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MIDDLE EAST AND CENTRAL ASIA DEPARTMENT

# Paving the Way to More Resilient, Inclusive, and Greener Economies in the Caucasus and Central Asia

Prepared by a team led by Nikoloz Gigineishvili and including Iulia Ruxandra Teodoru, Narek Karapetyan, Yulia Ustyugova, Jean van Houtte, Jiri Jonas, Wei Shi, Shant Arzoumanian, Kalin Tintchev, Maxwell Tuuli, Faten Saliba, Farid Talishli, Moataz El Said, and Fernanda Brollo

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## Preface

Countries in the Caucasus and Central Asia (CCA) have undergone significant economic and structural transformation since their independence in the early 1990s. Despite similar macroeconomic and structural characteristics at the outset, they have advanced at different speeds, and about 30 years later, their transition to market-based resource allocation is still ongoing. The state continues to play a dominant role in many CCA economies, and the private sector, while gearing up steadily, remains underdeveloped.

Income levels in the region have increased multiple fold and some countries have achieved a middle-income status but living standards have not caught up with more advanced peers in emerging Europe (EMEU). Without higher and more inclusive growth, it could take decades for CCA countries to reach the current income levels of EMEU, while poverty, inequality, and outmigration of talent could remain formidable challenges. Climate change, to which the CCA region is particularly susceptible, could exacerbate these challenges, as unabated climate change would inevitably result in significant output losses.

These challenges can be overcome with adequate and properly sequenced policies and structural reforms that can support transition to a new growth model with more efficient allocation of resources. All CCA countries have great potential to become more prosperous and dynamic emerging markets. For this, states need to reposition themselves from being drivers of growth to becoming facilitators of private sector development. As demonstrated by this publication, CCA countries could reap significant growth benefits and accelerate their income convergence by closing reform gaps with more advanced peers. The region needs stronger institutions and governance, enhanced regulatory frameworks, upgraded physical and digital infrastructure and human capital, and well targeted social safety nets to protect the vulnerable. Early and decisive policy actions are also essential to address risks from climate change.

I hope that policymakers, the public, civil society, development partners, and others in CCA countries will find this publication useful to inform their reform priorities and help implement homegrown reform agendas. More than ever, the IMF stands ready to assist CCA countries by providing further policy advice, technical assistance, and financing.

Jihad Azour  
Director, Middle East and Central Asia Department  
International Monetary Fund

# Acronyms and Abbreviations

<b>AE</b>	Advanced Economies
<b>BCA</b>	Border Carbon Adjustments
<b>CCA</b>	Caucasus and Central Asia
<b>CES</b>	Central, Eastern and Southeastern Europe
<b>CPAT</b>	Carbon Pricing Assessment Tool
<b>CPI</b>	Corruption Perceptions Index
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>EM</b>	Emerging Market
<b>EMDE</b>	Emerging Market and Developing Economies
<b>EMEU</b>	Emerging Europe
<b>ERPA</b>	Emission Reductions Payment Agreement
<b>ETS</b>	Emissions Trading System
<b>FD</b>	Financial Development
<b>FDI</b>	Foreign Direct Investment
<b>GCF</b>	Green Climate Fund
<b>GDP</b>	Gross Domestic Product
<b>GFC</b>	Global Financial Crisis
<b>GHG</b>	Greenhouse Gas Emissions
<b>GII</b>	Global Innovation Index
<b>HDI</b>	Human Development Index
<b>ICT</b>	Information and Communication Technology
<b>ILO</b>	International Labour Organization
<b>IMF</b>	International Monetary Fund
<b>IOSCO</b>	International Organization of Securities Commissions
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>LIC</b>	Low-Income Country
<b>MCD</b>	Middle East and Central Asia Department
<b>NAP</b>	National Adaptation Plan
<b>NDC</b>	Nationally Defined Contributions
<b>NPL</b>	Nonperforming Loans
<b>OECD</b>	Organisation for Economic Co-operation and Development

<b>PIMA</b> .....	Public Investment Management Assessment
<b>PPP</b> .....	Purchasing Power Parity
<b>REO</b> .....	<i>Regional Economic Outlook</i>
<b>ROA</b> .....	Return to Assets
<b>ROE</b> .....	Return to Equity
<b>R&amp;D</b> .....	Research and Development
<b>SDG</b> .....	Sustainable Development Goals
<b>SOB</b> .....	State-Owned Bank
<b>SOE</b> .....	State-Owned Enterprise
<b>SSN</b> .....	Social Safety Nets
<b>TI</b> .....	Transparency International
<b>TSA</b> .....	Targeted Social Assistance
<b>UNDP</b> .....	United Nations Development Program
<b>UNFCCC</b> .....	United Nations Framework Convention on Climate Change
<b>WB</b> .....	World Bank
<b>WDI</b> .....	World Development Indicators
<b>WEF</b> .....	World Economic Forum
<b>WEO</b> .....	<i>World Economic Outlook</i>
<b>WGI</b> .....	World Governance Indicators



## Executive Summary

Raising long-term growth and resilience and improving living standards and inclusion are the top economic policy priorities for countries in the Caucasus and Central Asia (CCA). The region responded strongly to the COVID-19 shock but unavoidably experienced a significant output contraction and an increase in poverty and inequality. It is now facing heightened uncertainty due to Russia's war in Ukraine, which is reshaping traditional trade and financial and migration patterns. The rising risk of global fragmentation is an additional challenge for the region, which is at the crossroads between the West and the East, while climate change could have a significant negative impact on CCA countries in the long run.

These challenges, however, also offer an opportunity for the region to develop a new growth model that could strengthen long-term resilience, accelerate income convergence with more advanced country peers, and improve human development and social outcomes. A more market-based allocation of limited resources is needed to channel capital and labor to their most productive use. The private sector needs to become a key driver of economic activity while the state provides a competitive and market-friendly business environment, delivers essential public goods and services, addresses externalities and market failures, and mitigates systemic risks. The state also retains a critical role in mobilizing public support and resources for climate policies and protecting the vulnerable.

Such economic transformation requires broad-based and sustained structural reforms to strengthen human capital and social safety nets, invest in infrastructure, improve productivity and competitiveness, and thereby raise potential output and long-term resilience. Importantly, as will be shown, the same reforms are needed to strengthen resilience to climate change.

The diagnostics of structural determinants of growth for the CCA (Chapter 1) suggest that governance and regulatory reforms, reducing state ownership in the corporate sector, liberalization of product, labor and financial markets and current account transactions, and easing of trade and foreign exchange restrictions could raise CCA output by 5-7 percent in the medium term. Moreover, countries with better governance could derive greater payoffs from other reforms, implying that governance reforms should be prioritized and accompanied by other reforms to maximize growth dividends.

Many of the above-mentioned reforms call for redefining the role of the state in the economy (Chapter 2). The state's footprint is excessive in some CCA countries, while provision of public goods such as healthcare and education, infrastructure, a competitive business environment and a sound financial system, is often inadequate. There is a need for a more strategic and targeted role of the state to ensure more efficient allocation of public resources and better economic and social outcomes.

CCA countries also need to implement sound policies and reforms to address growing challenges from climate change and build long-term resilience (Chapter 3). Weather-induced output losses, which could be significant, could be substantially reduced by global mitigation, domestic adaptation, and transition policies. Because of its small carbon footprint, the priority for the CCA is adaptation and management of transition risks for oil-exporting countries. However, per capita emissions in the region are high and efforts to promote greener energy consumption by reducing energy subsidies and introducing carbon pricing mechanisms will contribute to global mitigation. These measures could generate sizeable fiscal resources to rebuild fiscal buffers, protect the vulnerable, invest in human capital, and support economic diversification while reducing air pollution and strengthening energy independence. Since climate risks transcend borders, regional policy coordination across the three pillars—adaptation, mitigation, and transition—will be critical to derive synergies and achieve best outcomes at lower costs.

Well-designed social safety nets (SSNs) have a key role in reducing poverty and inequality, which remain persistent in the CCA (Chapter 4). They are also essential to the new economic growth model to support human capital development and alleviate the impact of structural reforms on the most vulnerable. SSN spending, coverage and targeting efficiency need to improve in the CCA to close poverty gaps and improve social outcomes at lower costs. Greater digitalization and financial inclusion would be critical in this effort. Where necessary, additional fiscal space can be created by improving tax policy and administration; strengthening public finance management; and improving governance, transparency, and accountability.

# 1. Structural Determinants of Long-Term Growth

## A. Introduction

---

Since independence in the 1990s, countries in the Caucasus and Central Asia (CCA) have made significant progress in institutional reforms and macro stabilization. They all inherited broadly similar institutional and policy frameworks from the Soviet Union, and the first generation of reforms laid the foundation for transition from command to market economies. Since then, the region has achieved significant macroeconomic stabilization, income levels have increased, social indicators improved, and many countries have graduated from low- to middle-income levels. However, the initial wave of structural and institutional reforms ended in most CCA countries in the early 2000s (WEO 2019b), and subsequently growth and income convergence with emerging Europe (EMEU)<sup>1</sup> slowed.

To reinvigorate growth the CCA, the region needs a new growth model aimed at improving market-based resource allocation, enhancing productivity, and relying more on investment and exports. The COVID-19 pandemic, followed by the war in Ukraine, has further weakened medium-term growth and convergence prospects. The health crisis in 2020–21 caused a significant contraction, and as the world economy was poised to embark on a strong recovery, the war in Ukraine has led to heightened uncertainty and posed new risks for the region, which has close economic ties with Russia through trade, remittances, investment, and banking. The rising risks of fragmentation could pose additional challenges to the region, which connects the West and the East. The medium- to long-term priority for policymakers is to focus structural reforms on redefining the role of the state, empowering the private sector and generating more jobs and better incomes for their growing population.

The diagnostics in this chapter aims to identify key binding constraints to growth in CCA countries. It focuses on the structural characteristics of CCA economies and reform areas that have the greatest potential to generate growth dividends and their impact. The analysis allows drawing conclusions about prioritization and sequencing of reforms and the set of specific reform areas that can strengthen economic resilience and foster higher and more inclusive growth.

## B. Drivers of Growth: Trends and Challenges

---

Growth in the CCA has slowed since the global financial crisis (GFC). Average growth declined from about 8.5 percent in 2000–04 to about 2.8 percent in 2015–19 in oil exporters, and from 7.6 percent to 4.9 percent in oil importers. The region was hit hard by the COVID-19 pandemic in 2020, contracting by 3.3 percent. Thanks partly to policy space and a stronger crisis response, oil exporters experienced only a 1.4 percent contraction compared to a sharper 4.6 percent contraction in oil importers. Part of the output loss from the pandemic has been recouped thanks to the rebound in 2021 and unexpectedly strong growth in 2022. Nevertheless, the medium-term outlook remains uncertain as negative spillovers from the war in Ukraine may still materialize.

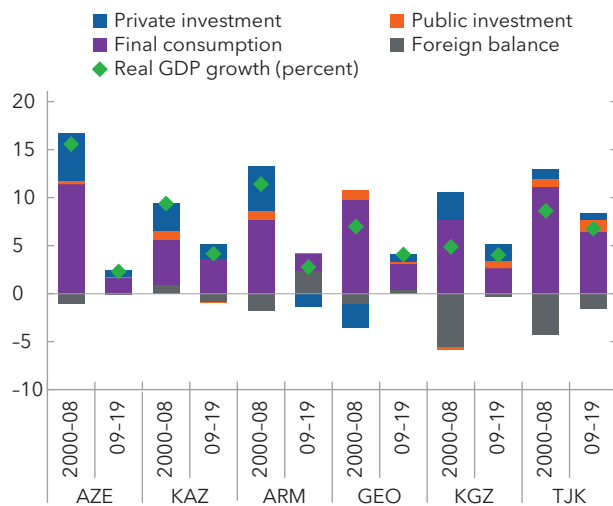
Consumption has been the primary driver of growth in the past two decades, financed by public and private debt and workers' remittances in some countries (Armenia, Georgia, the Kyrgyz Republic, and Tajikistan). Its contribution to growth amounted to an unsustainable 7–8 percentage points in 2000–08 and declined

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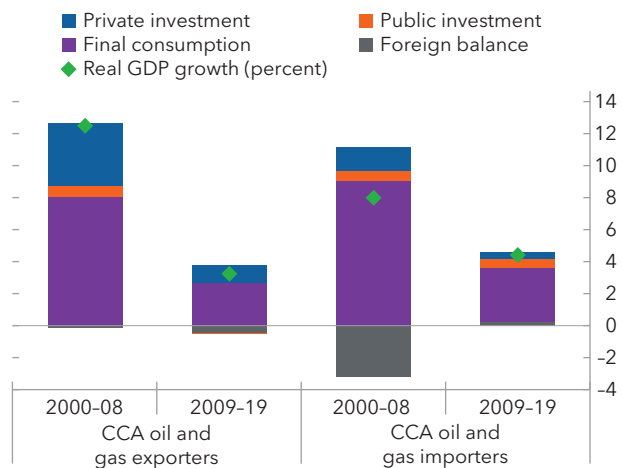
<sup>1</sup> EMEU includes Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Kosovo, Moldova, Montenegro, North Macedonia, Poland, Romania, Russia, Serbia, Türkiye, and Ukraine. The CCA is benchmarked against EMEU, which has income levels and structural characteristics that are ambitious but achievable.

**Figure 1. Contribution to Growth**  
(Percent)

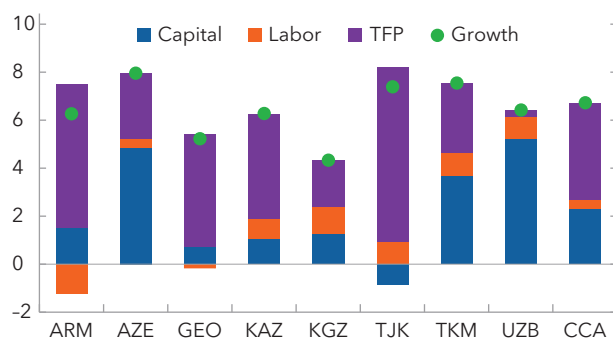
**1. Growth Decomposition by Expenditure, 2000-2019**



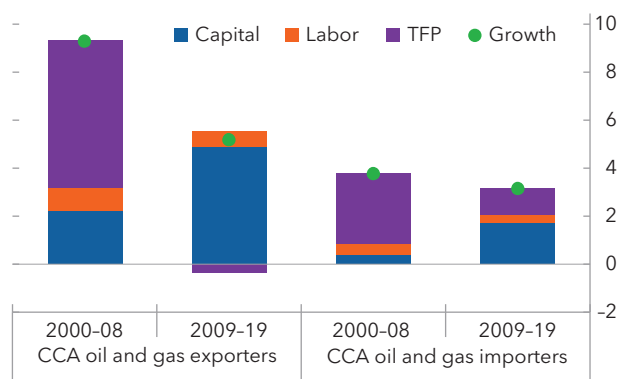
**2. Growth Decomposition by Expenditure, 2000-2019**



**3. Growth Decomposition by Factors of Production, 2000-2019**



**4. Growth Decomposition by Factors of Production, 2000-2019**

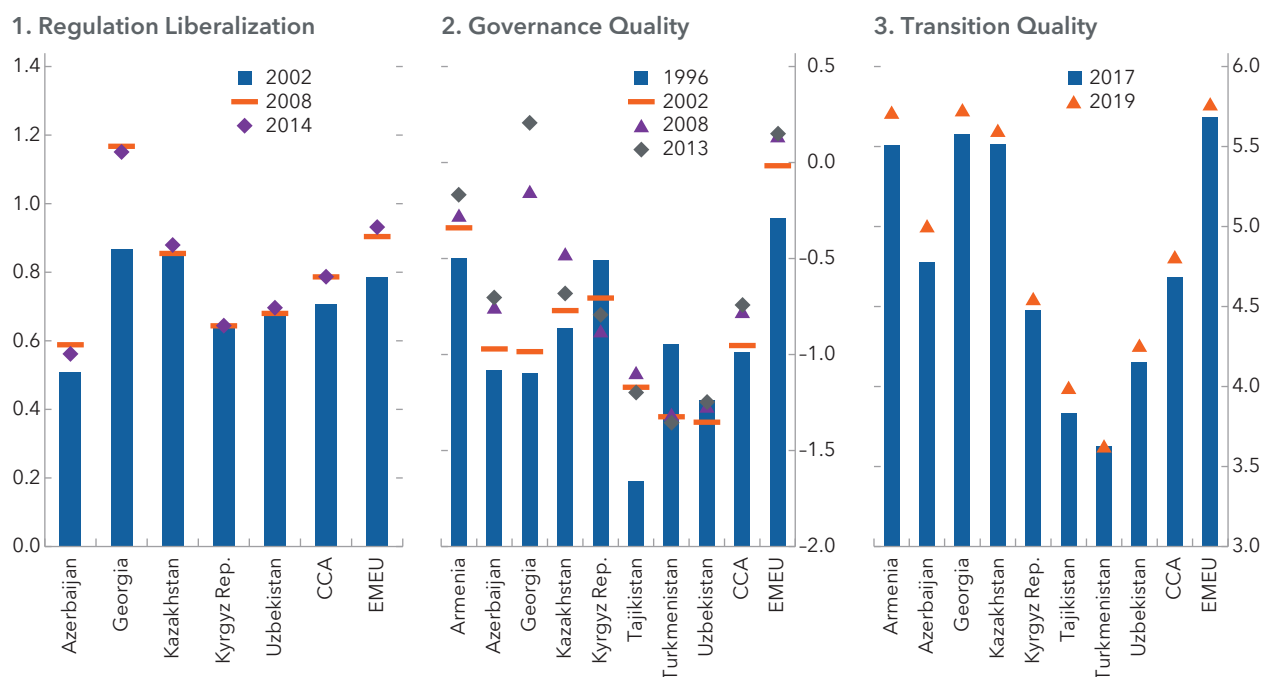


Sources: IMF, *World Economic Outlook*; and IMF staff estimates.

after the GFC to 4.7 and 2.5 percentage points for oil importers and exporters respectively in the context of overall slower growth. The contribution of investment has been much smaller, especially for oil importers, but its share in GDP and its composition have varied by country. The contribution of the external demand was mostly negative but turned positive in Armenia and Georgia after the GFC, reflecting improvements in exports of goods and services (Figure 1).

