



REPUBLIC OF ARMENIA

SELECTED ISSUES

December 2021

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December 3, 2021

Approved By
**Middle East and Central
Asia Department**

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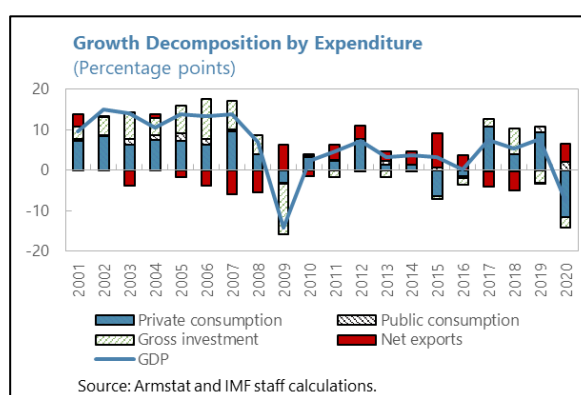
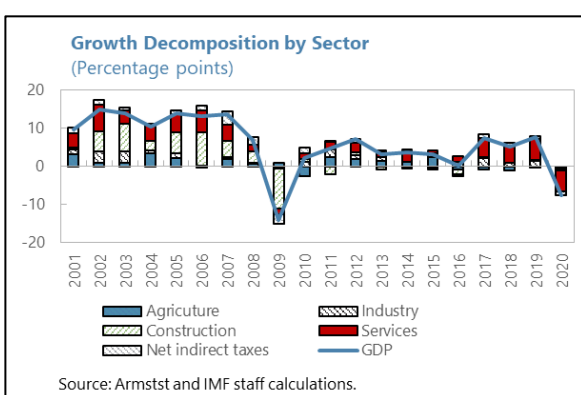
REBALANCING ARMENIA'S GROWTH MODEL

Raising Armenia's long-term growth prospects is critical for meeting the pressing need for jobs, achieving higher living standards, and reducing inequality. Armenia's growth has weakened following the global COVID-19 crisis, while the geopolitical developments amplified the shock. This set of papers looks into key policies for catalyzing long-term growth by focusing on four strategic areas: promoting export-led growth, ensuring sustainable financing, increasing access to finance, and reducing informality.

1. **Promoting Export-Led Growth.** This paper argues that there is a need to boost the potential of the tradable sector by focusing on products with higher complexity to sustainably increase Armenia's growth rate. It provides an overview of Armenia's export performance, analyzes factors and policy valuables that affect export outcomes in terms of volumes and composition, and draws policy implications.
2. **Sustainable Financing for the Recovery in Armenia.** Focusing on inward foreign direct investment (FDI), this paper provides an overview of domestic and external financing in Armenia, analyzes the factors driving inward FDI, and draws policy implications. In light of Armenia's declining inward FDI, it is desirable to reinvigorate FDI and facilitate domestic saving.
3. **Increasing Access to Finance in Armenia.** Access to finance in Armenia has been consistently identified by Armenian business executives among main obstacles for doing businessimproving it could facilitate private sector development. This paper identifies some of the factors limiting financial inclusion for households and firms.
4. **Fostering Inclusive Long-Term Growth.** Reducing informality to raise productivity and promote inclusion is macro critical. This paper aims to better identify the factors behind the supply of formal and informal sector workers in Armenia, and what governs upward mobility in the Armenian labor market. Given data constraints, the empirical work focuses on the youth labor market experience and the implications of the school-to-work transition for long-term employment outcomes.

PROMOTING EXPORT-LED GROWTH¹

1. Armenia has pursued two distinct growth models at separate points over the past 20 years. Until the GFC, growth was principally driven by private consumption and investment, with these contributing 7 and 5.8 ppts, respectively, resulting in average growth of 12.1 percent per annum. This investment, however, was mostly channeled to residential construction, ultimately providing limited support for potential growth, and net exports detracted from growth. In the post-GFC phase, external financing for construction dried up, and services, agriculture, mining and industry became the drivers of slower, but generally more balanced, growth. On the demand side, net exports contributions turned positive. Yet two-thirds of the average annual 4.5 percent growth over 2010-19 came from private consumption.



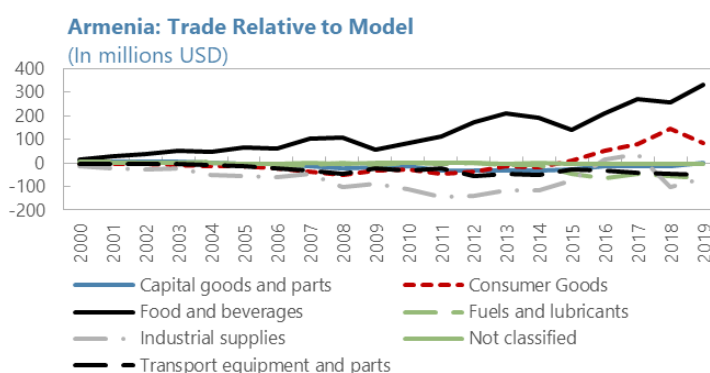
2. Armenia's growth model needs to be revisited. Given the small size of its domestic market, there are limits to the sustainable growth from focusing on non-tradable activity. The still tense geopolitical situation will likely weigh on capital inflows, while the COVID-19 shock will scar the volume of remittances. Thus, to sustainably raise Armenia's growth rate there will need to be rebalancing from domestic to external demand by boosting the potential of the tradable sector.

3. Armenia's policymakers widely recognize the importance of exports as a growth driver as reflected in government strategies. The strategy of 2017-22 aspired "to achieve a significant growth in exports with the exports of goods and services reaching 40-45 percent as a share of GDP." The strategy of 2019 stipulated that "The significant growth of export of goods and services must become the main driving force for the economic progress in Armenia. At the end of the program period, exports of products and services must reach 43-45 percent of GDP. At the same time, there has to be a significant increase in the role of technological products in the structure for exports". The latest government program puts emphasis on promoting exports and diversifying exports markets. This is planned to be achieved by expanding export insurance toolkit, developing trade and

¹ Prepared by Klakow Akepanidaworn, Lili Karapetyan, Nathalie Reyes, and Yulia Ustyugova. For details about the empirical analysis and references, see the forthcoming IMF Working Paper by K. Akepanidaworn, L. Karapetyan, N. Reyes, and Y. Ustyugova.

economic cooperation with Eurasian Economic Union (EEU), implementing the provisions and arrangements for trade-related issues in the Armenia-EU Comprehensive Extended Partnership Agreement (CEPA), promoting bilateral and multilateral cooperation within the framework of the EU Eastern Partnership, expanding and deepening cooperation with the World Trade Organization (WTO).

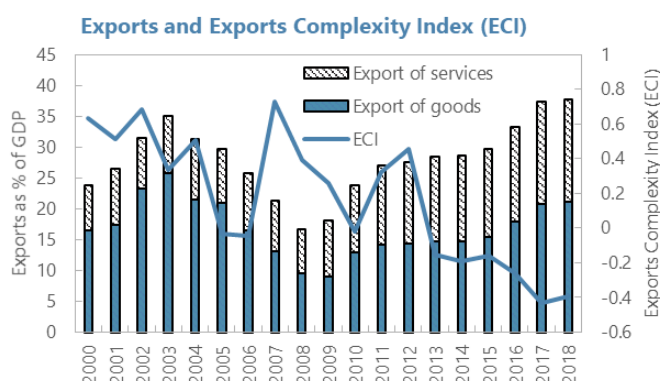
4. Armenian export volumes are in line with that of other CCA and EMEU countries after controlling for structural and macroeconomic factors, but they underperform in high value-added products. Gravity model estimates suggest that Armenia’s landlocked situation with limited border sharing weighs on export potential. Yet trade agreements tend to deliver important gains that offset the negative impact on exports from the geographical channels and therefore should be pursued further. Having a trade agreement is estimated to more than double exports between two countries. The analysis also confirms that Armenia’s export underperforms relative to the model in export products with higher value added and outperforms in basic products, such as food and beverages and consumer goods. This underscores the need for policy action to rebalance the composition of exports towards more complex exports with higher value added.



