between Public Policies, Migration and Development in Armenia*, OECD Development Pathways, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264273603-en> World Bank, 2017, Armenia Poverty Note (background paper for the SCD).

⁹⁷Working abroad for at least 3 months and at most 11 months.

Migrants gain economically from the decision to seek work abroad but are susceptible to economic downturns abroad. The Bellak et al. study shows that between 2007 and 2010 on average short-term migrants to Russia increase their monthly earnings by 279 percent relative to what they could have earned at home. However, since 2014, the Russian economy has been on the decline, affecting Armenian migrants and the remittances they send back home. Central Bank of Armenia data show that remittances fell by 35 percent in 2015 and a further 10 percent in 2016, mainly due to a decline in remittances from Russia.

Income earned from short-term migration mainly flows in the form of remittances. The impact of this income on households and the domestic economy can be substantial. There is a modest poverty impact of remittances for rural and secondary city households. However, most studies point to very limited to no impact on productive investments by migrant-sending/remittance-receiving households. The OECD/CRRC study found that remittance-receiving households were less likely to own a business.

By providing an avenue for low-skilled workers to find jobs, short-term migration plays an important role until the domestic labor market picks up. But associated remittance flows have an impact that must be managed. The limited use of remittances to start a business or invest in productive assets is at least in part a reflection of the local economic conditions, where the broader credit and regulatory environment does not encourage micro-entrepreneurial activity. There is also a concern that receipt of remittances will discourage work by household members—a concern for which there is some supportive evidence. However, this work-discouraging impact of remittances should be interpreted within the current labor market context where there is limited job creation. A much more deleterious impact of remittance flows takes place at the macro level. Remittances tend to be pro-cyclical in nature (recently amplified by Russian recession). For example, remittances have been as high as 20 percent of GDP at the peak of the cycle, while in the recent slow-growth years they have shown a marked decline. Exchange rate appreciation due to remittance inflows make exports less competitive, pushing jobs into non-tradable sectors.⁹⁸

ANNEX 5:

GOVERNMENT PROGRAM 2017-2022

The Government Program 2017-2022, approved in June 2017, set the vision, goals, and sector reform priorities to come. It shares a broadly similar vision to the one put forward in this SCD. That includes the recognition that Armenia must look outward if it is going to fulfill the key medium- and long-term objectives set out by the Government Program. Support for these and other reforms through the diverse lending and technical assistance tools available in the World Bank Group's toolkit will be discussed in detail in the World Bank Country Partnership Framework.

The vision is based on the principle of “safe, fair, free and smart Armenia”.

■ Safe Armenia refers primarily to regional challenges and threats to national security. Recognizing these challenges, the program stresses the need to formulate and sustain legal, political, and military measures for national security.

■ Fair Armenia refers to building trust and justice in the society. To this end, several areas are focused on: (i) strengthening public administration, through higher efficiency, more transparency, and more accountability; (ii) strengthening competition and a level playing field for the private sector will be essential to attract private investment and create quality jobs; (iii) fostering an independent, impartial, and predictable judicial system; (iv) ensuring

that an anticorruption and public oversight institutional framework is in place; and (v) supporting social protection and targeting vulnerable groups.

■ Free Armenia points to the need to provide free of charge services, including medical care.

■ Smart Armenia means: (i) a modern, competitive labor force, which is qualified, educated, motivated, and mobile; (ii) smart and innovative economy promoting efficiency in resource allocation and competitiveness through an increase in exports as key driver of growth; (iii) a focus on productivity gains and the use of new technologies, with a focus on embracing a wide-ranging digital agenda; (iv) a competitive and friendly business ecosystem and a level playing field for domestic and foreign investors; and (v) strong relation ties with diaspora Armenians.

Through the implementation of this program, for the period 2017-22 the following goals have been set:

■ Ensuring that economic growth is faster than developed countries by achieving an average of 5 percent gross GDP growth;

■ Achieving significant growth in exports, with the exports of goods and services reaching 40-45 percent as a share of GDP;

⁹⁸Karapetyan and Harutyunyan (2013) found evidence for such patterns in Armenia.