The transition from central planning to a market economy was accompanied by reallocation of resources to more productive uses, which raised productivity and the value of capital. Productivity growth was strong until 2009, supported by the first wave of reforms in the post-Soviet era, but has slowed since the GFC. Market liberalization and progress on governance slowed substantially since the GFC in most CCA countries (except Georgia), and even reversed in some, while Tajikistan was seeking to catch up with the others. The European Bank for Reconstruction and Development's (EBRD's) transition indicators improved in almost all countries until the GFC, but by 2014—the latest available data point—many CCA countries lagged EMEU on all reform indices (Figure 2).<sup>2</sup> In 2019, only Armenia, Georgia, and Kazakhstan were on par with EMEU on transition quality, but the region overall was still well below peers. At the same time, the contribution of labor has remained small, reflecting partly out-migration of skilled labor, and efficiency gains from new technologies.

<sup>2</sup> The EBRD revised its transition concept in 2016; thus, 2017 and later years are not comparable with the prior series.

**Figure 2. Structural Reforms**

Sources: European Bank for Reconstruction and Development; IMF, Structural Reforms Database; World Bank, Worldwide Governance Indicators; and IMF staff estimates.

Note: Panel 1 is based on IMF's regulations liberalization data, and varies from 0 to 1, where higher values denote greater liberalization. The Governance Quality is based on World Bank World Governance and varies from -2.5 to 2.5, where higher values denote better outcomes. Transition Quality is based on EBRD's transition indicators which range from 1 (little or no change from central planning) to 4+ (standards of industrialized market economies).

The CCA needs higher and more inclusive growth to narrow income gaps with EMEU. CCA countries are significantly lagging the EMEU average income both in nominal and purchasing power terms, except Kazakhstan, where the latter has closely followed EMEU. Despite being higher than in EMEU, the CCA region's growth has been insufficient for income convergence due to its strong population growth. Convergence has even reversed in some CCA countries in the past six years and may not accelerate unless the region can raise its potential output and grow faster. If CCA countries grow at their current potential growth rates, it would take between 10 years in Georgia and 66 years in Tajikistan to reach the current per capita income of EMEU (Table 1). Without higher growth, the region will continue to struggle to create enough jobs and raise living standards for its people, especially in Central Asia, where the population is projected to grow by about 22 percent by 2040.<sup>3</sup>

Social indicators have improved over the past two decades, but poverty remains high. It remains well above EMEU in Armenia, Georgia, the Kyrgyz Republic, and Tajikistan. Most progress was achieved before the GFC, when the global economic environment was favorable and the reform momentum in the region was stronger, resulting in higher investment, productivity improvement, and more inclusive growth. The consumption-based Gini index, which measures inequality, also declined markedly in most CCA countries, except in Georgia and Tajikistan. Poverty and inequality rose during the pandemic and may rise further due to high inflation.<sup>4</sup>

<sup>3</sup> World Bank projections. In the Caucasus, population is projected to grow by nearly 9 percent in Azerbaijan and decline by 5 percent in Armenia and Georgia by 2040

<sup>4</sup> For the detailed discussions of social safety nets in the CCA, see Chapter 4.



**Table 1. Convergence to Emerging Europe**

	GDP per capita (2021, PPP USD)	Potential growth rates (percent)	Years to converge
<b>Emerging market economies</b>			
Armenia	12,668	4.5	<b>14</b>
Azerbaijan	13,774	3.5	<b>18</b>
Georgia	13,988	5.2	<b>10</b>
Kazakhstan	25,172	3.5	<b>-2</b>
Turkmenistan	15,603	2.5	<b>29</b>
<b>Low-income developing economies</b>			
Kyrgyz Republic	4,747	4.0	<b>63</b>
Tajikistan	3,678	4.6	<b>66</b>
Uzbekistan	7,415	5.2	<b>29</b>
<b>Aggregates</b>			
CCA (excl Kazakhstan)	12,131	4.1	<b>33</b>
CCA EM (excl Kazakhstan)	16,241	3.8	<b>18</b>
CCA LICs	5,280	4.6	<b>53</b>
EMEU	23,944		

Source: National authorities, the World Bank, and IMF staff calculations.

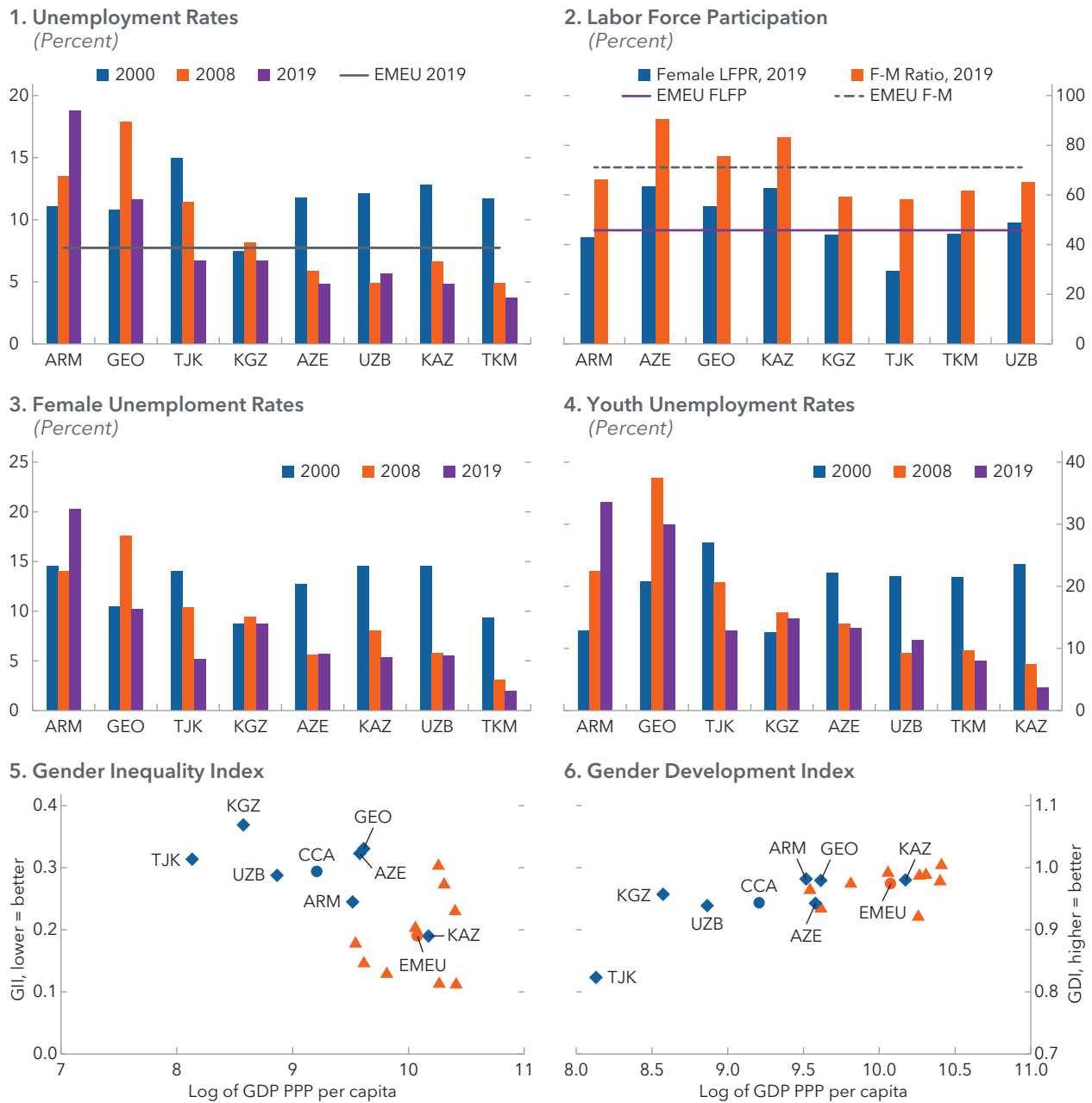
Labor market indicators are broadly comparable to EMEU. Unemployment rates declined during 2000–19 in most countries, but still exceed the average EMEU level in Armenia and Georgia (Figure 3). Unemployment rates are similar by gender in most CCA countries. At 16 percent, youth unemployment is high, but on par with the EMEU average. Labor force participation rates in the region, including for women, also compare favorably to EMEU and range from about 45 percent in Tajikistan to 76 percent in Kazakhstan. The region has also performed well (except Tajikistan) on the Gender Development Index, which measures disparities between women and men in health, education, and living standards.<sup>5</sup> However, the CCA still lags on gender equality.

## C. Constraints to Growth

This chapter follows the decision tree methodology proposed by Hausmann, Rodrik, and Velasco (2008) to identify the most binding constraints to growth and the reform areas which have the greatest potential to generate higher and more inclusive growth. It is built on the premise that growth can be hindered by either high cost of finance, which limits access to financial resources, and/or by low returns to private investment. The latter is a combination of (1) social returns on complementary factors of production such as human capital, infrastructure, and technology and (2) private appropriability of returns—the ability of the private sector to appropriate returns to investment, which reflects the risks due to government failures in areas such as taxation, governance, property rights, contract enforcement, labor and product market regulations, and

<sup>5</sup> The Gender Development Index reflects gender-based gaps in health, empowerment, representation, and labor market opportunities. It ranges from 0 (equality between men and women) to 1 (extreme inequality). For more details see: [http://hdr.undp.org/sites/default/files/hdr2018\\_technical\\_notes.pdf](http://hdr.undp.org/sites/default/files/hdr2018_technical_notes.pdf).

**Figure 3. Labor Markets**

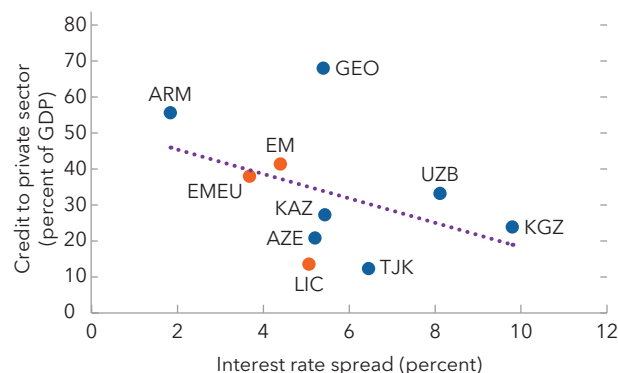


Sources: IMF, *World Economic Outlook*; International Labour Organization; World Bank; and IMF staff estimates.  
 Note: FLFP= Female labor force participation.

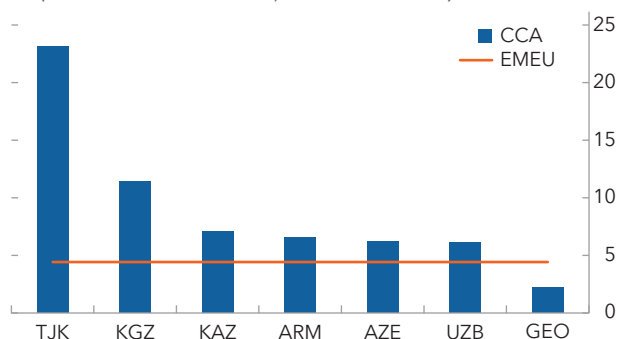
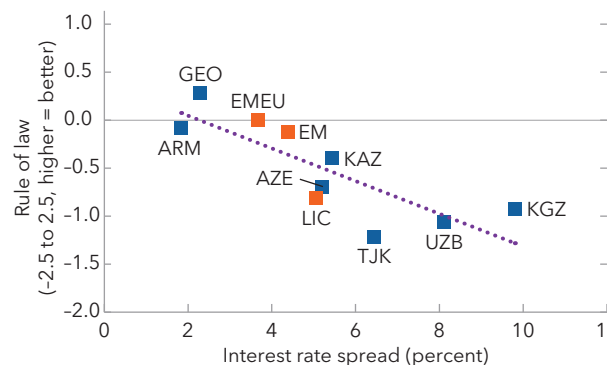
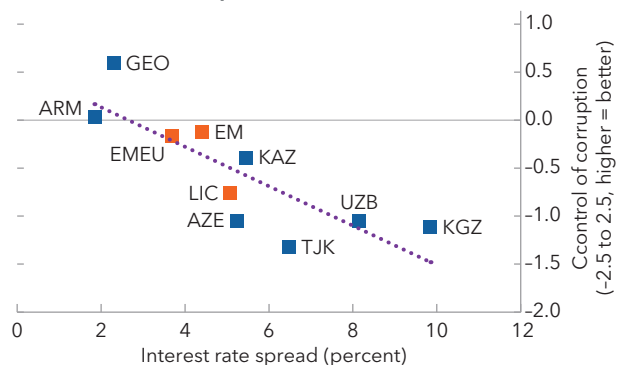
macroeconomic policies and the risks due to market failures such as information externalities. Further, the chapter estimates the medium-term impact of structural reforms on output using the empirical approach from the October 2019 World Economic Outlook (WEO) and generates impulse responses of GDP growth to governance, price liberalization, trade, and exchange rate reforms, privatization, and competition policy.