Source: United Nations (2019), Commodity Trade Statistics Database and IMF staff calculations.

5. However, not every type of export-led growth could be conducive to promoting higher sustainable economic growth. There are ample theoretical and empirical studies that discuss the benefits of international trade and present arguments why small open economies with insufficient market size cannot opt-out the growth strategies oriented on external demand. Yet not all export-led growth is created equal. One particular concern is that low value-added products could drive export growth, promoting an increasingly less competitive product structure of an economy and weighing on long-term growth potential. Another concern is related to dependence on a narrow range of exports that focuses on specialization amid small economies efforts to integrate into the global value chains and achieve economies of scale in production. Such export development patterns can amplify economy’s vulnerability to trade volatility and fluctuations in foreign demand.

6. In particular, the quality of Armenia’s export has declined over time and lagged behind its peers. Armenia’s exports—averaging around 32 percent of GDP during the past decade—is amongst the lowest of its peer group and have been declining in their complexity ranking with the



Source: United Nations (2019), Commodity Trade Statistics Database and IMF staff calculations.

largest goods exports concentrated in low complexity products like minerals and agriculture. Export product diversification has remained modest. Product space analysis suggests that Armenia's potential to diversify exports to more complex products is, at present, limited and has worsened considerably since 2000. Moreover, Armenia's participation in GVCs has also fallen below that of its peers since 2015, with its domestic value added sent to third economies through exports is lower than other CCA countries.

7. Boosting diversification and the economic complexity and sophistication of its products and modern services will require a broad set of structural reforms. Panel data analysis for CCA countries and peer European countries for good and services separately suggest that:² (i) the quality of physical infrastructure and education, export costs, and income equality are the important factors for upgrading the quality of *goods exports*; and (ii) the quality of digital infrastructure, R&D expenditure, REER, and income equality are the factors that matter for the composition of service *exports*. Focusing on upgrading export services could be particularly promising considering Armenia's geographical bottlenecks.

8. Raising Armenia's export potential would be facilitated by:

- Further integrating with global trade networks. Trade agreements could significantly raise and even double exports between two countries, as suggested by the gravity model estimates. Armenia should seek to negotiate additional mutually beneficial trade agreements while taking advantage of the EEU membership and benefiting from GSP+ trade preferences with the EU.
- Reducing nontariff barriers including documentary and border costs. While compared favorably to the CCA countries, Armenia's documentary and border compliance costs exceed those of the European peers by 90 and 40 percent, respectively.
- Improving the quality of infrastructure, including transport network and telecommunication.
- Strengthening education and research (including tertiary education in STEM). If Armenia brought the quality R&D expenditure as a share of GDP to the level of its peers in emerging Europe,³ for example, it could improve the revealed comparative advantage in modern services by 10-12 percent and raise the share of modern services in total exports of services by about 2 percent boosting services exports complexity by about 3 percent. Reforms measures to higher education undertaken in 2020 ate a start on this agenda.
- Reducing rising income inequality by implementing redistributive fiscal and social policies.

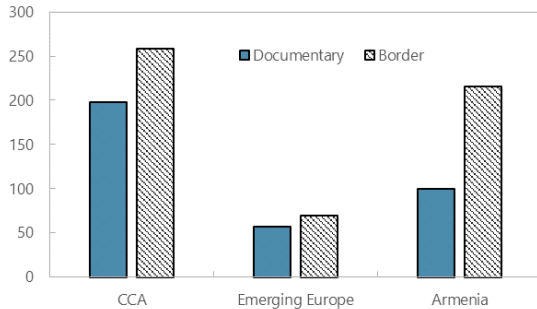
² Peer European countries are Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Moldova, North Macedonia, Serbia, Ukraine.

³ Gross domestic expenditures on R&D, expressed as a percent of GDP. These include both capital and current expenditures in the four main sectors: Business enterprise, Government, Higher education and Private non-profit. R&D covers basic research, applied research, and experimental development.

Figure 1. Armenia: Selected Export and Policy Variables

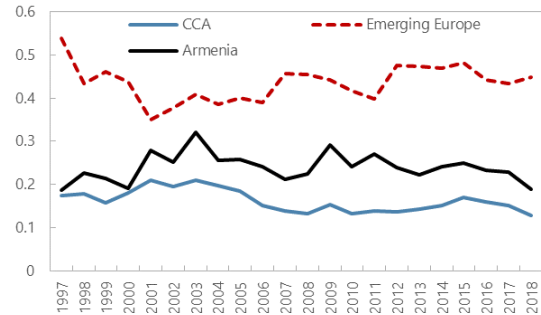
Cost to export in Armenia has been higher than in CCA and EE peer.

Cost to Export
(USD, average 1995-2019)



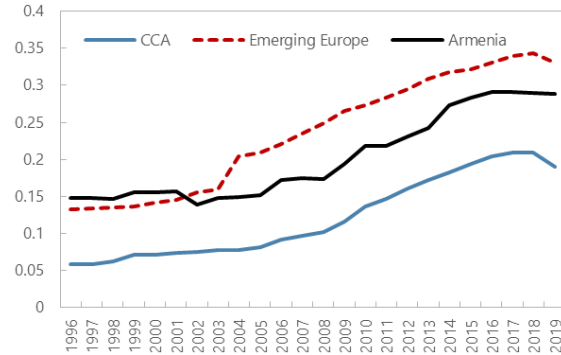
R&D expenditure in Armenia has been smaller than EE peer countries.

Research and Development Expenditure
(Percent of GDP)



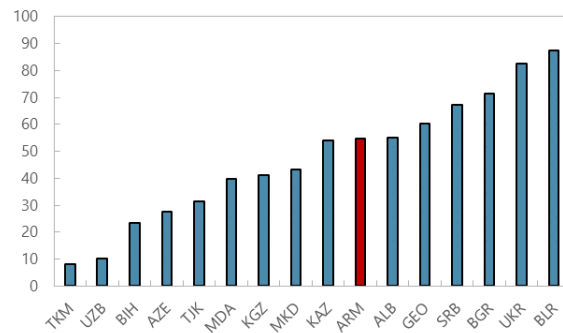
Infrastructure score has been improving over the period while lagging behind EE peer.

Infrastructure Score



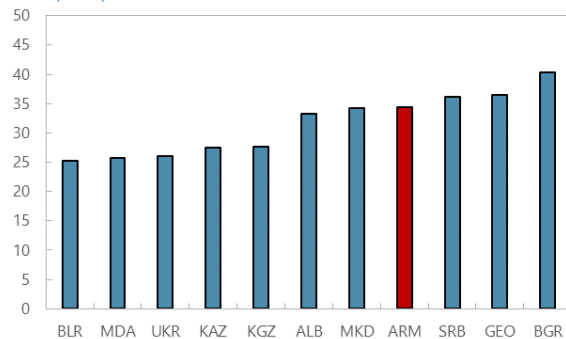
Tertiary education enrollment rate in Armenia is better than in CCA countries while falling behind EE peers.

School Enrollment Rate, Tertiary¹
(Percent)



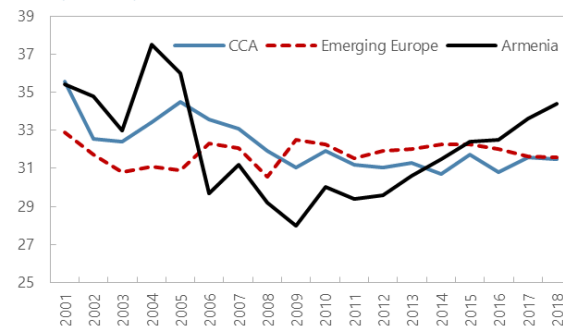
Armenia is one of the countries with higher inequality.