■ Achieving poverty reduction by lowering it by 12 percentage points; and

■ Achieving a 25 percent increase in nominal minimum wages, optimally combining employment growth and compensation for dignified jobs and taking into account structural unemployment and risks of reduction in the country's competitiveness, the proportion of the mitigating minimum wage and median wage.

On this basis, the Government Program proposes a high-level set of reforms in the areas of:

1) Public administration and legal framework, including modernizing public administration, territorial administration and local governance, human rights protection, justice

and anticorruption, security and public order, reducing emergencies and disaster risks, state property management, cadaster;

2) Foreign policy, including foreign policy, diaspora, defense;

3) Economic and social sectors, including economic progress (exports, investments, business environment, tourism), fiscal policy and finances, tax and custom systems, energy infrastructure and natural resource energy, agriculture, transport, communication, and information technology, civil aviation, urban development;

4) Social sectors, including education and sciences, work and social policy, health, nature protection, culture, sport and youth.

ANNEX 6:

THE PRIORITIZATION PROCESS AND KNOWLEDGE GAPS

The SCD moved from the diagnostic findings to reform priorities, with concrete policy actions as follows.

First, the country team confirmed a long list of what was constraining progress toward resilient and inclusive growth and poverty reduction, based on the analysis of each pathway. After the core SCD team had drafted this list, it was discussed by the SCD team and refined based on the team's expertise (Chapter 3).

Second, reform priority areas (and later the policy actions) were identified for each pathway by applying criteria to narrow down the extensive list of constraints.

The criteria are: (i) the size and sustainability of the impact of recommendations on the twin goals; (ii) the extent of complementarities, i.e., whether the recommendations generate benefits across different dimensions of inequality, growth, or sustainability; and (iii) whether the priority recommendations have a neutral or positive impact on fiscal sustainability as a necessary pre-condition. The team also considered the feedback from internal and external consultations. The team relied on a sounding board of external experts to seek feedback on the prioritization. Nine priority reform areas emerged. The core team then formulated policy actions for each priority area based on the comprehensive analysis carried out for the SCD. The implementation of policy priorities is expected to set the course for progress within the medium term (set to six years), although the country will not necessarily accomplish all objectives within this timeframe.

Table 1 sets out the pathways and priority reform areas, and examines their impact on the twin goals

and implications for women's economic participation.

Reforms areas have been selected on the basis of how advances in these areas are expected to impact progress toward shared prosperity and poverty reduction in a sustainable way. The timing of reforms, their fiscal impact, existing complementarities, and their feasibility have also been considered. The implementation of policy priorities is expected within a medium-term timeframe of six years.

The team considered the feasibility of implementation of reforms identified and their implications, without the intent to influence the prioritization or ranking of identified constraints. Taking this approach helped to shed light on reform areas with a high chance of being successfully taken up. This approach also helped inform the possible sequencing of reforms.

Lastly, the team examined the implications of priorities for women's and men's economic advancement within each pathway.

This analysis is useful because greater economic participation by women would help Armenia to tackle the potentially growth-reducing effects of a shrinking population. All pathways identified by the SCD can create economic opportunities for women. If the recommendation on expanding early childhood education (Pathway 3) is implemented, then these opportunities can be converted into greater labor-force participation by women. Meanwhile, the focus on micro-resilience (Pathway 4) shows that health services that have a strong preventative focus would help to address the concerns about men's health and life expectancy. Health risks from smoking (prevalent among men but not women) are among the potential factors behind

the much higher adult mortality rate among men than women.

The country team participated in an open discussion to validate and refine the policy priorities and actions proposed. All country team members and management were invited to a two-day workshop at which the core team presented the proposed priorities and detailed the analytical basis and rationale for each. An external sounding board of

experts on Armenia was invited during the first day of the workshop, while the second day was dedicated to internal discussions and feedback, including prioritization of policy measures. During the **discussion**, the policy actions were refined in response to the sector-specific expertise of participants and dialogue on complementarities between different policy areas. In addition, the team reached out to the SCD Central Support team for guidance and support.