### Cost of Finance

Inadequate access to financing can be an important constraint to growth as amply documented in the literature. In the CCA, where financial systems are dominated by commercial banks, the cost of finance is largely determined by the efficiency with which banks channel savings to lending and investment, and depend

**Figure 4. Cost of Finance****1. Private Sector Credit****2. Nonperforming Loans**

(Percent of total loans, latest available)

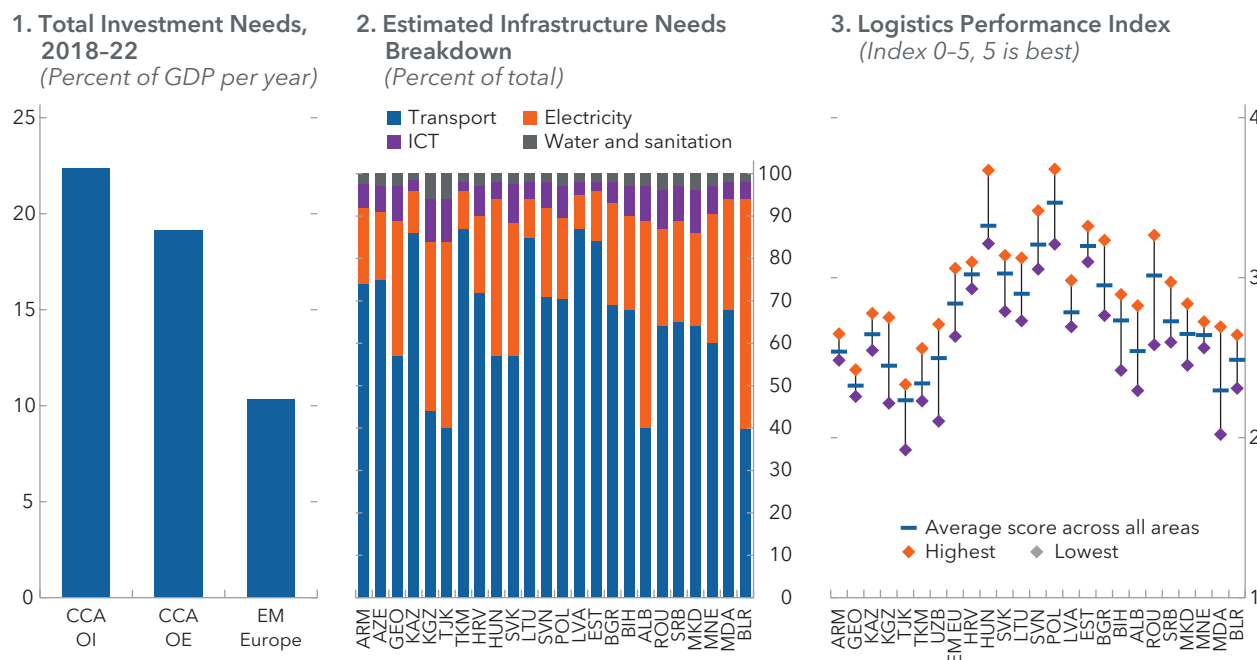
**3. Rule of Law****4. Control of Corruption**Sources: IMF, Financial Soundness Indicators; IMF, *World Economic Outlook*; and IMF staff estimates.

Note: The panels in the figure are based on 2019 data.

on banks' operational and risk management capacity, market concentration, competition, information asymmetry, and legal frameworks for creditor rights, collateral recovery, and bankruptcy. Access to finance can also be affected negatively by public sector borrowing, which could crowd out private sector credit. Taxation and high reserve requirements, meanwhile, could widen spreads between borrowing and lending rates.<sup>6</sup> On the macro level, low domestic savings can also be an important contributor to high interest rates (Segura-Ubiergo 2012). This is particularly relevant for CCA oil importers where domestic savings averaged 8.6 percent of GDP for 2015–19 compared to EMEU's 17.2 percent of GDP.

Interest rate spreads are particularly high in the Kyrgyz Republic, Tajikistan, and Uzbekistan, which limits financial deepening and access to credit. Data suggest that spreads are lower in countries with low nonperforming loans (NPLs), which often reflects the credit risk, stronger legal systems, and better governance. This includes regulatory and supervisory frameworks, transparency of corporate balance sheets, availability of credit information, collateral requirements, insolvency and bankruptcy regimes, and the judicial system. Poor governance and weak legal systems raise the costs of doing business, which command higher risk premiums and therefore higher interest rates. As shown in Figure 4, most CCA countries underperform EMEU on NPLs, the rule of law and the control of corruption.

<sup>6</sup> See Demirgüç-Kunt and Huizing (1999), Dell'Arriccia and Márquez (2004), Dabla-Norris and Floerkemeier (2007), Feyen and Huertas (2020), Gelos (2009), and IMF (2019a).

**Figure 5. Infrastructure and Logistics**

Sources: European Bank for Reconstruction and Development; World Bank; and IMF staff estimates.

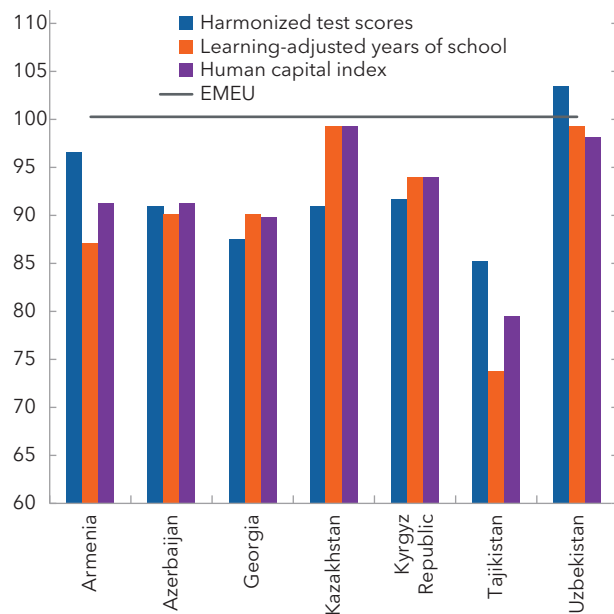
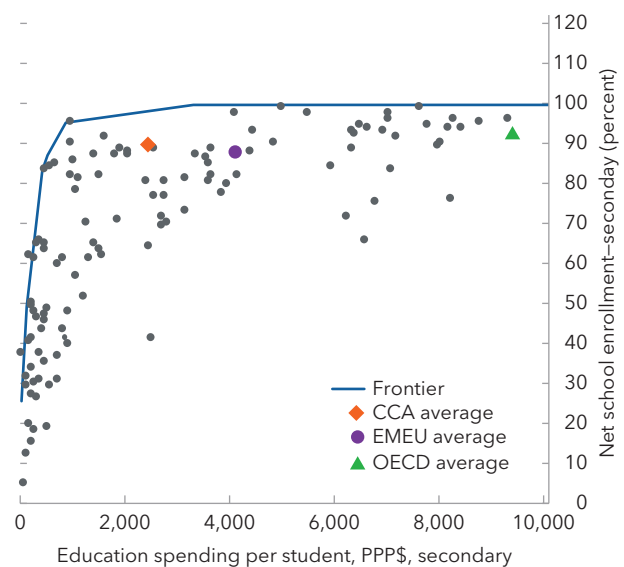
Foreign financing has fallen after the GFC, driven by foreign direct investment (FDI). IMF (2018) found that about half of this decline in oil exporters and 20 percent in oil importers can be explained by slower growth and higher risks, reflected in non-investment grade credit ratings. Furthermore, the availability of foreign financing and its costs are positively correlated with governance and the rule of law. FDI is an important source of investment and growth, and could bring skills, technology, and innovation, thereby strengthening competitiveness. To attract more FDI, EBRD business surveys (2018–20) found that sound fiscal and monetary frameworks are needed for macroeconomic stability, while transparency and strong institutions are essential to address governance concerns and improve the business environment. Where appropriate, constraints on foreign financing could be further alleviated by removing nontariff trade barriers, opening capital accounts, and liberalizing foreign exchange markets (IMF 2018).

## Returns to Economic Activity: Social Returns

Improving infrastructure and logistics could strengthen competitiveness, attract private investment, and support growth. The EBRD estimates that the investment needs in the CCA to bridge infrastructure gaps with advanced economies are about twice as large as in EMEU. These estimates reflect replacement costs of aging infrastructure as well as the needed expansions to accommodate growing populations. The largest investment needs are in transportation, but in some countries electricity sectors also require upgrading (Georgia, the Kyrgyz Republic, and Tajikistan). The average logistics performance index for the CCA, covering trade and transport infrastructure, also falls behind the EMEU average, especially in the areas of logistics services, customs clearance, and timeliness and costs of shipments, all of which affect efficiency of business operations and competitiveness (Figure 5).

Health and education outcomes can be improved by rebalancing spending to strengthen education and healthcare systems. Health and education spending in most CCA countries appear adequate in percent of GDP, but a large part of this spending is on wages while the quality of services provided is inadequate.<sup>7</sup>

<sup>7</sup> For in-depth discussion, see Chapter 2.

**Figure 6. Human Capital****1. Human Capital Index, 2020**  
(Percent of EMEU value)**2. Education Efficiency Frontier**  
(Last available value)

Sources: IMF, Expenditure Assessment Tool; World Bank; and IMF staff estimates.

Measured by the Human Capital Index—a composite of expected and learning-adjusted years of schooling, test scores, and health indicators—CCA countries are about 10 percent lower on average than EMEU, except for Kazakhstan and Uzbekistan (Figure 6). The region is performing reasonably well on secondary school enrollment and literacy, but there are large gaps relative to EMEU in test scores and tertiary education. Similarly, the region has decent basic healthcare if proxied by low child mortality, but it also has lower life expectancy than in EMEU, implying systemic weaknesses in treating non-communicable diseases (cardiovascular, diabetes, oncological, mental), which have high rates of mortality.

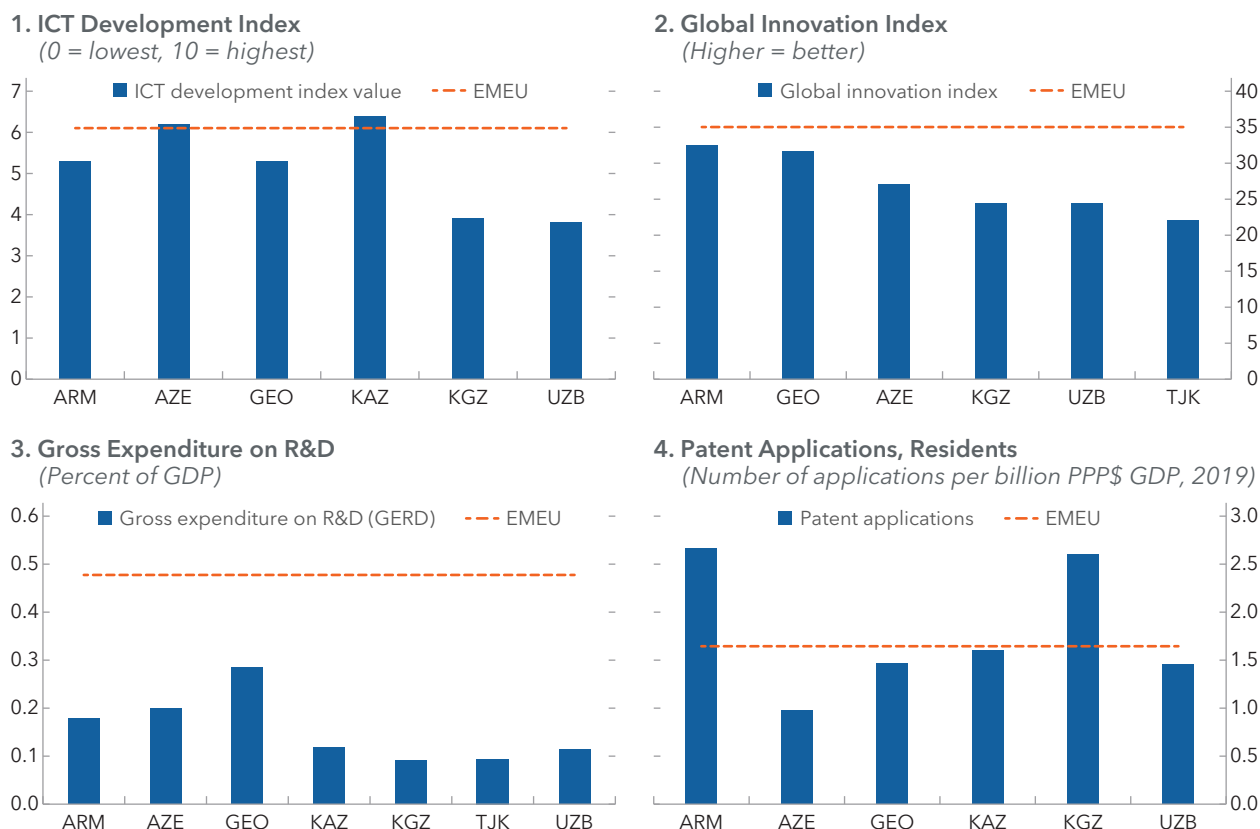
New technology and innovation can improve productivity and growth potential. The region spends much less on R&D than its peers, and some countries underperform on human capital and research, infrastructure, business sophistication, patent applications, and creative, knowledge and technological outputs. The October 2021 *World Economic Outlook* (WEO) finds that basic scientific research is a key driver of innovation, especially in EMDEs. It diffuses internationally farther than applied knowledge because the latter is hindered by country borders, language barriers and specialization distance.<sup>8</sup> Deep financial markets and better education systems can facilitate cross-border technology transfer to achieve higher productivity and more inclusive growth (Korinek, Schindler, and Stiglitz 2021). The ICT Development Index—measuring the digital divide and ICT performance across countries—shows that Armenia, Georgia, Kyrgyz Republic, and Uzbekistan are below EMEU (Figure 7).<sup>9</sup> A comparison by income groups reveals that Armenia and Georgia perform above the expectations for their income levels; the Kyrgyz Republic, Tajikistan, and Uzbekistan at the level; and Azerbaijan and Kazakhstan are below, falling behind their respective income groups on business sophistication and creative, knowledge, and technology outputs. Azerbaijan also underperforms on human capital, research, and infrastructure.

<sup>8</sup> A 10 percent increase in domestic basic or applied research is estimated to raise productivity by 0.3 percent on average. The impact of foreign basic research is 0.6 percent.

<sup>9</sup> Data are unavailable for Tajikistan and Turkmenistan.



**Figure 7. Technology and Innovation**

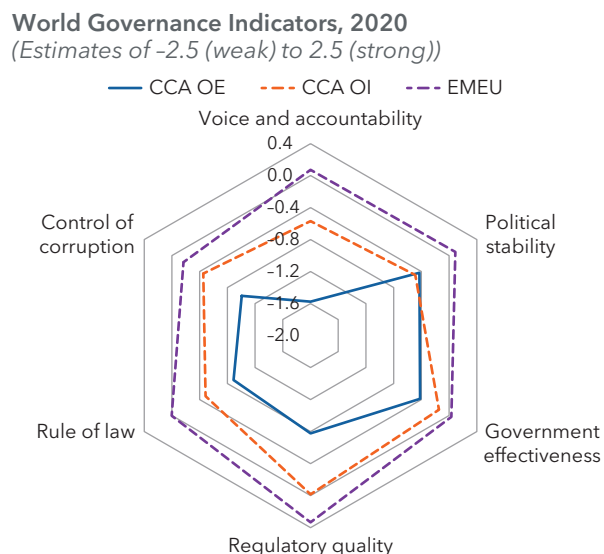


Sources: Global Innovation Index; International Telecommunications Union; World Bank; and IMF staff estimates.