Gini Index
(2018)



Inequality in Armenia has been increasing after GFC.

Gini Index
(2001-18)



Sources: World Bank WDI and IMF staff calculations.

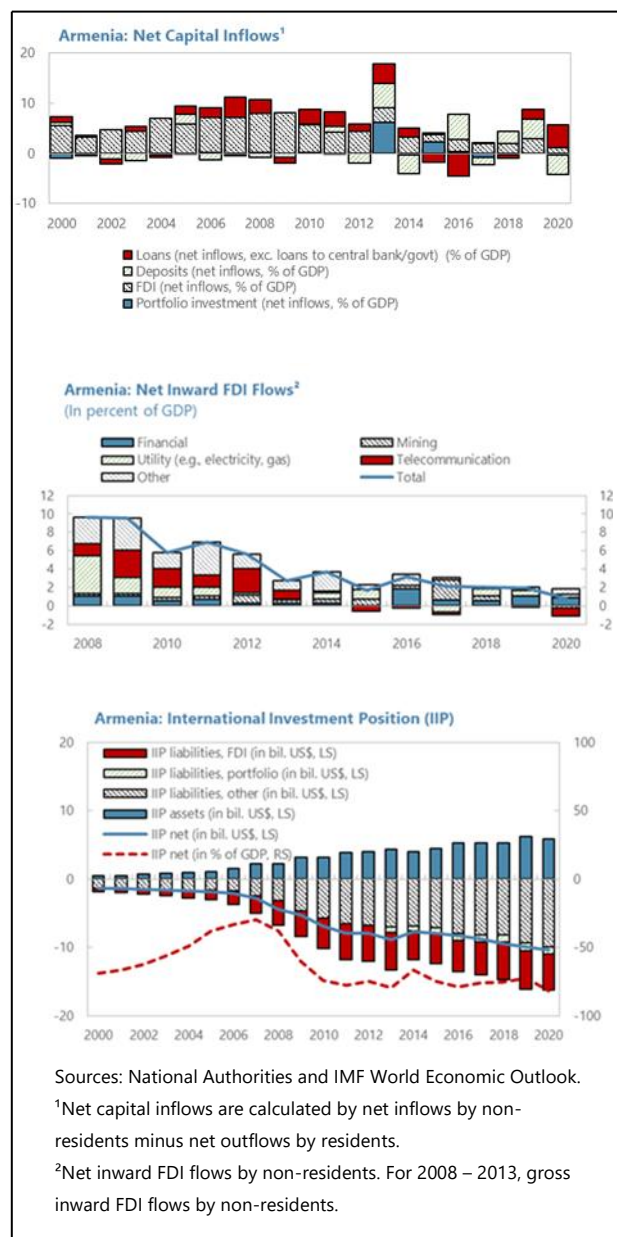
Note: ¹School enrollment rate, tertiary for some countries, includes data from 2018 as the latest available data.

SUSTAINABLE FINANCING FOR THE RECOVERY IN ARMENIA¹

1. In Armenia, the share of FDI in private external financing has declined significantly over the past decade. The decline in FDI following the global financial crisis was a global pattern, driven by the narrowing growth differential between emerging and advanced economies.² However, for Armenia, inward FDI continued to decline even after the mid-2010s. In recent years, net FDI relative to GDP has remained at most around one-third of its pre-global financial crisis levels.

2. The decline in Armenia's inward FDI flows appears to be greater and more persistent than those seen in peer countries, leaving inward flows below those of peers. For example, in 2019, net inward FDI flows to Armenia (around 2 percent of GDP) were $\frac{3}{4}$ percentage points below the corresponding average of countries with similar per capita income (2.7 percent of GDP).³ The sectoral decomposition of FDI indicates that inflows have declined along with along with the fading of FDI in utility and telecommunication sectors that took place as these sectors were being opened up (see text figure). This suggests that stimulating inward FDI may require the development of other new sectors that attract inward FDI.

3. At the same time, there has been a move to less-stable debt-based external financing in the form of other investment inflows (loans and deposits). The growing importance of non-resident deposits may have been driven by a combination of: (i) the widening of the interest rate differential with advanced economies since the global financial crisis; and (ii) non-residents' increased



¹ Prepared by Kiichi Tokuoka. See the forthcoming IMF Working Paper by M. Atamanchuk and K. Tokuoka for the details of the empirical analysis and references.

² International Monetary Fund (2016) "Understanding the Slowdown in Capital Flows in Emerging Markets," World Economic Outlook, Chapter 2, April 2016.

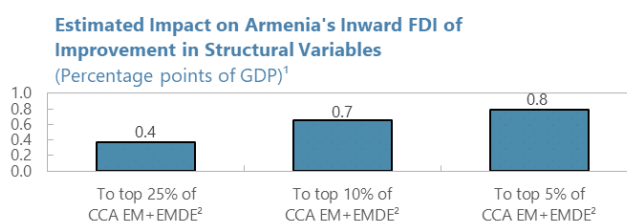
³ Armenia's GDNI per capita was \$ 4,680 in 2019, placing it in a comparator group with income in the \$ 4,000-6,000 range.

confidence in the health of Armenia's banking sector. As a result of the diminished role of inward FDI, reliance on less stable non-FDI liabilities increased (see text figure).

4. The decline in inward FDI means a loss of many benefits which come with this type of investment. Inward FDI has beneficial spillovers to productivity through knowledge and skill transfers, while providing financing for productive capital. As equity investment it typically contributes more to financial and external stability than debt-based portfolio or other investment.

5. Against this background, the following actions could facilitate higher FDI:

- Improving the business environment.* Estimation of a fixed effects model using the latest data also confirms that structural factors have a significant impact on inward FDI, and the estimated coefficients imply that *improving core governance and business environment characteristics⁴ to the levels of good performers among peer countries (Caucasus and Central Asia (CCA), and Emerging and Developing Europe) could increase inward FDI inflows by 1/2-3/4 percentage points of GDP* (see text chart). Continuing efforts to build on the important achievements in structural areas, including the progress toward the establishment of a single anti-corruption entity, may be key to attracting inward FDI.
- Continued prudent macroeconomic policies are critical to mitigating uncertainty around investment returns.* As for fiscal policy, efficient development of high-quality infrastructure is a priority.
- Promoting reforms to expand and facilitate domestic financing, which may be more desirable than relying on less stable external sources (e.g., foreign currency external loans).* Development of a high-value-added export sector (with policy measures introduced in the previous SIP chapter) could help expand domestic saving and attract inward FDI as utility and telecommunication did during the 2000s. To facilitate domestic saving, a priority is the development of corporate bonds and equity markets, which is appropriately identified in the authorities' capital market development program (approved by the cabinet in July 2020). Steady implementation of insolvency and bankruptcy reform could also facilitate the mobilization of domestic financing.



Sources: IMF World Economic Outlook; WbB World Development Indicators; Worldwide Governance Indicators (WGI): D. Kaufmann (Natural Resource Governance Institute and Brookings Institution) and A. Kraay (World Bank).

Notes: ¹Improvement of each of five structural variables (control of corruption, government effectiveness, regulatory quality, rule of law, voice and accountability) are assumed. The results should be interpreted carefully, as these indicators are derived from perceptions-based data.

²CCA EM consists of Azerbaijan, Georgia, Kazakhstan, and Turkmenistan. EMDE is Emerging and Developing Europe.