Box A 1: Knowledge gaps

As the team progressed into the systematic diagnostic of Armenia's pathway toward reducing poverty and boosting shared prosperity using all available evidence, data, and analyses from both within and outside the World Bank, it identified a number of knowledge gaps, of which the following emerged as the most important for additional analysis:

A multi-connectivity assessment: How a country connects with the rest of the world becomes increasingly multi-faceted through not only goods and services, but also through people, technology, and knowledge. As the team progressed in analyzing how Armenia could rebalance growth and better connect to the rest of the world to expand its markets, it was found that a trade and transport facilitation assessment was missing in a country that faces critical logistics and landlocked-ness constraints. In addition, while much anecdotal evidence is available on the links and relationship of Armenia with its diaspora, an evidence-based assessment with policy recommendations on the basis of international experience is lacking. Lastly, while some piecemeal information is available on ICT access, policy and infrastructure, as well as information on the growing exports of the ICT sector, the country is missing an assessment on the challenges and policy actions that would allow Armenia to fully embrace the so-called "digital economy".

Competition/market contestability assessment. Competition and a lack of market contestability emerged as a significant constraint to firms' productivity during the SCD exercise, both from available data and from consultations. However, little Armenia-specific information is available due to a lack of data availability and analysis to better understand the issue and its implications. There are now well known methodologies to assess the degree of competition in an economy and/or selected sectors and, most importantly, to evaluate the economic gains that a country as a whole, and economic agents in particular (consumers, firms, government), could enjoy should competition improve. A

bottom-line evidence-based assessment of competition issues in Armenia would help to support this reform agenda.

Data on demographic trends and the assessment of their impacts. Population aging, declining population size and outmigration affect Armenia's future growth and poverty reduction prospects. The population trends and projections reported by the National Statistical Service (NSS) and the United Nations differ especially in the pace and timing of population decline. Also, indicators such as the urban share of the population differ markedly between NSS and UN projections. Investing in harmonizing these population series would be of considerable help in assessing the economic impact of Armenia's population changes and benchmark these findings to countries undergoing similar changes. The SCD analysis based most of its analysis on the NSS population series. However, this affected the ability to benchmark to other countries and make international comparisons. For migration, up-to-date data on short-term migration flows and the extent of labor migration among the tertiary educated ("brain drain") are not available. Several household surveys have been conducted to examine the determinants and impacts of migration. However, these surveys are limited in their scope and coverage. As migration is important for the Armenian economy, investing in strong data collection systems to monitor these flows would close a crucial knowledge gap.

Comprehensive environmental assessment for Armenia: The SCD's analysis of the sustainability of growth was greatly limited by the lack of a comprehensive assessment of the country's natural resources wealth. For a country that is well endowed with natural resources and that relies on these resources for important sources of revenues (tourism, mineral exports), GDP provides only a partial picture—the value of agricultural land, minerals and forests. For the sustainability of Armenia's growth to be adequately assessed, conducting a Natural Capital Accounting exercise would be a useful investment. Internationally followed methodologies are available to carry out this exercise.

3.1. The SCD team also built on an extensive internal and external consultation process. The objective from the conceptual stage of the SCD onward was to obtain continuous advice from experts in Armenia and the World Bank country team on areas of emphasis and, as the work progressed, on the emerging storyline and main

messages. The consultation process involves different groups of stakeholders consisting of the Government, the private sector, civil society organizations, academia, and development partners. During this process, discussions helped to identify a number of major knowledge gaps (Box A 1).

Table A 7: Pathways, priority reform areas, impact on the twin goals and implications for women's economic participation