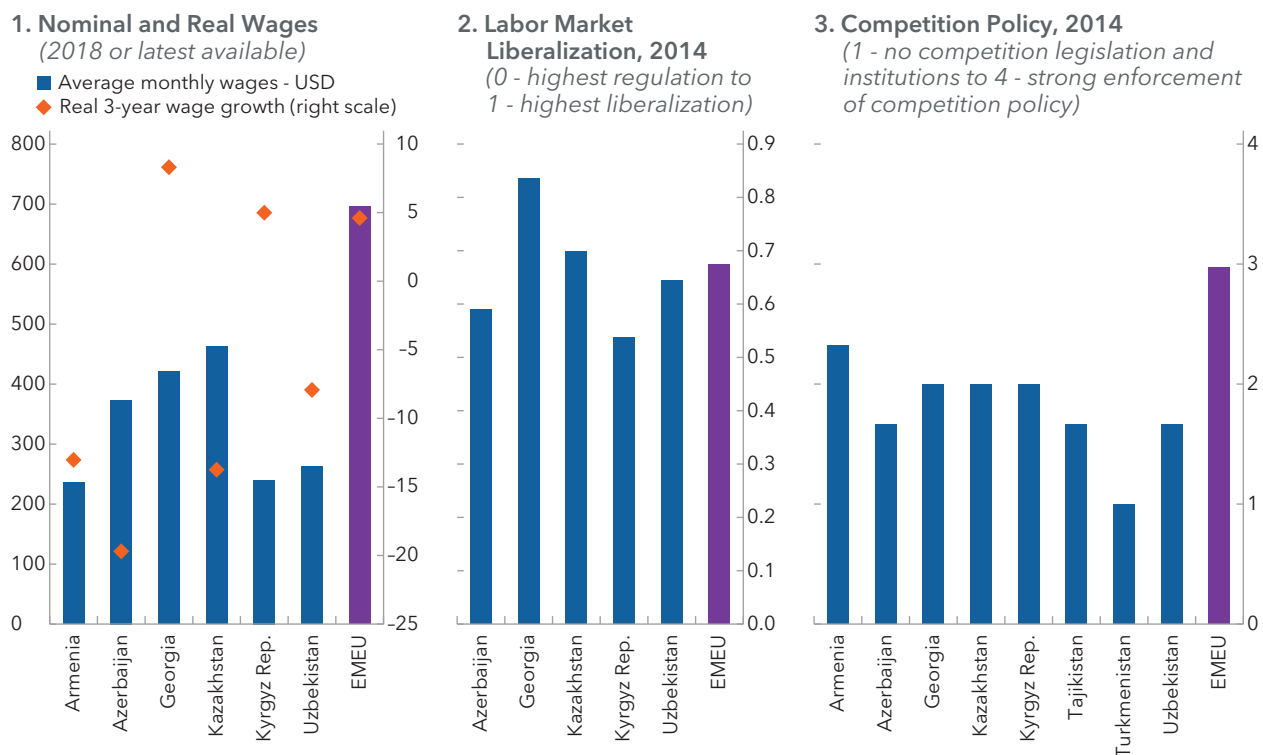
## Returns to Economic Activity: Private Appropriability of Returns

In most CCA countries, there is considerable room to strengthen governance. Good governance, which in its broadest definition encompasses the rule of law and strong institutions, has been shown to incentivize investment and business activity. This is because it strengthens confidence that private investors can appropriate returns on their investment. Protection of property rights, enforcement of contracts, a supportive regulatory environment and a level playing field are defining features of good governance and a growth-friendly business climate. Most countries in the region, especially oil exporters, score below EMEU on the Worldwide Governance Indicators, especially on voice and accountability, political stability, the rule of law, and control of corruption (Figure 8). All CCA countries except Armenia and Georgia, fall behind EMEU on Transparency International’s Corruption Perception Index, and the WEF Executive Opinion Survey points to national governance, fiscal crises, and social instability among the biggest risks to doing business in Armenia, Azerbaijan, Georgia, Kazakhstan, and the Kyrgyz Republic.

**Figure 8. Governance**



Source: World Bank, World Governance Indicators.

**Figure 9. Labor and Product Markets**

Sources: IMF, Structural Reforms Database; International Labour Organization; and IMF staff estimates.

Wage competitiveness can attract investors, but restrictive market regulations are a detracting factor. Average dollar wages in the CCA and average real wage growth rates have been lower than in EMEU (Figure 9). However, labor and product market regulations in some CCA countries appear restrictive. In labor markets these restrictions often aim at protecting jobs and incomes, while in product markets they are underpinned by social considerations such as affordability of basic foods, utilities, and transport. Labor market liberalization has been slow in the CCA, especially after the first wave of reforms in the 1990s, and only Georgia and Kazakhstan have attained the levels of liberalization comparable to EMEU. Similarly, all CCA countries have weaker competition policies than EMEU. Competition is critical for efficiency and serves well both social and commercial objectives. These gaps in labor and product market regulations suggest that the region could reap higher growth dividends by advancing reforms in these areas.

State-owned enterprises (SOEs) have a heavy presence in CCA economies.<sup>10</sup> Many SOEs underperform their private sector peers either because of weak corporate governance<sup>11</sup> or because of their public policy mandates. SOEs hold significant assets in the CCA and often compete with the private sector for labor, financial resources, and market shares. Many are loss-making and require sizeable fiscal support. This underperformance implies misallocation of public resources that could be used more productively. Claessens and Yurtoglu (2013) show that good corporate governance can lead to improved operational performance, lower costs of capital and higher valuation. The literature also suggests that in a supportive business environment and under competitive market conditions, privatization of SOEs could have positive effects on economic growth and government finances (Estrin and Pelletier 2018).

<sup>10</sup> For more details on SOEs see Chapter 2.

<sup>11</sup> CCA countries score lower on corporate governance than the Central, Eastern, and Southeastern Europe, in terms of ownership policy, financial oversight, and fiscal and policy interactions (IMF 2021a).

## D. Growth Impact of Structural Reforms

This section estimates medium-term output gains that CCA countries could reap from reforms in the key areas such as governance, labor, and product market liberalization, privatization, access to finance, trade and foreign exchange systems, and competition. These estimates are not necessarily additive because of apparent overlaps (for example, price liberalization and competition or governance and privatization), but some reforms could have complementary effects and, if properly timed and sequenced, could yield even greater growth payoffs.

The analysis uses the empirical methodology from the October 2019 WEO to derive estimates for the CCA. It uses structural reform indicators from Alesina and others (2020), which cover liberalization of regulations for 90 emerging markets and low-income countries during 1973–2014<sup>12</sup>; the World Governance Indicators for 1996–2013; and the EBRD Transition Indicators, which cover markets, institutions, laws, and policies that support market transition for 16 countries in emerging Europe and all CCA countries during 1989–2014. The effects of reforms on output were quantified with a local projections model by Jordà (2005), controlling for past economic growth and reforms, and using country and time fixed effects. Country-specific estimates reflect additional yearly growth that each CCA country may achieve in the medium term by closing reform gaps relative to the best CCA performer in that category of reforms.

The simulations show a strong positive response of CCA output to structural reforms (Figure 10).<sup>13</sup> The results are consistent across all three indices and imply that reforms could raise medium-term GDP by 5–8 percent even if some entail moderate short-term costs. Reforms of trade and foreign exchange systems, privatization, and governance are found to yield the largest output gains ranging between 4–7 percent in the medium term. Strengthening competition also produces a positive, but smaller medium-term impact; the payoffs begin to accrue immediately and accumulate over four to seven years. Price liberalization results in initial output loss but turns in net positive gains after about four years and reaches 4 percent in the following two years. This initial decline in output is consistent with the expected demand compression in response to price adjustments, especially if the latter is significant. Over time, however, output rebounds as market pricing leads to reallocation of resources to more productive uses. Relatively low gains from competition may also be reflective of these initial losses from price liberalization.

Significant positive gains can be generated by strengthening governance (about 5.5 percent in four years) and easing regulatory constraints in labor markets, external finance, trade, and current account transactions (Figure 11). Job market reforms could raise output by 4.4 percent in five years, while financial market liberalization and greater financial inclusion, where the region lags its peers, could boost GDP by 5 percent in five years with about 2 percent coming from domestic finance and about 3 percent from external finance.<sup>14</sup> Furthermore, easing trade and foreign exchange restrictions could raise output by 6.5 percent in six years.

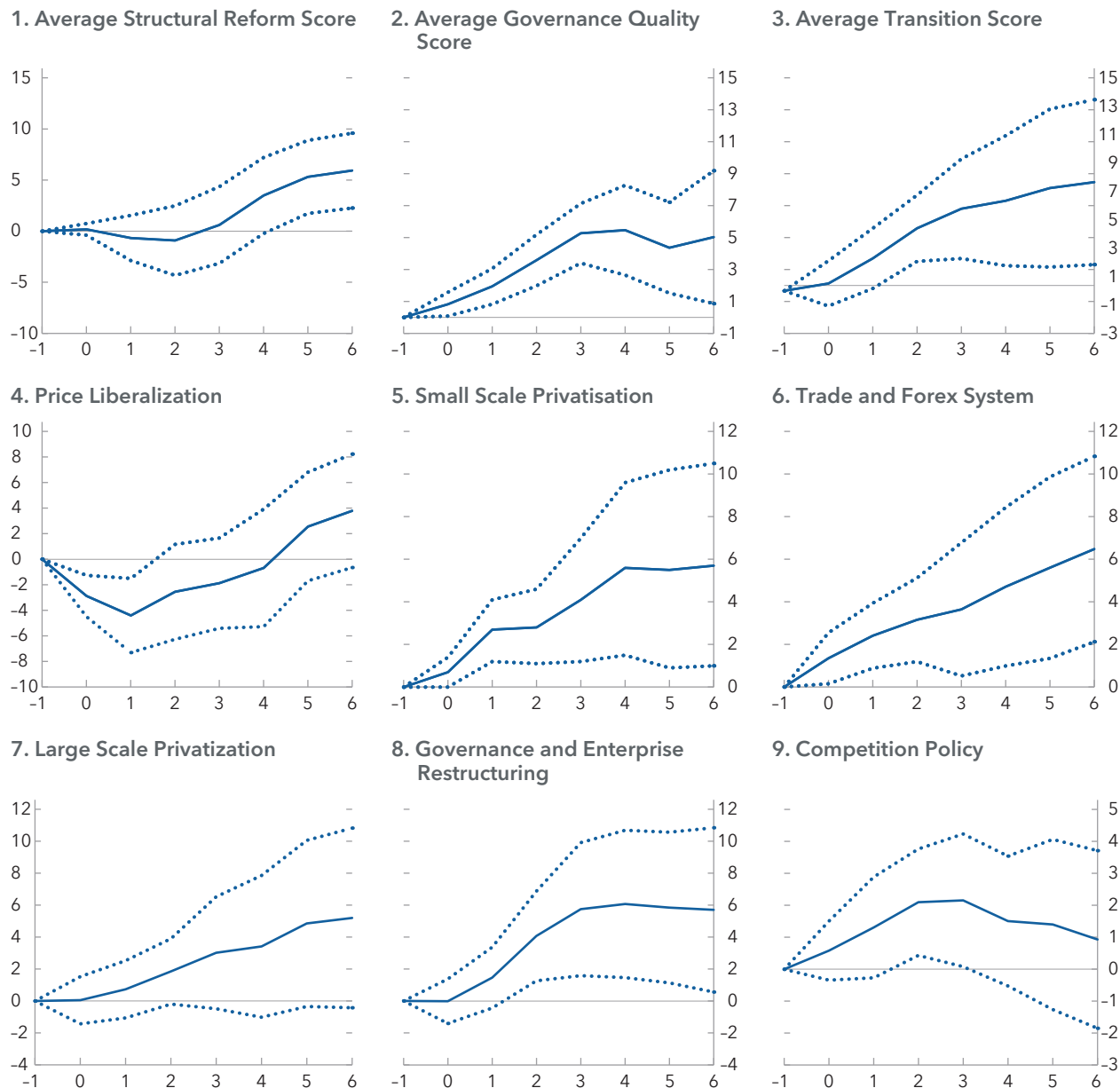
Notably, governance reforms and regulation liberalization are estimated to yield higher output gains in CCA than in low-income countries (for governance), emerging markets or the full sample of countries, including advanced economies. Because the time series used in this analysis covers the early years of post-Soviet transition, this result may be reflective of particularly strong output response to the first generation of market reforms in CCA countries, all of which inherited an excessively large state footprint and experienced sharp output declines in the early 1990s, and therefore enjoyed a higher reform payoff.

<sup>12</sup> Among CCA countries, the database includes Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, and Uzbekistan.

<sup>13</sup> As in the October 2019 WEO, the simulations are based on two standard deviations of the distribution for the indicator.

<sup>14</sup> These results are consistent with IMF (2019c), which found that closing financial inclusion gaps with EMs would raise annual average growth in the CCA by up to 1 percent.

**Figure 10. Effects of Reforms on Output in the CCA**  
(Percent)

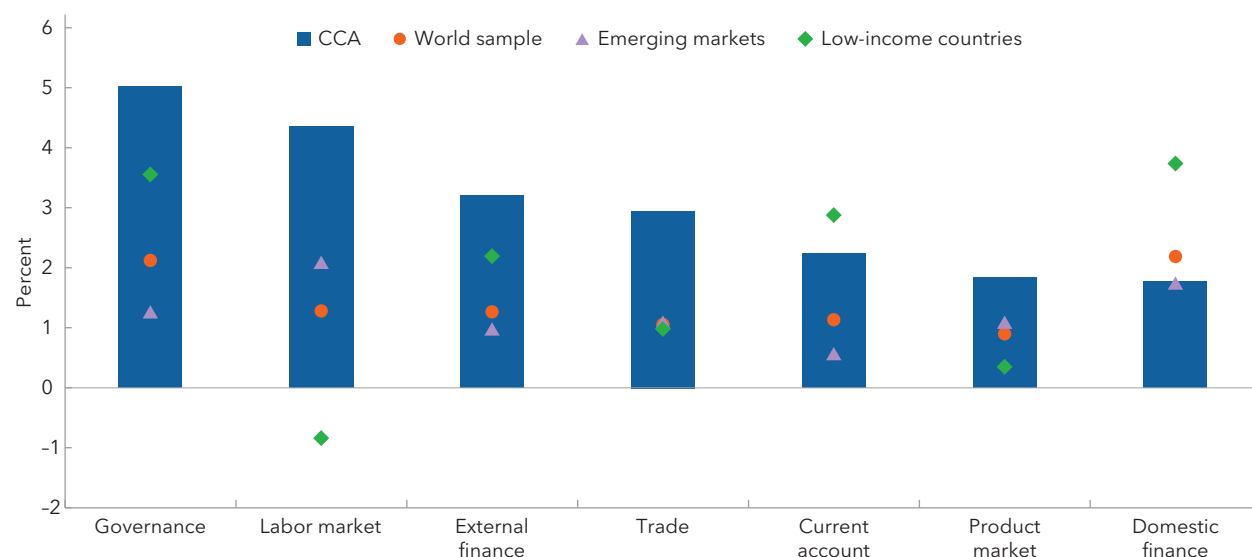


Source: IMF staff calculations.

Note: The estimates of average structural reform score effects do not include Armenia, Tajikistan, and Turkmenistan. The dotted lines denote 90% confidence bands.

Policymakers generally agree that structural reforms are essential to enhance countries' growth potentials, but optimal timing and prioritization of reforms remain to be determined. This is a difficult question because reforms are usually complex and have nonlinear impacts depending on country-specific political economy or social considerations, development levels, technical capacity, and past reforms. In some cases, the right sequence could be obvious. For example, it seems natural for price liberalization to precede competition reforms. In other cases, an optimal sequence may not be straightforward, but some general conclusions could still be drawn. Other studies have found that reforms yield better outcomes, when implemented during economic expansions rather than downturns. Priority should be given to low hanging fruits, that is, reforms that require little financial resources (for example, strengthening laws and regulations, improving

**Figure 11. Impact of Regulatory Reforms on Output in the CCA**  
(IMF liberalization of regulations scores)



Source: IMF staff calculations.

transparency, etc.), and those that have a potential of generating the highest economic returns. Accordingly, Figure 11 suggests the following prioritization: governance, labor markets, external finance, trade and current account, product markets, and domestic finance.

At a country level, all countries could raise growth by 1–2 percentage points per year on average by closing gaps in governance (Table 2). Reform payoffs were calculated by estimating potential growth benefits from closing reform gaps relative to best reformers in the region and EMEU, which happen to be Armenia and Georgia. All Central Asian countries and Azerbaijan could also benefit from privatization, enterprise

**Table 2. Potential Payoffs from Closing Reform Gaps**  
(percent, annual growth rate)

	WB WGI		EBRD Transition Indicators			
	Governance	Privatization	Corp. Governance and enterprise restructuring	Price liberalization	Trade & Forex	Competition
Armenia	0.4	0.5	0.0	0.2	0.0	0.0
Azerbaijan	1.1	3.7	0.9	0.2	0.5	0.4
Georgia	0.0	0.0	0.0	0.0	0.0	0.2
Kazakhstan	0.7	1.6	0.9	0.4	1.0	0.2
Kyrgyz Republic	1.2	0.5	0.9	0.0	0.0	0.2
Tajikistan	1.7	2.6	0.9	0.2	1.0	0.4
Turkmenistan	1.8	7.5	3.4	0.7	3.1	0.8
Uzbekistan	1.7	3.2	1.7	0.9	4.1	0.4

Source: IMF staff calculations.

Note: Gaps are calculated relative to the best performing CCA country. Darker colors denote stronger impact of reforms.



**Figure 12. Effects of Reforms on Output: The Role of Governance**  
(Percent)



Source: IMF (2019b).

restructuring and better corporate governance, as well as reforms of trade and foreign exchange (FX) markets (except for the Kyrgyz Republic). The gains from strengthening competition are smaller, which is consistent with Figure 11. These country-specific results, however, should not be read to imply that top-performing countries have no room to improve. These countries too could increase their output by deepening and broadening reforms in all areas farther to narrow the gaps with more advanced economies.