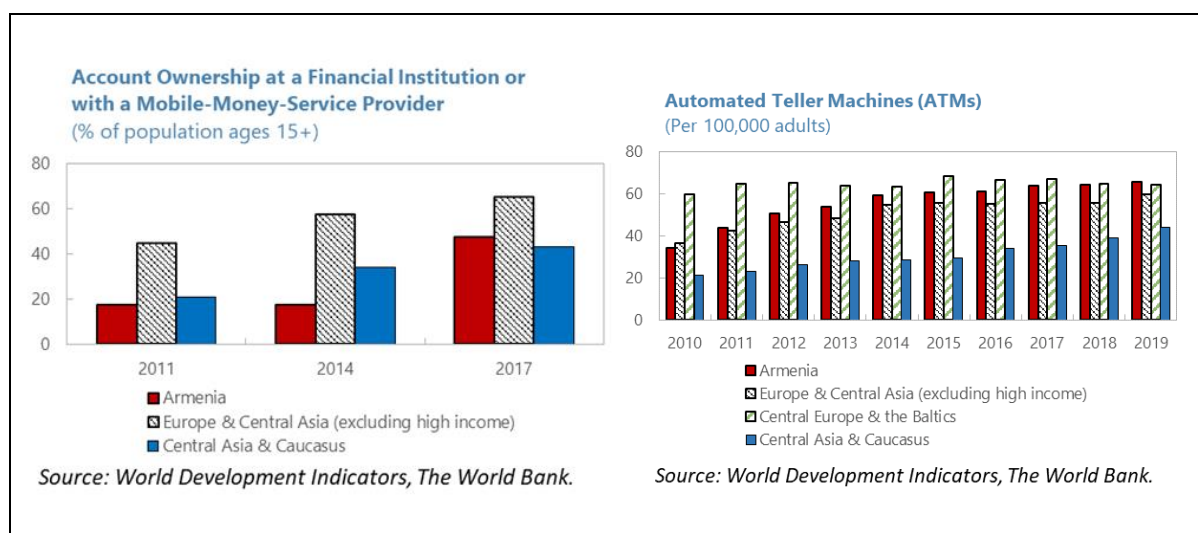
⁴ Control of corruption, government effectiveness, regulatory quality, rule of law, and voice and accountability.

INCREASING ACCESS TO FINANCE IN ARMENIA¹

Access to finance in Armenia has been consistently identified by Armenian business executives among main obstacles for doing business. Even though Armenia scores well on access to finance compared to most CCA peers, it lags many other emerging market economies. Lack of sufficient funds, gender gap, financial literacy, and stubborn differences between urban and rural areas are among key bottlenecks for improving household financial inclusion. Informality, poor accounting practices, and low level of financial management practices are reported among major challenges for increasing access to finance for firms. Improving access to finance could accelerate private sector development.

Financial Inclusion for Households

1. Access to finance for households in Armenia is improving and it scores well compared to the CCA average but lags many emerging market peers. The financial system in Armenia is dominated by banks, with their total assets of about 110 percent of GDP. Armenia scores well on account ownership at a financial institution (48 percent of population ages 15+) compared to the CCA average but remains behind many emerging market peers. The number of automated teller machines (ATMs) and commercial bank branches per capita has significantly increased in Armenia over the past few years, reaching an average for Central Europe and the Baltics.



2. Like countries in Central Asia, Armenia has a gender gap in financial inclusion. In particular, only about 40 percent of females had a bank account compared with about 60 percent of male in 2017, even though this indicator has improved substantially since 2014. This

¹ Prepared by Maria Atamanchuk with research assistance from Nathalie Reyes. See the forthcoming IMF Working Paper by M. Atamanchuk and K. Tokuoka for the details of the empirical analysis and references.

improvement in account ownership, although insufficient to bridge the gap with the World (65 percent) and Eastern Europe and Central Asia (66 percent), could reflect the authorities' initiatives to promote financial education programs.

3. Financial literacy in Armenia has room for improvement. According to the OECD survey of financial literacy, the average literacy score in Armenia is 11.4 (out of a maximum of 21): only 27 percent of adults achieved the minimum target score of at least 4 out of 7 on financial knowledge in Armenia compared with around 60 percent in South East Europe and close to 70 percent in OECD countries. The relatively low overall score on financial literacy masks a sizable heterogeneity across urban and rural population, as well as among social, economic, and demographic background. This suggests the importance of targeted efforts to improve literacy. This lack of literacy is associated with negative attitudes towards saving is a major deterrent, since people are unlikely to save for their future and instead prioritize short-term needs (ADBI, 2018)².

Financial Inclusion for Firms

4. Access to finance is the main challenge for doing business in Armenia. According to the 2020 World Bank Enterprise Survey, access to finance was identified by Armenian business executives as the main obstacle for doing business (30 percent of respondents). The practices of the informal sector were identified as the second main obstacle (15 percent of respondents). Informal firms may have an unfair advantage over the formal firms given that they can compromise on rules, taxes and regulations, which slow down financial inclusion.

5. Access to finance is particularly low for small and medium enterprises that often have to rely on internal resources and retained earnings. According to the 2020 Business Environment and Enterprise Performance Survey, about 42 percent of all firms and only about 35 percent of small firms in Armenia had a bank loan or a line of credit (although a much higher share of firms has a checking/savings account).

6. Payments in Armenia are mainly made in cash. Data suggest that Armenia scores substantially lower than the CCA average and some other peers on cashless transactions. E-commerce is underdeveloped, with less than 20 percent of the total value of payments been cashless. Informality, poor accounting practices and low level of

Armenia: Main Business Environment Constraints
(Percent of firms choosing this factor as their biggest obstacle)

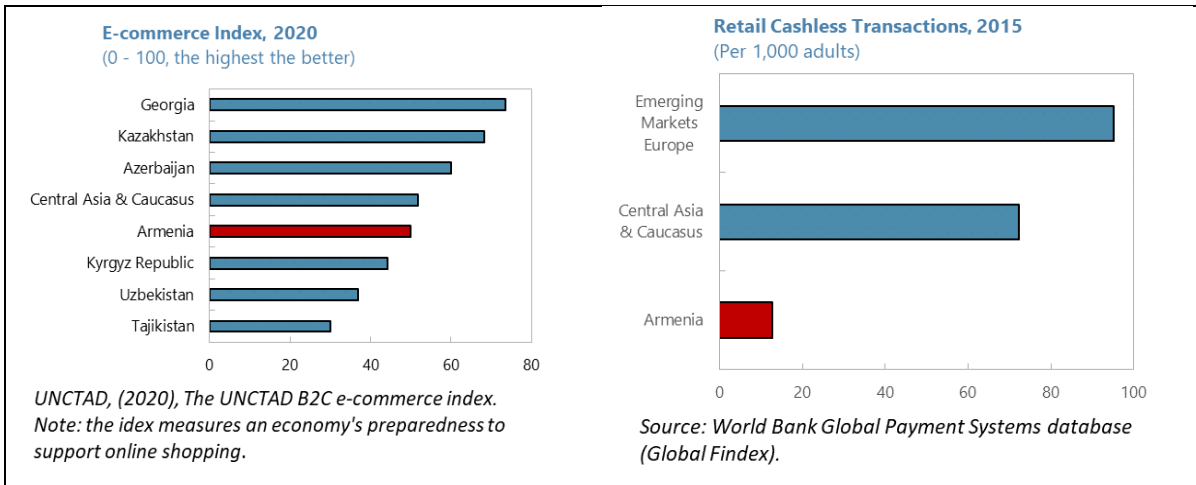


Source: Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank, Armenia (2020).