Pathways	Priority Reform Areas	Impact on the twin goals, timing, sustainability, complementarities	Implications for women's economic participation
<p>Pathway 1: To rebalance growth, Armenia should seek to open markets, seize exports opportunities and overcome or bypass existing connectivity constraints</p>	<p>1. Leverage exports enablers and bypass land connectivity barriers (trade policy, export intelligence, diaspora, fill logistic gaps, focus on trade in services and ICT)</p>	<p>Activating key export enablers will impact positively the twin goals, and has strong complementarities, by increasing economic growth, making it more resilient to shocks through diversification of markets and products, enhancing productivity through exchange of technology and knowledge, and increasing quality job opportunities for workers. There may be short-term "quick wins" through enhanced multi-connectivity infrastructure, while a medium-term timeframe will support the realization of gains from implementing a multi-connectivity reform agenda. Feasibility of reform from a political-economy standpoint is relatively good, although it brings in additional costs that will have to be funded in a fiscally neutral manner.</p>	<p>Currently, around 35 percent of workers in the ICT-based service industry are women (World Bank, 2013). Development of the ICT sector is expected to create jobs. Pairing efforts to foster domestic competitiveness, trade and regional integration with gender-equality enhancing policies in the labor market would allow a stronger competitive advantage for Armenia in terms of the high number of graduates-men and women-of higher education level and competitive cost base.</p> <p>Firms with women top managers are underrepresented in every sector in Armenia except in the textile and garment industry and in hotel and restaurant services, where 35 percent of firms have women in top management positions (World Bank, 2016). Making use of modern export promotion institutions to reduce the fixed costs that firms face when entering new markets for the garments industry would support widening economic opportunities for women in entrepreneurship and contribute toward fostering inclusive growth.</p>
<p>Pathway 2: To develop a vibrant productive private sector and create more jobs, Armenia should remove constraints for firms entering markets and growing</p>	<p>2. Fill the investment climate gaps (including regulations, their implementation, access to finance, to innovation, market contestability, corporate governance)</p>	<p>Providing a level-playing field for firms to enter and grow by accessing skills, finance and innovation will go a long way in improving productivity, and thereby job creation, in a labor market that is demand-constrained. It will have a large positive impact on growth, its sustainability, and disparities by strengthening the link between growth and livelihoods through jobs. The timing is short to medium term, with immediate actions (e.g., implementing the existing approved regulatory framework) possible, and others more medium term, in particular when requiring capacity and institution strengthening.</p>	<p>More participation in entrepreneurship and the narrowing of the gender gap would contribute to fostering a productive private sector that creates more jobs. Women's lagging participation in entrepreneurship represents a misallocation of Armenia's human resource potential. Calculations suggest that the gender gaps in participation and in entrepreneurship result in a loss of economic output equivalent to 5 percent of GDP (World Bank, 2016).</p>

Pathways	Priority Reform Areas	Impact on the twin goals, timing, sustainability, complementarities	Implications for women's economic participation
	3. Ensure on-the-ground market contestability and competition	Ensuring market contestability is a key ingredient necessary for firms to be able to enter markets and sustain growth. That would have a positive large impact on growth and shared prosperity, by limiting rents and ensuring healthy competition in well regulated markets. That will also contribute to sustainability by supporting diversification. Feasibility might be more medium-term since it will require ensuring a balance between various stakeholder interests.	
Pathway 3: For inclusive growth, Armenia should remove barriers to work and improve individuals' productivity	4. Ensure the education and workforce development systems provide skills relevant to the market (through teacher training, promotion of STEM and higher education, expansion of tertiary in rural areas, better VET regulation, workforce development and apprenticeships)	A critical complement to priorities 1 and 2 (above) is that workers have the needed skills to meet the needs of new and growing firms. Investing in workers' skills therefore creates the channel for translating growth into shared prosperity and poverty alleviation. High-quality education is an important source of technical skills and knowledge. Workforce development is needed to ensure not only that the education system provides relevant skills but also for an aging workforce to renew skills and keep up with the needs of the labor market. Thus, quality education and workforce development are both crucial complementary investments for priorities 1 and 2 above which call for leveraging digital technology and greater innovation. Stepping up investments in education can be achieved in the short term and supported through education expenditure rationalization. Investing in workforce development can be achieved in the medium to long term in partnership with the private sector. The feasibility of developing a strong workforce development program depends on the willingness of the private sector to collaborate and create opportunities. Improving the regulation of existing Vocational and Technical Education (VET) programs can be implemented in the short term.	Efforts to ensure that education and skills acquisition for both men and women lead them to jobs in sectors that are projected to grow and provide better pay. Capitalizing the investments of valuable resources in women's education requires the implementation of policies that remove barriers on both the demand side and the supply side. Policy efforts aimed at adequate job creation need to be accompanied by policies to help balance care and work responsibilities. Tackling barriers to women's participation in the workforce would result in efficient allocation of valuable human capital and economic gains not only for women and their families, but for the entire society.