Governance reforms deserve a special mention. The reforms that address corruption, transparency, protection of property rights, and the rule of law impact all sectors of the economy and all aspects of public life, and hence could have a magnifying effect on other reforms. Indeed, IMF 2019b finds that reforms typically deliver larger gains in countries where governance is stronger (Figure 12). Moreover, as shown above, governance reforms themselves are estimated to deliver the largest output improvements in the CCA. The obvious implication of these findings for reform sequencing is that governance reforms should be a priority and not be delayed. Growth dividends could multiply if followed by or combined with other reforms.

## Conclusions

Real GDP growth rates in the CCA have declined considerably in the past decade, slowing convergence with emerging European countries. The positive demographics, especially in Central Asia, suggest that the region needs higher and more inclusive growth to generate more jobs, raise incomes and reduce poverty

and inequality. To this end, all countries need to raise potential output, which in turn requires structural reforms to transition to a new growth model with more efficient allocation of resources, address growth bottlenecks, attract more investment, and support private sector development.

CCA countries could derive significant output gains from strengthening governance, fostering innovation, liberalizing labor and product markets, improving access to finance, promoting trade and competition, and accelerating privatization. These reforms are estimated to raise regional GDP by 5–7 percent in the medium term. Importantly, while the estimates may not always be fully additive due to some obvious overlaps between structural reforms, advancing reforms on multiple fronts could yield even greater output gains. Large gaps in infrastructure, health, and education suggest a need to invest more in these areas.

Governance reforms could yield significant growth benefits and should be prioritized. Poor governance can affect all spheres of the economy, undermine general confidence of investors and households, and take a heavy toll on investment and growth. Governance reforms could lift output growth by about 1 percent per year over the medium term. Moreover, they could have an added benefit of multiplying positive impacts of other reforms. These findings make a strong case for prioritizing governance reforms and supplementing them with others to achieve the highest growth dividends. Reforms are most successful if implemented during economic up cycles.

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## 2. The Role of the State in Promoting Long-Term Growth

### A. Introduction

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Governments aim to boost economic growth, stimulate development and alleviate poverty through various forms of state interventions. While there is no conventional wisdom as to what constitutes an optimal level of the state's footprint in the economy, there is broad agreement that certain functions should be performed by the state, that is, the provision of public goods and services such as justice, defense, security, social protection, and public infrastructure. The state is also generally expected to provide sound regulatory and institutional frameworks to support the effective functioning of a market economy (World Bank 1997, Tanzi 1997) and efficient allocation of resources, including by enhancing competition, supporting financial sector development, and strengthening governance (EBRD 1997, IMF 2001, Tabellini 2005, Schuknecht 2021).

In some cases, governments have aimed to play more direct roles in raising growth and creating jobs, the lack of which they perceive as failures of markets and the private sector. However, such state-led growth strategies have often resulted in an excessive "state footprint," hampering private sector development and innovation, and—when coupled with weak governance and institutions—leading to large-scale misuses of public resources.

### B. The Role of the State in the CCA

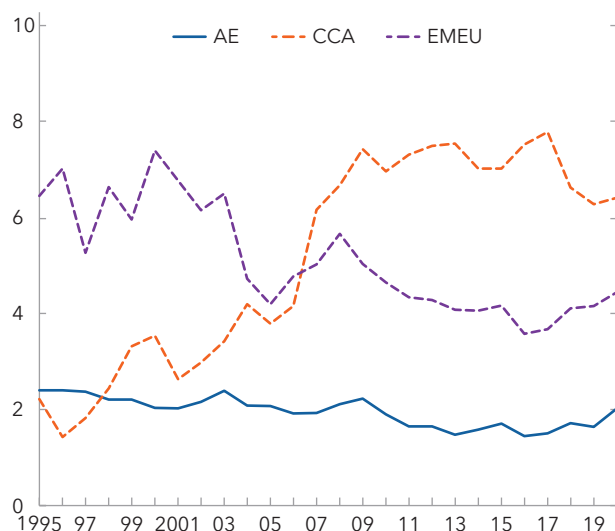
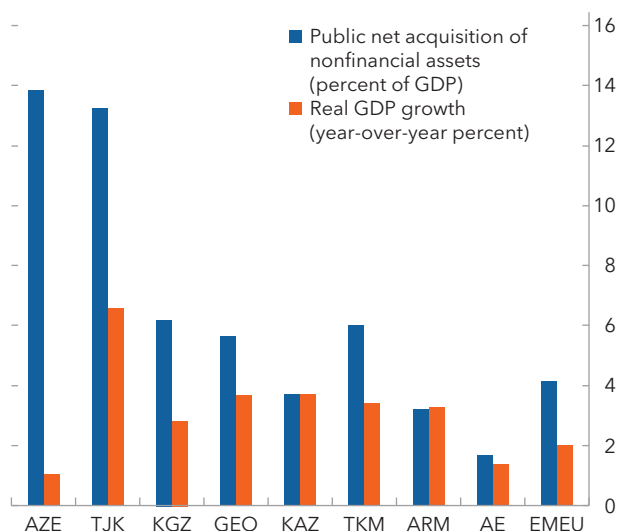
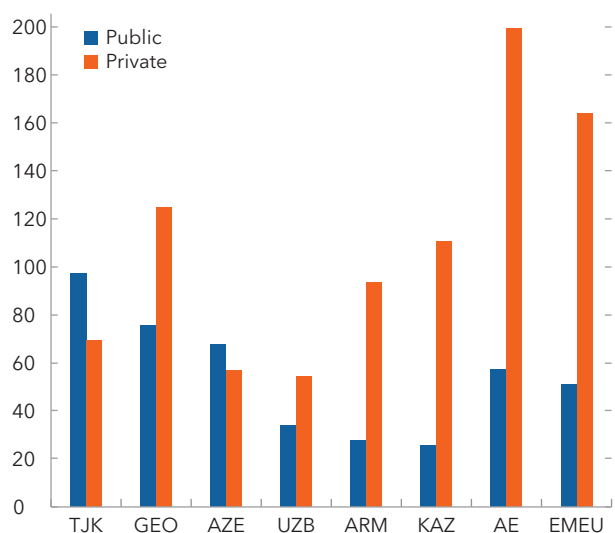
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#### Public Infrastructure

Quality public infrastructure is important to stimulate economic activity. It increases access to opportunities and competition, boosts aggregate demand, raises the productivity of capital, and encourages private investment. Conversely, poor public infrastructure raises production costs, lowers productivity, and hurts economic growth. Empirical research (IMF 2014, 2015; Abiad, Furceri and Topalova 2016; Furceri and Li 2017) found a positive and significant effect of public infrastructure investment on output, including in CCA countries. It concluded that countries with stronger institutions, governing infrastructure and higher public investment efficiency receive greater output dividends from public investment. Better governance improves investment efficiency and productivity, stimulates private sector investment, and thus increases the growth impact (Miyamoto and others 2012, IMF 2015, Gupta and others 2014).

Public investment in CCA countries picked up sharply around the time of the GFC and remained at elevated levels during the next decade, significantly exceeding public investment in advanced economies and generally higher or equivalent to public investment in EMEU (Figure 13). However, there are significant differences among CCA countries. In Azerbaijan and Tajikistan, public investment averaged at about 14 percent of GDP in 2010–20, while in Armenia, Kazakhstan, and Turkmenistan, public investment was only 4–6 percent of GDP, which is similar to EMEU countries.

In general, higher public investment translates into higher public capital stock. In Azerbaijan, Georgia, and Tajikistan, public capital stocks as a share of GDP are higher than in AE and EMEU, while in Armenia, Kazakhstan, and Uzbekistan they are about one-half of the AE/EMEU levels. Figure 14 also shows that private capital stock and its ratio to public capital in CCA countries are considerably lower than in AE/EMEU. In Azerbaijan and Tajikistan private capital is even lower than the public capital stock. The quality of investment management is key for ensuring that higher public investment generates higher growth, both directly and

**Figure 13. Public Investment in the CCA****1. Public Net Acquisition of Nonfinancial Assets**  
(Percent of GDP)Sources: IMF, *World Economic Outlook*; and IMF staff calculations.**2. Public Investment and GDP Growth**  
(Average 2010-20)**Figure 14. Capital Stock in the CCA**  
(Percent of GDP, 2019 or latest available)

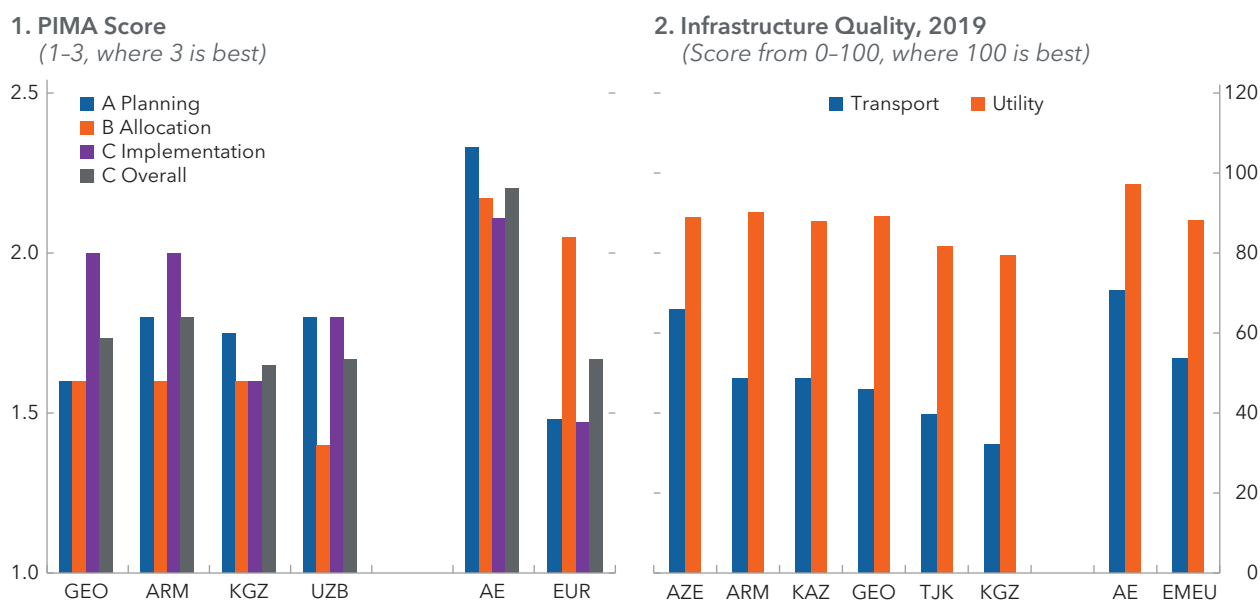
Sources: IMF, Investment and Capital Stock dataset, 2021; and IMF staff calculations.

by encouraging private investment (Miyamoto and others 2020). Higher public investment does not automatically result in higher stock of public capital, and higher public capital does not necessarily generate higher economic growth. The growth impact of public infrastructure spending depends on the quality of public investment management.

Based on the IMF Public Investment Management Assessment (PIMA), which assesses how public investment is managed,<sup>15</sup> the CCA is broadly on par with emerging European markets but lags advanced economies. Empirical findings show that all three stages of the public investment process—planning, allocation, and implementation—affect growth (Miyamoto and others 2020). Four CCA countries for which PIMA scores are available<sup>16</sup> are performing better than European peers in planning and implementation of investment projects (Figure 15). However, they fall significantly short on public investment allocation, suggesting misallocation of capital. To complement the assess-

ment of public investment, Figure 15 also shows the quality of transport and utility infrastructure. Most CCA countries are only marginally behind EMEU countries or advanced economies on utility infrastructure, but they score much worse on transport infrastructure (except for Azerbaijan).

<sup>15</sup> See IMF (2022).<sup>16</sup> Includes Armenia, Georgia, the Kyrgyz Republic, and Uzbekistan.

**Figure 15. Public Investment Management in the CCA**

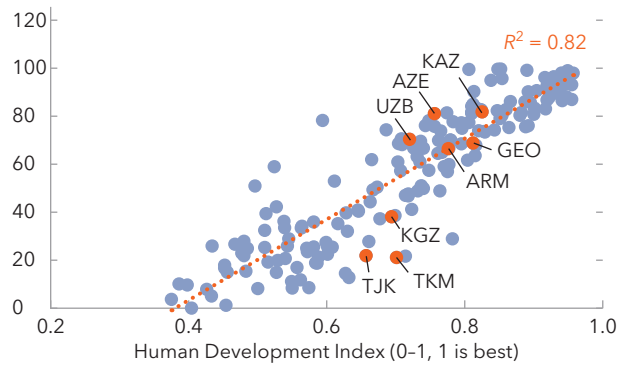
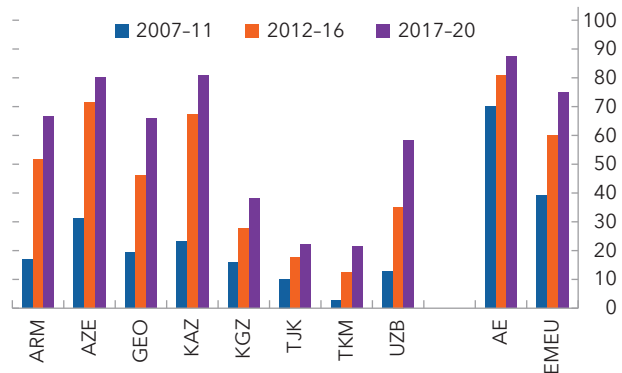
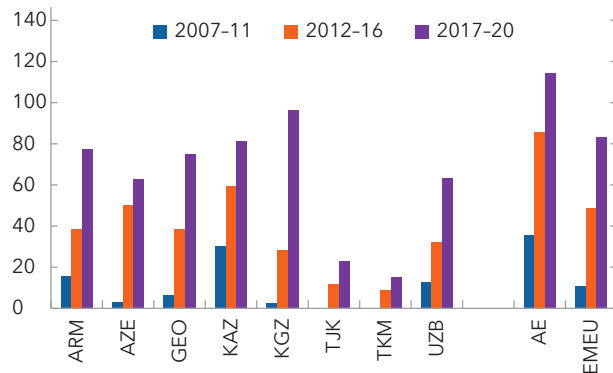
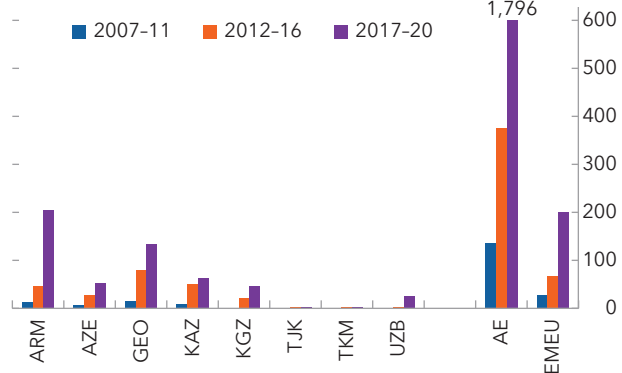
Sources: IMF (2022a); WEF (2022); and IMF staff calculations.

Information and communication technology (ICT) represents another area where well-targeted state support could boost economic growth and development. The causality, however, runs both ways: greater economic activity and development invites ICT penetration, but the latter could underpin higher growth and inclusion (Figure 16). Moreover, digitalization has a positive impact on growth regardless of the level of economic development (Myovella and others 2020, Habibi and Zabardast 2020). It enhances productivity of all sectors and emergence of new data-driven business models, including in remote areas. It also supports automation of labor-intensive processes and greater transparency and helps reduce corruption and informality. All of these are public goods, the provision of which is a core role of the state. The state can fulfil this role by (1) investing in shared infrastructure; (2) providing a regulatory framework; (3) setting technical standards; and (4) mitigating the risks associated with digitalization (for example, security of personal information).

Despite rapid growth in recent years, ICT development in most CCA countries is still lagging. Internet usage has more than doubled in all CCA countries between 2007-10 and 2017-20, and in some cases has increased more than tenfold. Penetration of mobile broadband, a more recent technology, has been even stronger. However, ICT has been progressing at an uneven pace among CCA countries. While some countries record internet usage on par with AE and EMEU (more than 80 percent), others have barely breached 20 percent. The CCA also lags considerably on international bandwidth, which can be seen as a proxy for shared infrastructure. Provision of international bandwidth requires expensive high-capacity shared trunk lines, which the private sector alone may not be able to afford. The best performing CCA country—Armenia—has nine times less international bandwidth per internet user than the AE average, and about the same as the EMEU average. Armenia, Georgia, and Kazakhstan have improved notably cross-border high-speed connectivity, but some CCA countries have shown little improvement.