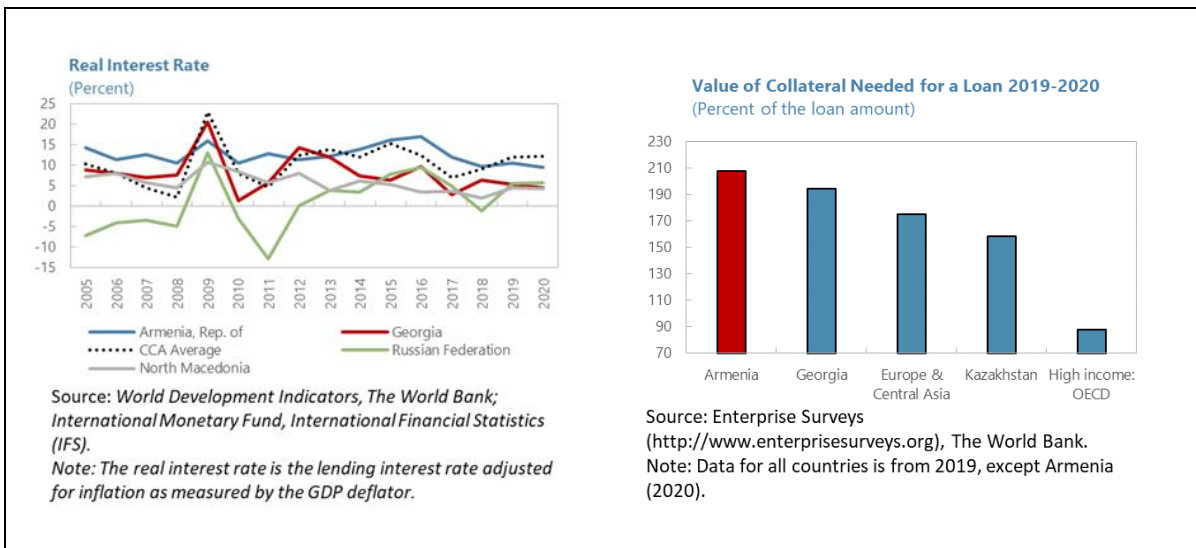
Note: use of these indicators should be considered carefully, as they are derived from perceptions-based data.

² Nurbekyan, Armen and Naneh Hovanesian. 2018. "Financial Inclusion, Regulation, Financial Literacy, and Financial Education in Armenia," Asian Development Bank Institute Working Paper, No. 843.

financial management are reported among major challenges for increasing access to finance (IMF, 2018)³.



7. Corporate transparency is low in Armenia. Informality and poor financial reporting generate information asymmetries that make it harder for banks to do due diligence and extend financing (IMF, 2018). Also poor transparency among “corporations, sub-national entities and SOEs hampers not only possible issuances on the capital markets but also inhibits growth of products such as factoring and invoice financing that facilitate trade finance and are key for MSME access to finance” (IMF, 2018). Consequently, banks are charging a high premium on loans.



8. Partly reflecting these constraints, collateral requirements are particularly high in Armenia. The prevalence of cash-based transactions, lack of transparency due to high informality and poor financial reporting, makes it harder for banks to validate potential

³ International Monetary Fund (IMF). 2018. “Armenia Financial Sector Assessment Program,” Washington, DC.

borrowers' cash flow sources. This, together with a limited efficiency of collateral execution, translates into extensive collateral requirements and larger risk premiums, which, in turn, serves as an impediment to increasing access to finance for the private sector, particularly SMEs.

9. The insolvency regime of private debtors needs to be strengthened further to better protect creditors rights. Due to existing weaknesses in the insolvency law and inefficient debt enforcement procedures, there is no adequate balance between the rights of secured creditors and enterprise reorganization. Although the bankruptcy law for both firms and households was amended in 2016 "further improvements are necessary to ensure that the main function of insolvency proceedings is to maximize return to creditors through reorganization of the debtor, or as a collective debt collection mechanism" (IMF, 2018).

10. To foster greater financial inclusion the following actions could be considered:

- Promoting financial literacy and education to increase the propensity to save.
- Improving financial reporting to simplify the due diligence process for banks, which could help reduce high collateral requirements.
- Improving the business environment and strengthening institutions to increase financial inclusion of SMEs (for details, IMF, 2019), while also reducing informality in the economy.⁴
- Strengthening the insolvency regime will help better balance creditors rights.

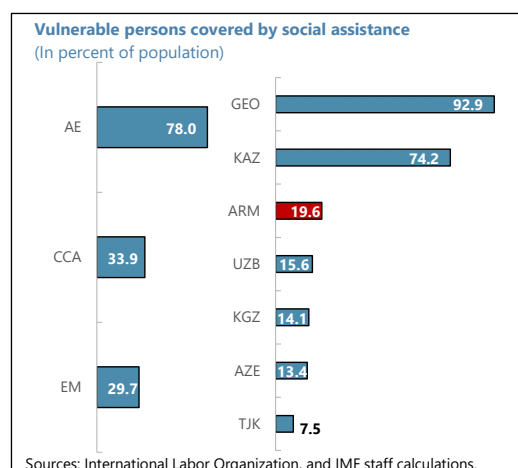
⁴ International Monetary Fund (IMF). 2019. "Financial Inclusion of Small and Medium-Sized Enterprises in the Middle East and Central Asia," IMF Middle East and Central Asia Departmental Paper 19/02, Washington, DC.

REDUCING INFORMALITY TO RAISE PRODUCTIVITY AND PROMOTE INCLUSION¹

1. Reforms to ensure the smooth functioning of the labor market are critical to ensuring the inclusiveness and sustainability of economic growth. The labor market is plagued by high structural unemployment and high levels of informality, which reflect high-levels of skill mismatch, small-scale agriculture, and incentives to create low-productivity small informal firms. Carefully crafted product market regulation, and tax and labor market policies can help change this situation and ensure more equitable and sustainable economic development.

2. Informality may constrain inclusive growth and inhibits inclusion. A large informal sector is typically associated with low productivity, reduced tax revenues, and higher poverty and income inequality (Ohnsorge and Yu, 2021). The informal sector—labor and business that is hidden from regulatory and tax authorities—tends to employ low-skilled workers, under poor working conditions with limited access to social protection (Williams and Lansky, 2013; Williams and Horodnic, 2019). Firms in the informal sector tend to have limited access to credit and government services,

and have low productivity and innovation. High levels of informality imply the loss of potential tax revenues and resources necessary for public spending activities.



3. This paper aims to better identify the factors behind the supply of formal and informal sector workers in Armenia, and what governs upward mobility in the Armenian labor market. Specifically, the empirical work will focus on the youth labor market experience and the implications of the school-to-work transition for long-term employment outcomes. Understanding the path to formal employment, and considering the constraints faced by the informally employed, will help design policies to reduce informality and support inclusive growth.

4. Designing formalization policies starts by distinguishing between “normal” and “excess” informality. Sound policy recommendations to enhance inclusive growth must also be consistent with the prevailing nature of informality. Reducing informality below a certain threshold identified as “normal” (given the country’s structural characteristics) can exacerbate the level of poverty and unemployment and in some cases can lead to social tensions (Lyoaza, 2018). Therefore, structural reforms also need to be put in place to reduce this “normal” level of informality to steadily enhance capital accumulation, productivity, and growth. On the other

¹ Prepared by Faten Saliba, Amine Yaaqoubi and Moataz El Said.

hand, “excess” informality is the result of policy distortions and market segmentation. Reducing “excess” informality can be through designing and implementing formalization strategies to remove those inefficiencies.

5. Looking at the overall labor market situation for the past decade, Armenia’s economy saw a noticeable decrease in working poverty, despite high structural unemployment (especially amongst the youth) and a large share of informal jobs. Armenia has suffered from high unemployment and low productivity, with structural and regulatory factors incentivizing the creation of disproportionate informal jobs. Unemployment is structurally high for both men and women, although more concentrated in urban areas. The relatively unresponsive nature of unemployment to the economic cycle underlines its structural nature, and with unemployment more responsive to downswings than upswings, it is likely that not all jobs lost are recovered during the upturns (IMF REO, 2021).