Pathways	Priority Reform Areas	Impact on the twin goals, timing, sustainability, complementarities	Implications for women's economic participation
	<p>5. Support matching of workers to jobs (through strengthening the State Employment Agency, activation of social assistance beneficiaries)</p>	<p>As the economy creates more jobs and invests in better skills of its workers, matching workers to jobs is important for efficient allocation of labor and hence productivity improvements. More than 70 percent of Armenians participating in the Life in Transition Survey reported that connections were essential or very important for access to good jobs. Thus, a functioning public job-matching service is needed. Still, the capacity of expansion of State Employment Agency seems limited given the small resources currently allocated toward active labor market programs. Public spending and greater private sector participation will be needed to strengthen and enhance the use of the State Employment Agency.</p>	
	<p>6. Facilitate women's labor-market participation (through ECE; gender mainstreaming in general and higher education)</p>	<p>Having more women participate in the labor market will counteract the effect of population decline and high rates of male outmigration on Armenia's labor resources. If gap between male and female labor participation were to close by enabling more women to seek and find work, the adverse trend in the economic dependency ratio could be significantly reduced, and as much as 14 percent of GDP could be gained. An essential reform to facilitate women's work is expansion of quality Early Childhood Education (ECE) programs delivered through public kindergartens for children under the age of 3 and in rural areas. ECE investment is internationally recognized to be a smart policy that helps the economy today (through more female participation) and in the future (through children's greater productivity as adults). Countries such as Sweden have also successfully tackled population decline with an expansion of ECE programs. Supporting women through the implementation of ECE can build on the existing public kindergartens and rolled out in the short to medium term. This expansion can be supported through rationalization of education spending.</p>	

Pathways	Priority Reform Areas	Impact on the twin goals, timing, sustainability, complementarities	Implications for women's economic participation
Pathway 4: To achieve sustainability, Armenia should build national resilience on multiple fronts	7. Strengthen macro management supportive of stability and growth	Macroeconomic resilience and sustainable macroeconomic policies supportive of long-term economic growth are a prerequisite for successful progress toward the twin goals and effective policy reforms across the board. The timing is immediate, because a slippage of macroeconomic sustainability in the short term can have a long-lasting impact. An example can be found in the recent fiscal retrenchment of public investment following the automatic fiscal consolidation triggered by Armenia's fiscal rule, which will have short- and medium-term impact on economic growth.	Along with raising female labor for participation rates, strengthening pensions could halt the rise in economic dependency ratio. In 2015, there was nearly a 20-percentage-point gap in male and female labor-force participation among those aged 15 to 64. If this gap were to close by enabling more women to seek and find work, the adverse trend in the economic dependency ratio could be significantly reduced with the positive effects on fiscal strengthening. Enhancing resilience at the household level through well-targeted social assistance would improve the prospects of households with dependents and a single female earner, as well as households with majority of women, which are particularly vulnerable to poverty and old-age poverty. Health services with strong preventive focus would help reducing concerns about men's health and life expectancy (the mortality rate among adult men is far higher than among women).
	8. Strengthen environmental management and adaption to climate change impacts	The sustainable management of the environment and natural resources is vital for Armenia's future economic growth. Environmental and natural resources provide the foundation for sustained inclusive growth via better performance of sectors, such as agriculture, mining, tourism, and forestry, as well as via strengthening resilience to extreme weather events and adaption to climate change impacts.	
	9. Strengthen micro-resilience through access to finance, social protection, and tackling pension and health implications of population aging	Household wellbeing is directly impacted by shocks such as job loss or illness, and indirectly affected by macroeconomic vulnerabilities. Over time, the share of the population that is vulnerable to falling into poverty has grown. A public policy concern is that when faced with shocks households, especially those that are poor and vulnerable, may choose coping strategies that are harmful for future welfare, especially for the human capital development of children. The limited social assistance coverage of the poor and the lack of "good" jobs, especially in rural areas, are key constraints to address the resilience challenge and the productive inclusion (by graduating SP recipients to jobs and sustainable livelihoods). Old-age poverty is also increasingly a policy concern given demographic trends and rising share of economic dependency ratio. Population aging could further add to households' rising costs for health care, especially given the rising burden of non-communicable diseases.	

Source: Implications for women and men's economic participation are taken from World Bank analytical work summarized in World Bank (2016) Armenia Country Gender Assessment 2016, World Bank (2013) "Accumulation, Competition and Connectivity" and World Bank (2017) "Armenia: Leveling the STEM Playing Field for Women".





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