## State-Owned Enterprises

Numerous studies, examining both regional and global performance, have documented that state-owned enterprises (SOEs) tend to be less productive and profitable than privately owned firms (IMF 2018a). While some SOEs serve public policy objectives such as provision of essential goods and services and execution of public investments, or have a social mandate or strategic importance, others operate in sectors that can be served more efficiently by the private sector. A heavy presence of commercial SOEs is also found

**Figure 16. ICT Developments in the CCA****1. Internet Users***(Percent, 2019 or latest available)***2. Internet Users***(Percent)***3. Active Mobile-Broadband Subscriptions per 100 Inhabitants****4. International Bandwidth per Internet User***(Thousands of bit/s)*

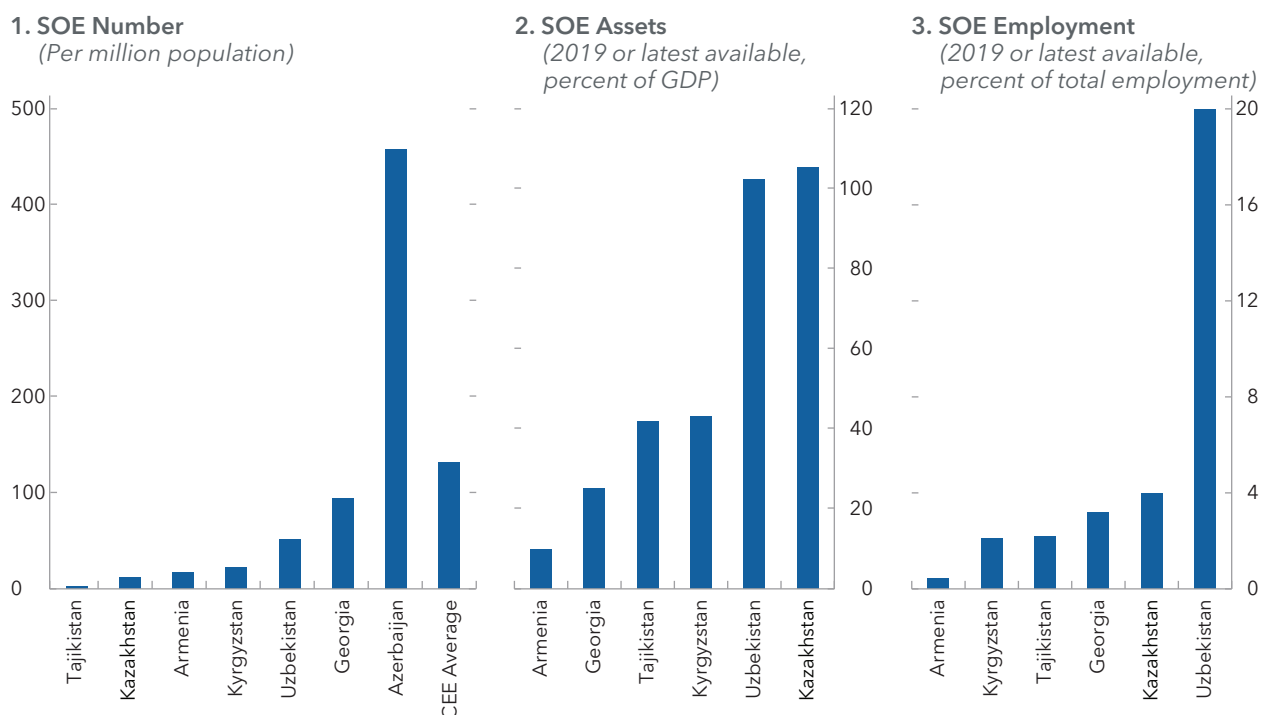
Sources: International Telecommunication Union, World Telecommunication/ICT Indicators Database; United Nations Development Programme; and IMF staff calculations.

to weaken competition in both output and input markets and discourage private investment. This implies misallocation of valuable public resources, which could generate greater value for society if deployed more productively elsewhere.

The presence of SOEs in the CCA has been declining since the early 1990s when the region started moving away from central planning and SOEs dominated the economies in terms of output and employment (IMF 2021b). By 2019, Azerbaijan had almost 460 SOEs per million population, while Tajikistan only three (Figure 17).<sup>17</sup> Except for Azerbaijan, CCA countries compare favorably to EMEU, which has about 130 SOEs per million population, on average. While Kazakhstan has only 13 SOEs per million population, its total SOE assets exceed 100 percent of GDP, likely reflecting significant assets of the state-owned oil and gas company. Together with Uzbekistan, it has the highest SOE assets as a share of GDP in the CCA region, and about twice as high as the EMEU average. Also, as detailed in IMF (2021b), asset concentration, measured as a share of three largest SOEs in total SOE assets, is high, reaching about two-thirds in Armenia and Kazakhstan. In terms of employment, SOEs account for about 20 percent of total employment in Uzbekistan, but less than 4 percent in other CCA countries, compared to the 8 percent central and eastern European average.<sup>18</sup>

<sup>17</sup> The definition of SOEs differs among countries. For details, see IMF (2021b), Box 1.

<sup>18</sup> SOE asset data are not available for Azerbaijan, and employment data are not available for Azerbaijan and Turkmenistan.

**Figure 17. Presence of State-Owned Enterprises in the CCA**

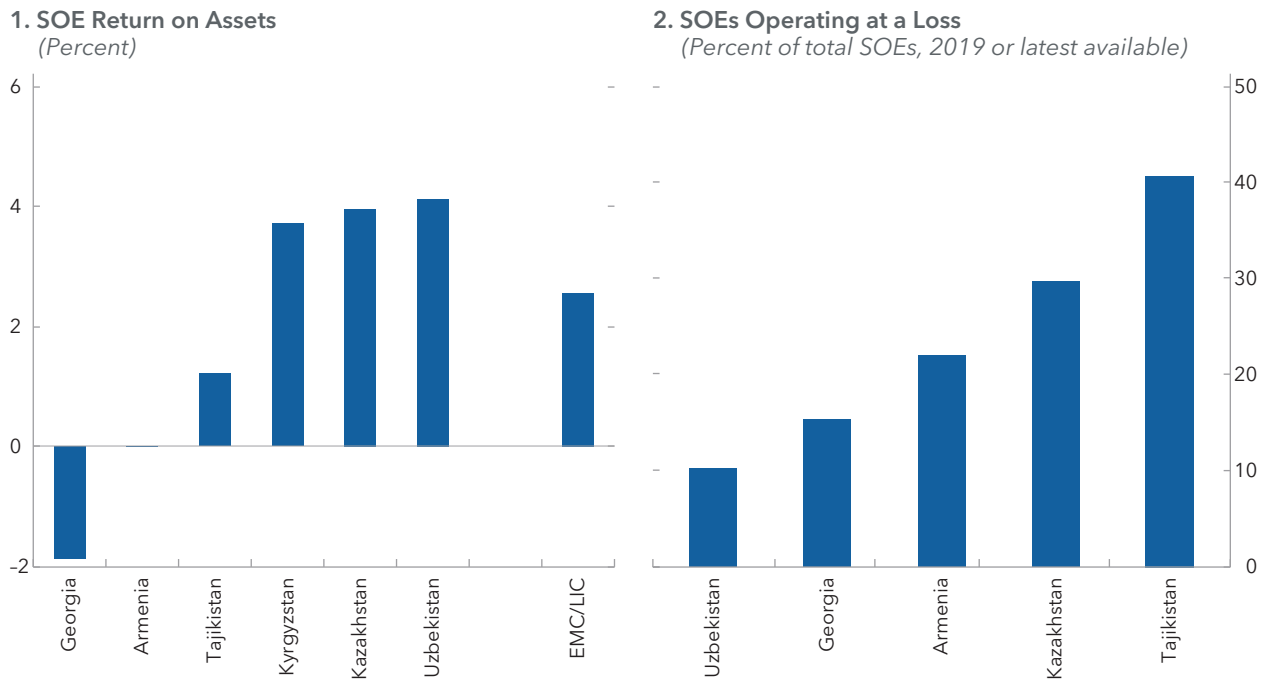
Sources: European Bank for Reconstruction and Development; IMF (2019); national authorities; and IMF staff calculations.

Performance of SOE sectors vary among CCA countries. Armenia and Georgia show negative returns on assets (ROAs), while Kazakhstan, the Kyrgyz Republic, and Uzbekistan have recorded a relatively solid ROA of about 4 percent, about twice as high as the average for emerging and low-income countries (EMC/LIC) (Figure 18). The average ROA could hide large differences within countries, with a few highly profitable SOEs, for example in extractive industries in Kazakhstan, the Kyrgyz Republic, and Uzbekistan, skewing the distribution. While available data do not allow disaggregation, information on the share of loss-making SOEs provides additional insight. Despite the strong ROA, about 30 percent of SOEs are loss-making in Kazakhstan, suggesting that overall profitability could be driven by a small number of SOEs. Also, in Tajikistan more than 30 percent of SOEs are loss-making, while respective shares in Armenia, Georgia, and Uzbekistan are about 22, 15, and 10 percent, respectively.

CCA countries could reap significant growth benefits from optimizing SOE ownership. As shown in Chapter 1, privatization, enterprise restructuring, and reforms of corporate governance could raise CCA output by 4-6 percent in the medium term. The starting point is developing SOE ownership policies, which should define governments' financial, economic, or social objectives as shareholders; the mandate of each SOE; and the main principles of how the governments will exercise their ownership rights in support of public interests. These policies should then determine which SOEs should remain under state ownership. Governments may decide to retain SOEs that serve strategic or social objectives, privatize commercially viable entities, and restructure or close non-viable ones. Successful privatization may require prior financial, operational, and organizational restructuring of SOEs to maximize the sale value.

For SOEs that are to remain in state ownership, several steps could be taken to improve their financial performance. First, it will be important to clearly separate commercial and non-commercial activities, ensure financial sustainability of commercial activities (for example, through cost-recovery pricing), and provide transparent budget subsidies to noncommercial activities or bring these activities on budget. Second, corporate governance frameworks need to be strengthened. Professional management and qualified



**Figure 18. Performance of SOEs in the CCA**

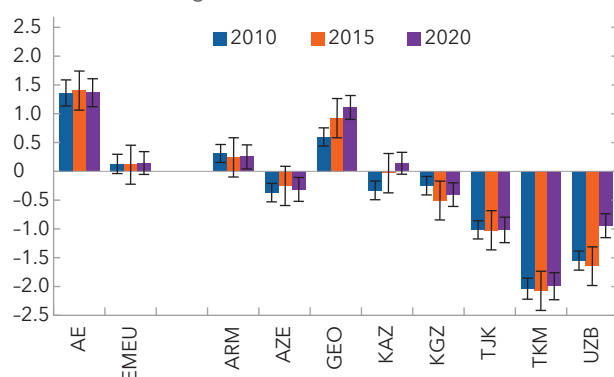
Sources: IMF (2019, 2020); national authorities; and IMF staff calculations.

boards would allow SOEs to operate more cost-effectively without government interference and should be supplemented with enhanced transparency requirements and strengthened institutional oversight. The latter could include timely financial reporting by SOEs, publication of their financial accounts and audit reports, and a comprehensive review of the SOE sector performance, including financial results and key policy decisions, abridged financial statements, appointments of boards and management, and profit distribution. The application of such a corporate governance framework should at the very least start with the largest SOEs, and gradually extend to others. Third, competitive neutrality (for example, a level playing field) is important to ensure that state-owned and private businesses compete on a level playing field. Competitive neutrality is essential for the effective use of resources within the economy and thus for achieving robust, sustainable growth and development.

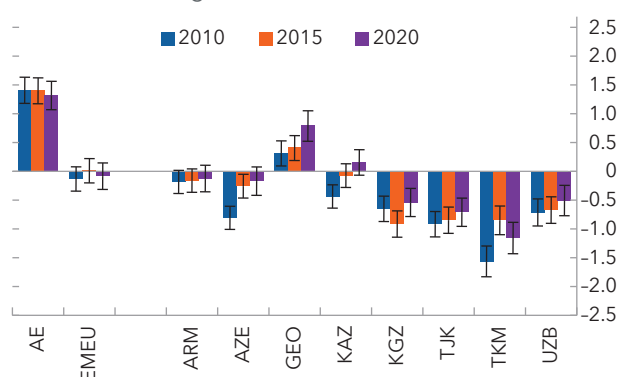
## Regulation and Governance

The consensus in the literature is that good governance and control of corruption can improve growth (IMF 2021a). Well-defined property rights and the rule of law, a predictable regulatory environment that supports risk-taking and innovation, and policies that promote healthy competition lead to more efficient use of resources and better economic outcomes. As shown in Chapter 1, governance reforms could raise CCA output by more than 5 percent in the medium term. Empirical findings also show that governments' ability to deliver inclusive growth crucially depends on capable administration.

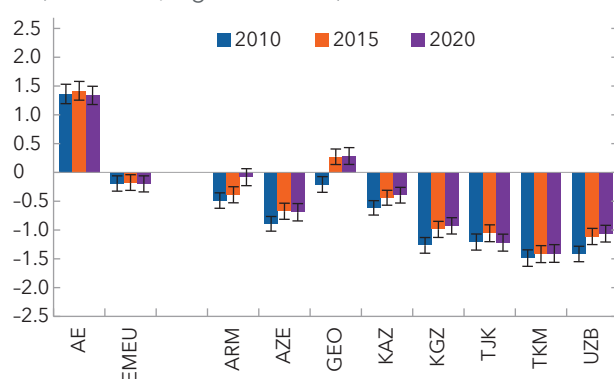
As discussed in Chapter 1, governance in most CCA countries is weaker than in EMEU and AE. Only Georgia compares significantly more favorably with EMEU on the World Governance Indicators (WGI), especially on regulatory quality, government effectiveness and the rule of law (Figure 19). It is followed by Armenia and Kazakhstan, and by Azerbaijan on some of the WGI indicators. Georgia's experience, and to some extent of the other three countries, demonstrates that through reforms governance can be strengthened considerably in a relatively short time.

**Figure 19. Regulatory Quality, Government Effectiveness, and Corruption****1. Regulatory Quality**(-2.5 to 2.5, higher = better)<sup>1</sup>**2. Government Effectiveness**

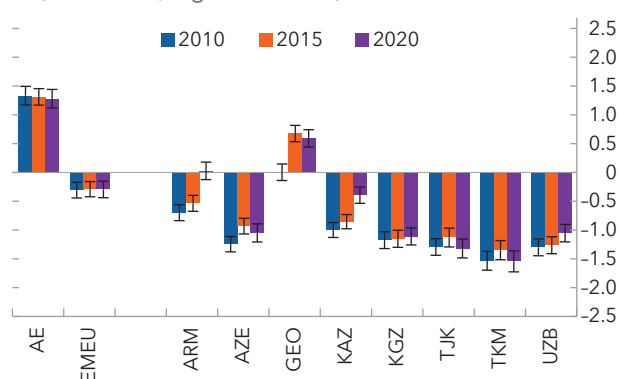
(-2.5 to 2.5, higher = better)

**3. Rule of Law**

(-2.5 to 2.5, higher = better)

**4. Control of Corruption**

(-2.5 to 2.5, higher = better)



Source: World Bank, World Governance Indicators.

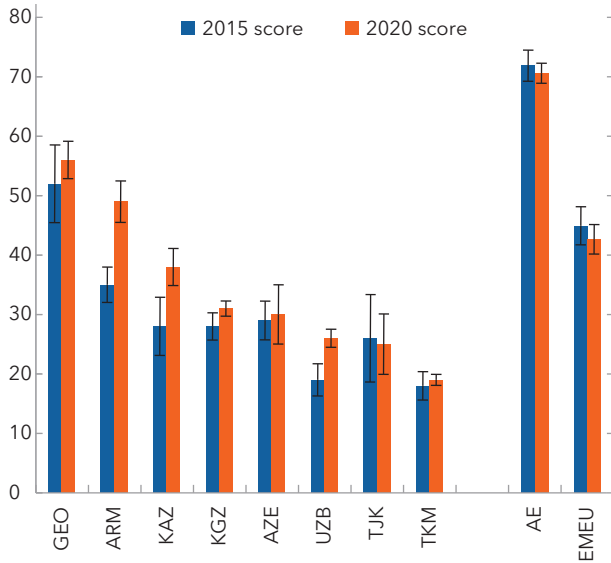
<sup>1</sup>Vertical error bars capture the standard errors.