6. The situation is particularly hard for women and youth. In 2019, only 40 percent of women and 25 percent of youth were employed. The latter is due to a relatively low youth labor market participation as well elevated rates of youth unemployment. In 2019 approximately 29 percent of women between the ages of 15 and 24 were not in employment, education or training, while only 18 percent of men in the same age cohort were similarly situated—a gender gap of 11 percentage points. This is the second-highest gender gap in the region (Honorati et al. 2019). The gender gap in its neighboring country Georgia is 8 percentage points.

Utilization of labour resources in 2019						
(In percent of Working-Age-Population 15-74, unless stated otherwise)						
	Total	Men	Women	Urban	Rural	Youth (15-24)
LFPR	59.9	71.7	49.6	59.6	60.4	37.5
Employment rate	48.9	59.1	40.1	46.1	53.5	25.2
LU 1 Unemployed	10.94	...	...	...	...	...
LU 3 Unemployed + discouraged	19.9	...	...	...	...	...
Unemployment rate	18.3	17.5	19.3	22.6	11.4	32.6
NEET, aged 15-24	23.3	17.8	29.3	20.4	27.2	...

Source: Armenian Labour Force Survey 2020, and IMF staff calculations.

7. As seen in other countries, the lack of employment opportunities for youth is a major challenge. Despite the public attention directed to youth employment in recent years, Armenia still lacks key components in its regulatory, business, and educational atmosphere to ensure a smooth transition of youth into formal employment. Alongside poor engagement in high-productivity jobs, nearly one third of youths are unable to transition to formal employment (Honorati et al 2019).

8. Beyond the need to raise overall employment, the pandemic has also underlined the urgency of transitioning workers to the formal sector. Due to the limited information on informal workers, it has been challenging to ensure that adequate support reaches the most vulnerable, including the youth. The global health crisis has worsened the vulnerability of young people due to the high levels of unemployment, low quality jobs, as well as a longer and less-secure school-to-work transition.

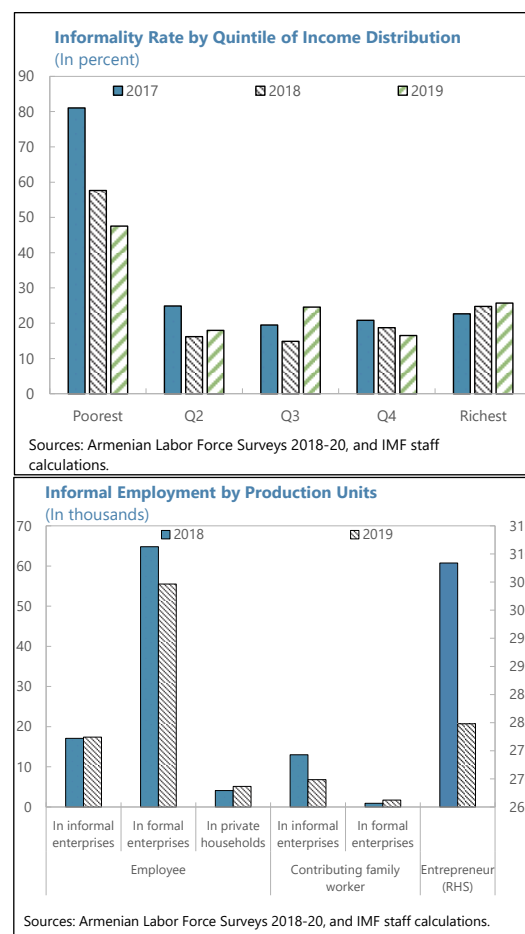
9. The rest of the study is structured as follows. The first section analyzes Armenia’s labor market trends and challenges. The second, discusses the data and methodology used to analyze the youth transition into jobs, while the third presents the findings and conclusions.

A. Armenia’s Labor Market Trends

10. Although Armenia’s informality rate has declined over the past two decades, it remains high. We compare the trends of two informality indicators (Figure 1)—self-employment and Schneider Index (Medina and Schneider, 2018)—from 1991 to 2019 for both Armenia and neighboring countries.² As shown by both indices, the level of informal employment has generally declined in Armenia, from an estimated 50 percent in 2000 to about 36 percent in 2019. This trend is similar to that of the Kyrgyz Republic, Georgia, Kazakhstan, and Tajikistan. Although informality in Armenia has been recently lower than that of Georgia, it is higher than in Kazakhstan and Tajikistan.

11. Informal employment remains highest in the first (poorest) income quintile as it still has the largest portion of the population informally employed. Notwithstanding having the highest informality rate, the poorest portion of the Armenian population has witnessed the most significant decline in informality since 2017 (i.e., by almost 40 percentage points by 2019). In addition, the informality rate has been growing in higher income quintiles. This might reflect that richer individuals have tax advantages from informality (Williams and Horodnic, 2015).

12. Entrepreneurs remain the highest informally employed group in Armenia. Despite a sizable decline in the number of informal self-employed in 2019, the largest share of the informally employed Armenian population remain entrepreneurs (Armenian Labor Force Survey, 2018-2020). The second largest group of informally employed workers is amongst employees of enterprises in the formal sector.



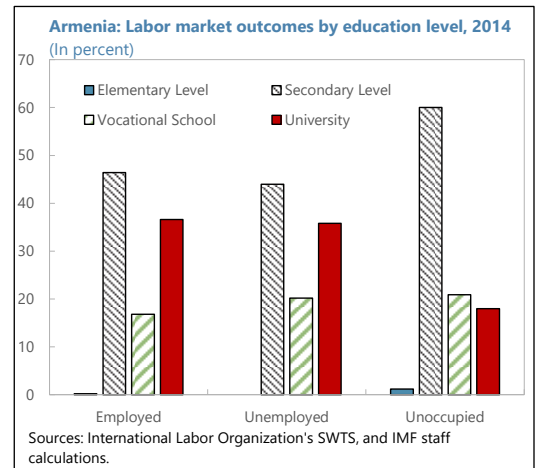
² Self-employment—the ratio of self-employment to total employment. Schneider index (*Shadow Economy*)—an estimate of the share of production not declared to tax and regulatory authorities.

Figure 1. Armenia: Caucasus and Central Asia: Informality Estimates, 1991–2019

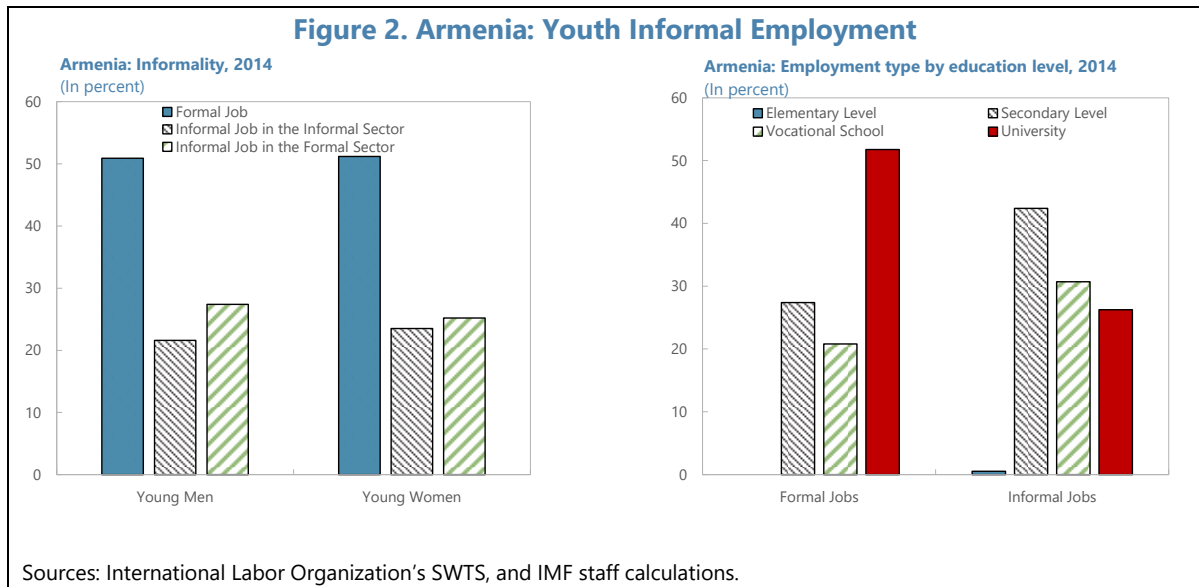


B. Youth Employment Trends in Armenia

13. Youth unemployment is high across the board, although relatively lower for those with vocational skills. To understand the youth labor market, we investigate data from the International Labor Organization’s School to Work Transition Surveys (ILO SWTS). Around 36 percent of unemployed youth have tertiary education. Unoccupied youth (neither in labor force, education nor training) have somewhat lower educational attainment as about 60 percent have secondary education and only 18 percent have tertiary education.



14. Close to half of the employed youth in Armenia have informal sector jobs. Formal and informal employment each account for around half of youth employment, with more than half of informally employed youth part of the formal sector. This is in line with the youth labor market picture in Eastern Europe, where informal employment is concentrated in the formal sector (Shehu and Nilsson, 2014).



15. Young women are more likely to work in the public sector. Around 37 percent of working young women have public sector jobs compared to 24 percent of working young men, with young men disproportionately working in the private sector.

16. The length of past unemployment spells can play an important role in the transition to formal jobs. Among unemployed youth more than 30 percent of young men and women have been looking for jobs for more than two years, and the longer job search is associated with a higher likelihood of ending up working in an informal job (Shehu and Nilsson, 2014).

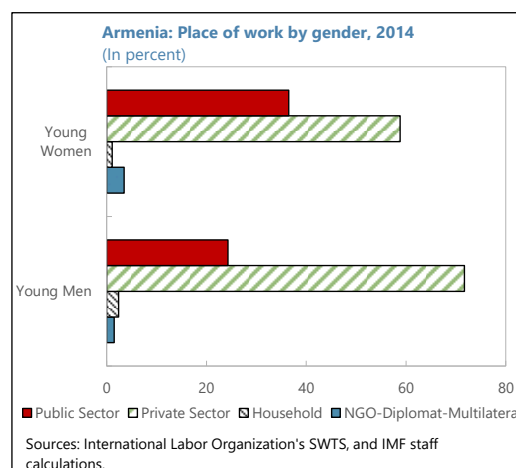
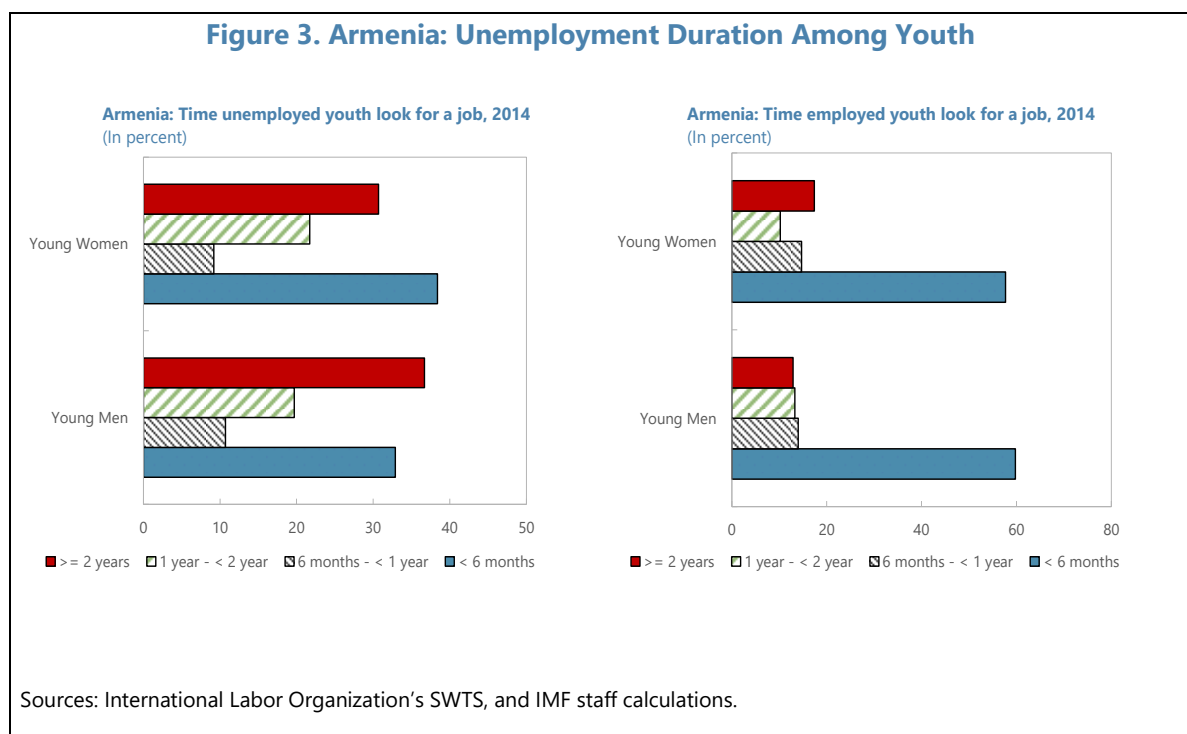


Figure 3. Armenia: Unemployment Duration Among Youth



C. Transition from School to Work: Evidence from Youth in Armenia

17. To evaluate the factors affecting youth's transition from education to formal and informal jobs we undertake logit model analysis. The analysis uses a panel of labor market transitions by youth in Armenia, Emerging Market Europe (EMEU) and Middle East and North African (MENA) countries. Specifically, the study utilizes the "ILO school-to-work transition survey (SWTS)" to investigate possible factors, including gender and education, impact a youth's probability of transitioning into different job outcomes. The SWTS on youth labor market

transitions covers ages falling between 15 and 29. Each country's "National Statistics Office" typically conducts this survey which asks all participants on their personal information, family background, education, and experience, and then separately in detail based on their employment status (including unemployed, employed, self-employed, not in the labor force) on the survey date (ILO, 2009). The main objective is to shed light on the significant barriers to youth's employment within the formal economy, while also informing policy about the relevant reforms that could help ensure sustainable and decent work opportunities.

18. Relying on the SWTS enables cross-country analysis using micro data pertaining to youth's current conditions. Amongst the CCA, this research will cover Armenia for 2014, as data on other Caucasus countries and other years is not available,³ as well as European Emerging Markets countries—Macedonia (2014), Moldova (2013), Serbia (2015) and Ukraine (2015)—and countries in MENA including Egypt (2014), Jordan (2014), Lebanon (2015), Tunisia (2013) and West Bank and Gaza (2015). This allows the analysis to segregate characteristics pertaining to youth in Armenia, EMEU and MENA into several categories: demography, education, and country fixed effects.

19. The Logit estimates help identify the impact different factors play in affecting the transition of youth into the different labor market outcomes after controlling for demographic and educational characteristics. These covariates include age, gender, relationship status (head of household), marital status, education, parents' level of education, and job search duration.