Poor governance feeds perceptions of corruption and therefore the business environment, which can weigh on investment decisions by domestic and foreign investors. The latter are particularly important since they are a conduit for the transfer of know-how and technology. Perceptions of corruption in the CCA, as measured by Transparency International CPI, corroborate the WGI corruption indicator. They are generally worse than the EMEU average, except in Armenia and Georgia with Kazakhstan not far behind (Figure 20). In these countries, rapid improvement has been achieved in about five years. Interestingly, and in contrast with the Transparency International CPI, few local firms see corruption as an important binding constraint (except in the Kyrgyz Republic). This finding holds for the CCA and AE and may indicate that incumbent firms tend to adapt to governance weaknesses and may not drive the fight against corruption.

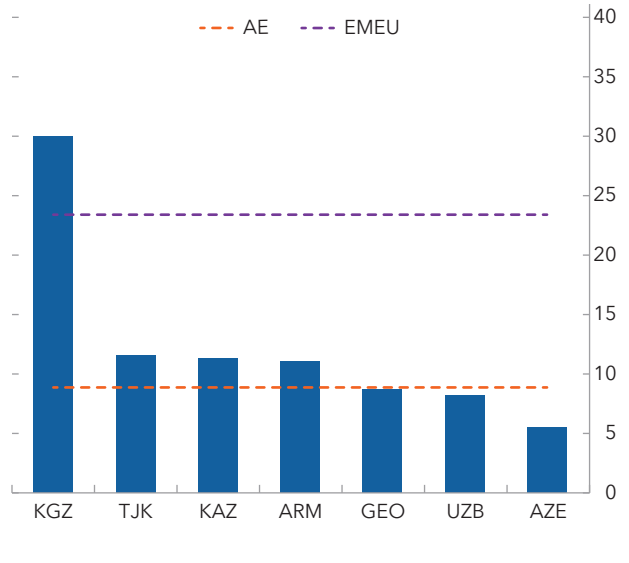
Efforts to improve governance and fight corruption can yield greater output payoffs if combined or followed by other reforms that increase competitiveness and access to broader markets (IMF 2018). Figure 21 shows that countries that are more connected globally tend to be perceived as less corrupt, and that CCA countries have considerable room to improve corruption perceptions, global connectedness, and competitiveness. Promoting market access across national borders, including by removing nontariff barriers, could improve CCA's competitiveness. The scale of multi-country markets could also attract more foreign investors and help CCA countries better integrate into global value chains.

**Figure 20. Corruption Perceptions**

**1. Corruption Perceptions**  
(Index, higher = better)<sup>1</sup>



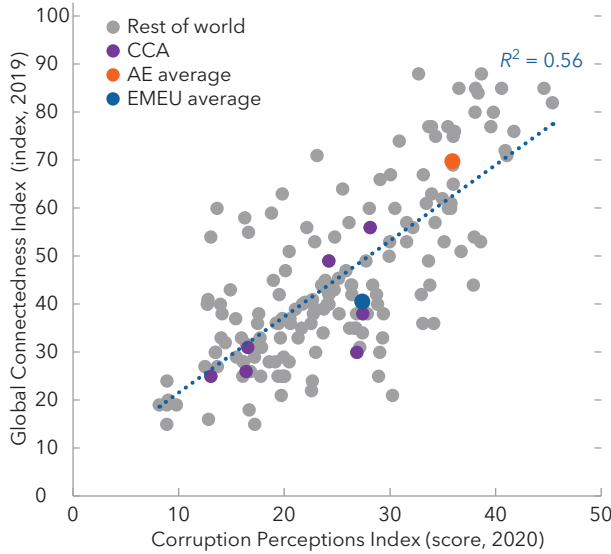
**2. Firms Identifying Corruption as a Major Constraint**  
(Percent of firms)



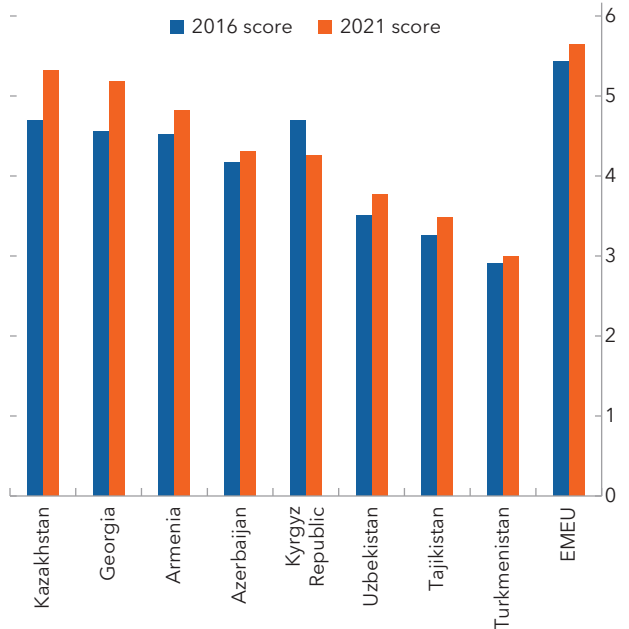
Source: Transparency International; World Bank, World Enterprise Surveys; and IMF staff estimates.  
<sup>1</sup>Vertical error bars capture the standard errors.

**Figure 21. Global Integration, Governance, and Competitiveness**

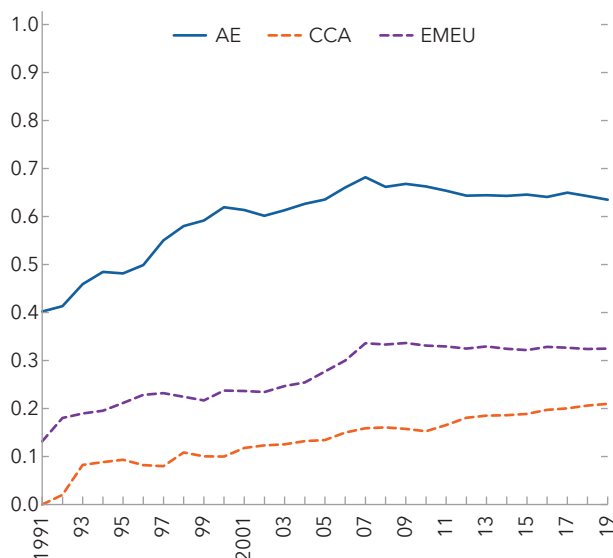
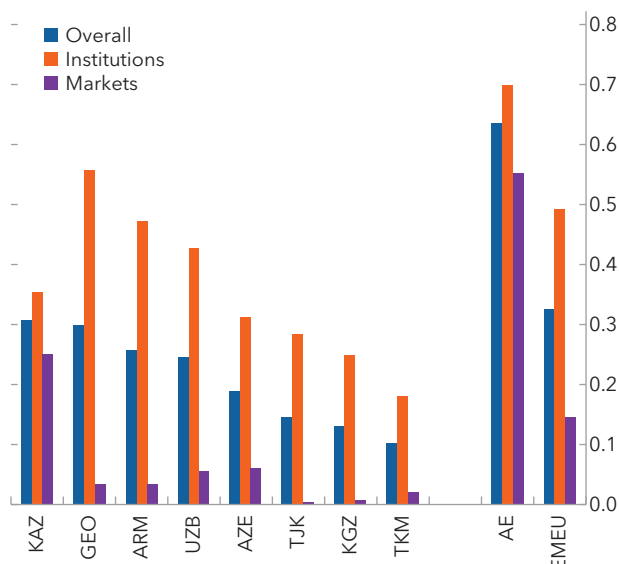
**1. Global Connectedness and Perceptions of Corruption**



**2. EBRD Competitiveness Score**  
(Index)



Sources: European Bank for Reconstruction and Development; New York University; Transparency International; and IMF staff calculations.

**Figure 22. Financial Development****1. Financial Development over Time****2. Financial Development Index, 2019**

Source: IMF, Financial Development Database.

## Financial Development

It has been recognized in the literature that the relationship between financial development and economic growth goes in both directions: economic development (growth) creates demand for financing, while financial development spurs economic growth (Levine 1997, Khan and Senhadji 2000, IMF 2019b). By creating conditions for financial development, the state could thus also support economic growth. Empirical evidence from a large sample of countries over 1980–2013 suggests a bell-shaped relationship between financial development and growth (Sahay and others 2015, Arcand, Berkes, and Panizza 2012). As countries become financially more developed, the marginal returns to growth of further financial development diminishes and could eventually turn negative.<sup>19</sup> It is estimated that the turning points lie between the IMF Financial Development Index (FD Index) value of 0.4 and 0.7, depending on country characteristics, including regulatory and supervisory quality.<sup>20</sup> Similarly, for CCA countries, Chapter 1 finds that development of financial institutions and financial markets could boost growth.<sup>21</sup>

Three observations emerge for CCA countries (Figure 22): (1) financial development has been improving at a steady but moderate pace; (2) the average value of the FD index is about 0.2, which is about one-third of the FD index for advanced economies, but it is converging with EMEU; (3) the value of the FD index ranging from 0.1 to 0.3 for individual CCA countries is still well below the estimated turning point of 0.4–0.7 when the costs of further financial development could start exceeding the benefits. This suggests that the CCA countries have ample room for further financial development that could support stronger growth.

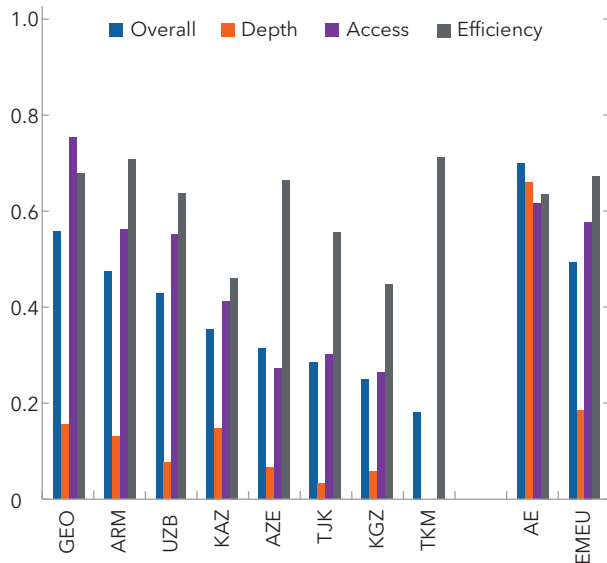
Looking at FD index components, there is a significant difference between the level of development of financial institutions (banks, etc.) and financial markets (equities, bonds), with the former much more advanced. This is not unusual, as countries tend to develop financial institutions (mainly banks) before financial markets.

<sup>19</sup> Sahay and others (2015) list possible reasons for the weakening or negative impact of financial development on growth at higher levels of FD index, including the crowding out of human capital and other resources away from real sector, increasing financial fragility and the growing risk of financial instability.

<sup>20</sup> The IMF Financial Development Index uses indicators of depth, access, and efficiency to measure development of financial institutions and financial markets more accurately (Sahay and others 2015).

<sup>21</sup> Poghosyan (2022) estimates that financial development could raise annual growth in CCA countries by 0.5–2.5 percentage points.

**Figure 23. Development of Financial Institutions, 2019**  
(Index, 0–1, 1 is best)



Source: IMF, Financial Development Database.

Armenia, Georgia, and Uzbekistan approach the average level of financial institution development in EMEU countries, while Kazakhstan stands out in terms of financial market development.

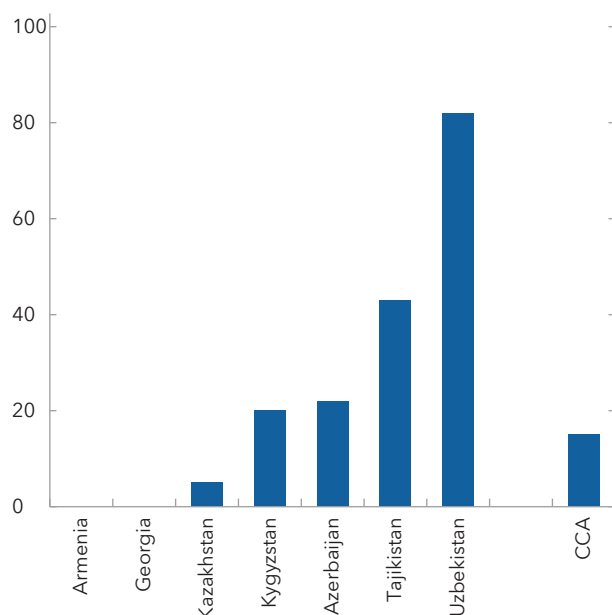
Figure 23 provides more details about financial institutions’ development. CCA financial institutions perform relatively well in terms of efficiency, which covers variables such as ROE, ROA, net interest margin, overhead costs, and non-interest income. Some countries (Armenia, Georgia, Uzbekistan) are scoring well in terms of access as well (branches and ATMs per 100,000 adults). In contrast, the region is lagging on depth (private credit, pension fund, and mutual fund assets and insurance premiums), with all countries’ scores consistently lower than the EMEU score.

The presence of state-owned banks (SOBs) can negatively affect financial development, as SOBs tend to be less efficient and less profitable than private banks. For example, in Central, Eastern and Southeastern Europe (CES) they consider-

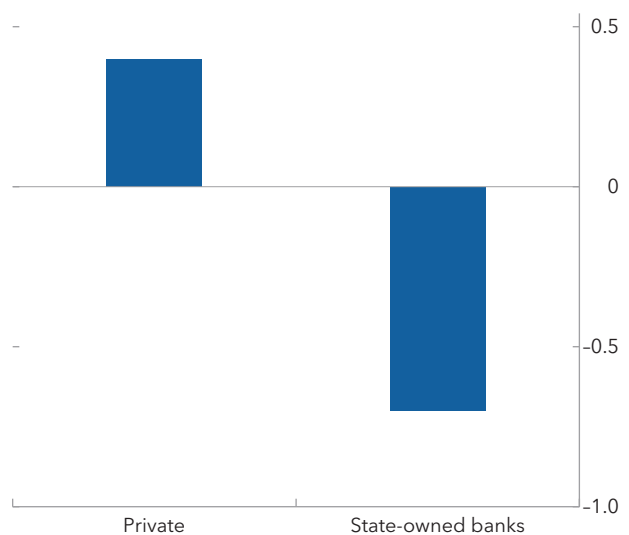
ably underperform their private sector peers. However, in the CCA countries there are large differences regarding the SOBs presence (Figure 24). Armenia and Georgia do not have SOBs, while SOBs own most of banking sector assets in Uzbekistan, about one-half in Tajikistan, and about 20 percent in Azerbaijan and the Kyrgyz Republic, which are all above the 15 percent average share in CSE countries.

**Figure 24. State-Owned Banks in the CCA**

**1. State-Owned Bank Assets**  
(Percent of banking sector assets)



**2. Return on Assets in Central, Eastern and Southeastern Europe**  
(Percent)



Sources: IMF (2019b, 2022b).

A number of policies and reform measures could support growth-friendly financial development (see Sahay and others 2015, IMF 2018b, IMF 2022b). These include strengthening regulatory and supervisory frameworks, including compliance with Basel Core Principles, Insurance Core Principles and IOSCO Principles; enforcing the rule of law, property rights and creditor rights; enhancing banking competition, transparency, and information sharing; limiting the role of SOBs; and supporting development of capital markets.