20. In Armenia nearly 30 percent of youth were not in the labor force, education, or training (ILO, SWTS). Around 10 percent were unemployed, but searching for work, while nearly 32 percent were employed. In this sample, roughly around 5 percent of the respondents are heads of households and half are female. The mode highest level of education is vocational for Armenia and MENA countries, and secondary for EMEU. Further, modal parents' education in Armenia is lower than that in EMEU countries, but higher than in MENA countries. In terms of labor market status, 39 percent, 34 percent, and 27 percent are employed in Armenia, EMEU, and MENA countries respectively. Of these, around 56 percent, 85 percent, and 59 percent are in formal jobs across these three regions, respectively. The highest duration spent looking for a job is in Armenia, which is between 6 months and 2 years on average. EMEU and MENA countries, has lower mean duration which is between 1 and 6 months.

21. Table 1 presents the estimation results, which help understand how certain youth characteristics affect transitioning to an informal instead of a formal job.

³ Kyrgyz Republic had to be dropped from our analysis as data on informal job was not found in the survey.

Table 1. Armenia: Transitioning to Informal Versus Formal Jobs

Logit(1=informal; Base= formal)	(1)	(2)	(3)	(4)
Age	0.01 [0.05]	0.02 [0.05]	-0.05 [0.05]	0.03 [0.05]
Age squared	-0.00*** [0.00]	-0.00*** [0.00]	-0.00*** [0.00]	-0.00*** [0.00]
Head of household	0.07 [0.08]	0.00 [0.09]	0.07 [0.08]	-0.02 [0.09]
Female	0.01 [0.06]	0.06 [0.07]	0.03 [0.06]	0.06 [0.07]
Father education	-0.06*** [0.02]	-0.13*** [0.02]	-0.11*** [0.02]	-0.07*** [0.02]
Secondary education	0.09 [0.12]	0.04 [0.12]	-0.71*** [0.21]	-0.63*** [0.22]
Vocational education	0.06 [0.06]	0.06 [0.06]	-0.16 [0.10]	0.00 [0.11]
Tertiary education	-0.30** [0.12]	-0.34*** [0.11]	-0.42** [0.19]	-0.27* [0.21]
Mother education	-0.10*** [0.02]			-0.11*** [0.02]
Married		-0.01 [0.08]		0.04 [0.09]
Married*female		-0.26* [0.14]		-0.31** [0.15]
Time looking for jobs			-0.04** [0.02]	-0.03 [0.02]
Time looking for jobs*secondary			0.20*** [0.04]	0.19*** [0.05]
Time looking for jobs*vocational			0.06** [0.02]	0.03 [0.03]
Time looking for jobs*tertiary			0.04 [0.04]	0.02 [0.04]
MCD	-0.73*** [0.11]	-0.62*** [0.11]	-0.53*** [0.12]	-0.59*** [0.12]
EMEU	-1.15*** [0.12]	-1.10*** [0.12]	-0.98*** [0.12]	-0.99*** [0.12]
Constant	1.28*** [0.15]	1.09*** [0.15]	1.15*** [0.16]	1.22*** [0.17]
Observation	7287	6872	7307	6461

Standard errors in brackets *p<0.10,**p<0.05,***p<0.01

22. These estimates suggest the following:

- **Demographic characteristics.** Older youths transition more to the informal sector compared than younger ones. This might suggest that while formal jobs can demand high cognitive skills, general work experience (proxied by age and education level) appears to be sufficient for the informal sector. The nonlinear sign suggests that at a certain age, the positive relationship between age and informality reverses and additional age (as a proxy for experience) increases the likelihood of a transition to the formal sector. This is consistent with the findings of Beręsewicz and Nikluin (2018) for Poland and of Shehu and Nilsson (2014) who examines several school to work transition surveys, including ones for Eastern Europe.
- **Education.** Tertiary education reduces the likelihood of young individuals to transit to the informal sector.⁴ In Armenia, individuals with tertiary education are more likely to have higher earnings and formal jobs (Honorati et al. 2019). Parents' education increases the

⁴ This study has undergone additional robustness checks by adopting a multinomial logit model. The dependent variable in this case was looking at the likelihood of transitioning to the formal versus informal sector and transitioning to the unemployed sector versus the informal one. Results on individual's and parent's education were similar to the logit model.

probability of transitioning into formal jobs compared to informal ones. Here, we can see that the father's education generates a higher tendency of being formally employed, in line with results of Shehu and Nilsson (2014). Overall, both parents' education has a positive effect on the chance of formal employment (especially mother's level of education).

- **Marital Status.** Marriage is associated with a higher incidence of being in a formal job compared to informal jobs (although there is no significant effect for men). This positive effect for women has also been found by Shehu and Nilsson (2014) who argued that that being female increases the "risk" of informality especially for those who are unmarried.⁵
- **Time spent searching for a job.** We can further infer that the longer the time spent searching for a job, the more likely individuals with a secondary and vocational education are to transition to informal jobs. The informal sector can be a way out of unemployment, and absorbent of excess formal workers (Shehu and Nilsson, 2014). This effect is insignificant for individuals with tertiary education.
- **Regional Differences.** Finally, the estimates suggest that youth in MENA and EMEU countries (relative to Armenia) have a higher chance of transitioning to formal jobs compared to informal ones, with the effect strongest for EMEU countries.⁶ Shehu and Nilsson (2014) also finds that residing in EMEU increases the chance of being formally employed.

D. Conclusions

23. Providing young people with sustainable job opportunities necessitates sound macroeconomic and structural policies. These policies should also strive to be inclusive, notably for the most vulnerable youth and those facing discrimination when it comes to opportunities, including through active labor market policies and training. Determining the challenges behind limited formal employment opportunities in Armenia is a key first step to improving the situation.

24. Actions to address informality in Armenia is crucial to higher productivity, and depends on the factors behind the informality:

- **From the demand side,** structural transformation needs to be mixed with macroeconomic policies to promote the transition to formal employment. Our findings suggest that the informal sector can be a way out of unemployment especially for youth with secondary or vocational degree and limited experience. Therefore, reforms and policies supporting the creation of high productive jobs in the private sector is key to reduce informality, and this can be through:

⁵ Multinomial logit model results show that marriage, independent on gender, increases the probability of being unemployed, as compared to informally employed.

⁶ Multinomial logit model yields same results.

- Providing quality infrastructure that fosters and supports formality at the individual firm and national levels. For firms, La Porta and Schleifer (2008) have noted that informal businesses suffer from inadequate access to infrastructure and mainly electricity. Thus, by equipping them with the tools needed to thrive, such enterprises would formalize.
- Providing targeted training and technological support for small and medium enterprises, self-employed and entrepreneurs can increase connectivity to domestic and foreign value chains. Relatedly, advice can be provided to small firms on how to formalize, including related to record-keeping requirements (Islam and Lepeyre, 2020).
- Supporting formalization by ensuring a simple, transparent, efficient, and fair regulatory environment, especially for startups (La Porta and Schleifer, 2008). Many informal businesses remain unregulated because when the regulatory environment is uncooperative (Chen, 2007). Public institutions with strong governance and transparency should enhance trust amongst both domestic and foreign investors.
- More generally, economic diversification would ensure that growth is less volatile and dependent on domestic consumption and remittances. This can be through rechanneling resources towards sectors with high productivity and potential for job creation.
- **From the supply side**, address skill mismatches and skills gaps to enhance transition to formal employment. Our empirical findings on education suggest that higher level of education decreases the likelihood of transitioning to the informal sector.
 - Enhancing cooperation between the private sector and educational institutions through providing apprenticeships or internships. This can offer work-based experience that can facilitate their transition to formal employability.
 - Providing orientation and career guidance in schools which benefit young people as they transition from school to work.
 - Strengthening vocational training through internships for those with post-secondary and professional qualifications.
 - Ensuring access to affordable childcare that facilitates formal job and education seeking for females and lessens gender inequality. This can also encourage single females to compete for jobs in the formal sector as combining work life balance is possible.

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