### Human Capital and Labor Market

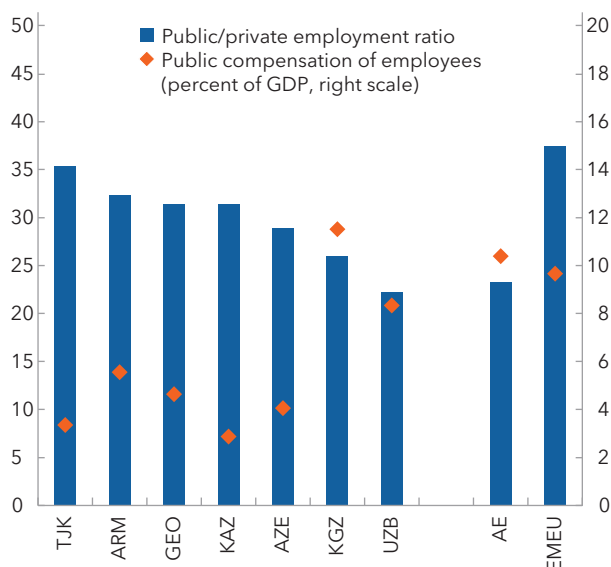
Governments have a critical role to play in developing human capital which is essential for sustainable and inclusive long-term growth (Barro 2013). This role includes the provision of adequate healthcare and education, including skills upgrading, to increase labor productivity and provide better employment opportunities for rapidly growing CCA populations, especially in Central Asia. They can also facilitate efficient functioning of labor markets by developing legal and institutional frameworks that support competitive allocation of labor across public and private sectors, but also protect the rights of both employers and employees.

A well-functioning state will need an effective civil service to deliver public goods and services, but competition with the private sector for skills may lead to undue pressures in the labor market, especially if the public sector is a large employer. The share of public employment in most CCA countries is broadly comparable with EMEU, but average public sector compensation is generally lower (Figure 25). While the relatively timid development of the private sector may have helped sustain the attractiveness of public sector employment, increasing competition for skilled labor may require a reform of the public employment and compensation framework.

CCA countries benefit from a strong human capital base, but improving it further is fraught with challenges. Primary and secondary education have led to quasi-universal literacy; and healthcare has achieved a steady increase in life expectancy (Figure 26). However, the region still lags EMEU and AE countries on the quality of education, especially tertiary education, which is key to developing skills and increasing productivity. In healthcare, the main challenge is to improve treatment for noncommunicable diseases that are becoming the leading causes of deaths, and thereby bridge the life expectancy gap with EMEU and AE.

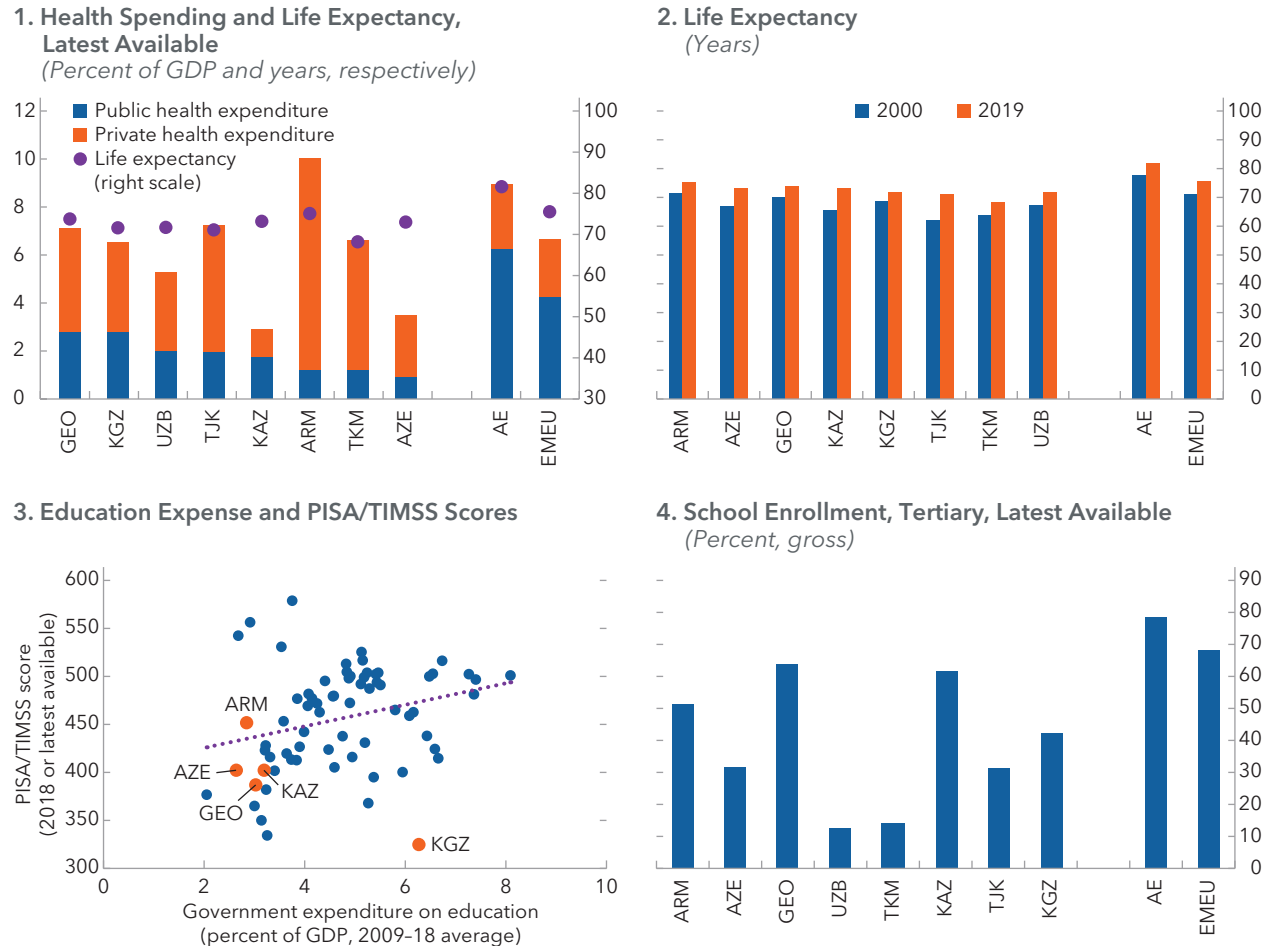
Bridging the gaps with EMEU is likely to require additional public spending on health and education (IMF 2020). CCA countries spend considerably less on health than EMEU and AE countries, while public spending levels on education show a mixed picture. High out-of-pocket health expenses with lower health outcomes call for higher state financing to improve healthcare in general, but also equity (access by lower income groups). The relevant UN Sustainable Development Goals could guide policy priorities and public spending on education.

**Figure 25. Public Sector Employment and Compensation**  
(Latest available, percent)



Sources: ILOSTAT; ILO modeled estimates; IMF, *World Economic Outlook*; and IMF staff estimates.

**Figure 26. Public Expenditure on Health and Education**

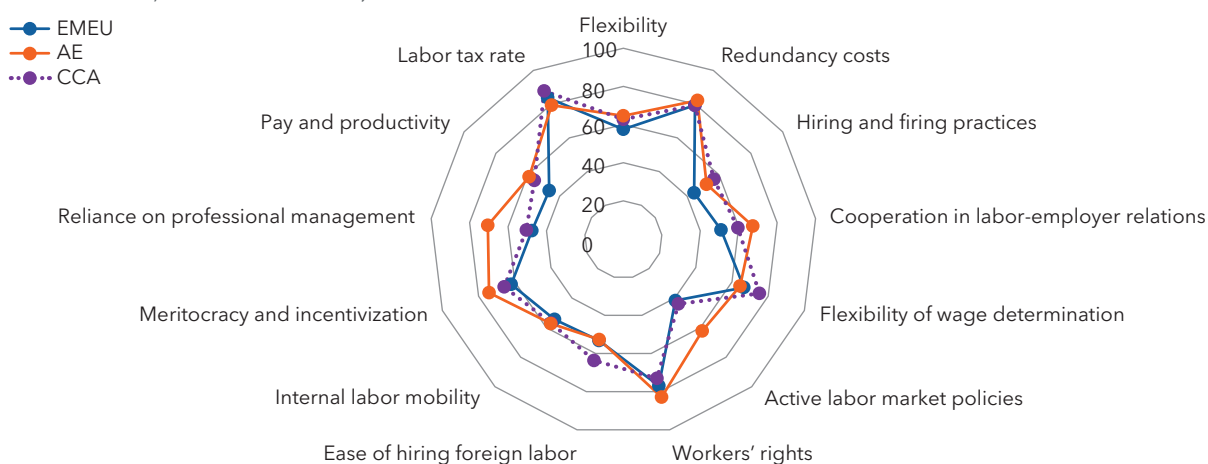


Sources: World Bank, World Development Indicators database; OECD; and IMF staff estimates.

Labor markets in the CCA compare relatively favorably with emerging European peers and lag AEs only in some areas (Figure 27). Underperformance in “reliance on professional management” and “pay and productivity” indicators could be addressed at least in part by pursuing opening to the global economy and enhancement of tertiary education. The latter should also help to address the relative weakness in “active labor market policies.” Other active measures to support the labor market may include vocational training, incentives to encourage employment, development of employment services, support for entrepreneurship or self-employment, and countercyclical employment policies.

## Conclusions

CCA countries need to redefine the role of the state to ensure more efficient resource allocation and create room for a stronger and innovative private sector, while providing public services that the private sector cannot produce efficiently. While in some countries the state presence in the economy is excessive and needs to be reduced (for example, SOEs), there is scope for more strategic involvement in other areas such as public investment, governance, financial sector development, and human capital. This chapter used different measures of state involvement and benchmarked CCA economies against peers in Eastern and Central Europe and advanced economies to identify areas where reforms have a potential to generate the largest gains.

**Figure 27. Labor Market Efficiency****Global Competitiveness Index, 2019***(Score of 0–100, where 100 is best)*

Source: WEF (2022).

Note: Figure uses both official data and survey responses from executives on areas of competitiveness, higher is better. CCA average excludes Turkmenistan and Uzbekistan (for lack of data).

CCA governments need to invest in high-quality infrastructure, especially in transport and utilities, and to support greater ICT development and innovation. While public investment in CCAs countries has been higher on average than in comparators, it has not always led to higher economic growth. PIMA assessments point to a frequent need to improve the allocation of public investment to projects with the highest economic and social returns.

Despite having declined over time, SOEs continue to play significant roles in CCA economies. They hold substantial assets and employ labor but tend to underperform compared to private sector peers—and some are loss-making. This constitutes a risk of misallocation of public resources, which could produce greater value if used more productively. To this end, CCA governments need to develop SOE ownership and management frameworks to determine which SOEs should remain in states' hands (for example, serving public policy objectives), and which should be divested or privatized. The performance of all remaining SOEs should be improved by strengthening corporate governance frameworks.

CCA countries have room to improve governance and reduce corruption perceptions, which are crucial in attracting foreign investment and the associated transfer of skills and technology, and in spurring private sector-led growth. Strengthening the rule of law, the regulatory framework, government effectiveness, and control of corruption could yield substantial growth dividends. The experiences of Armenia and Georgia show that governance can be improved significantly in a relatively short period of time.

Despite some progress, financial development in the CCA remains below the comparators in emerging European markets and advanced economies. Improving performance efficiency of both financial institutions and financial markets could spur greater economic development. This requires reforms to strengthen regulatory and supervisory frameworks, enforcing property rights, enhancing banking competition, transparency, and information sharing, and limiting state ownership of banks.

The state has an important role in developing human capital and labor markets. Basic education and health-care appear solid in the CCA region, but the outcomes of tertiary education and advanced healthcare fall considerably behind its peers. Public healthcare and education spending needs to increase and focus on areas with the largest gaps, including skills development and treatment of noncommunicable diseases,



which could increase labor productivity and life expectancy, while at the same time reducing fiscal leakages, including spending on inefficient SOEs, tax expenditures etc. This should be supplemented with measures to improve competitiveness of labor markets, professional management, and active labor market policies.

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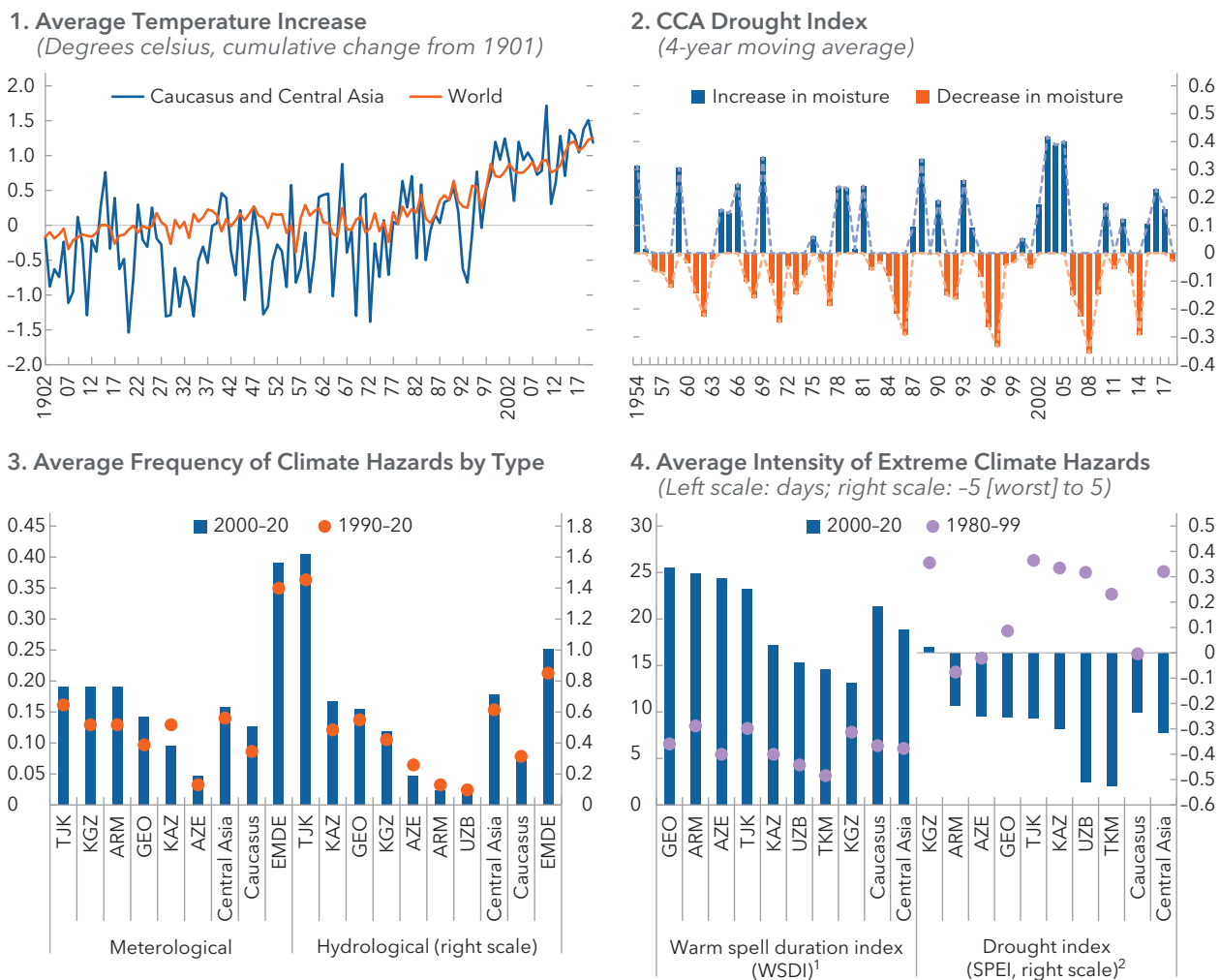
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# 3. Climate Change and Long-Term Growth

## A. Introduction

Climate change is reshaping global climate patterns, including in the Caucasus and Central Asia (CCA). Mean temperatures have risen faster in the CCA than elsewhere and, coupled with more unstable rain cycles, have led to more intense weather calamities (Figure 28). Droughts have become more frequent, which could further increase aridity, especially in drought-prone regions of Central Asia, jeopardizing water and food security. More frequent floods have already caused significant damage to infrastructure and a large human toll in CCA's mountainous areas. Rising temperatures and frequent weather calamities weigh on agriculture, which has historically been the main source of livelihood for rural populations in the region. Furthermore, erratic water supply disrupts mining and hydropower generation, while natural disasters also discourage tourism, particularly in vulnerable mountainous areas.

**Figure 28. Climate Change in the CCA**



Sources: The World Bank; EM-DAT; and IMF staff calculations.

The main policy challenge is to place the region on a more sustainable growth path. This requires balancing multiple policy objectives, including curbing greenhouse gas emissions and protecting the environment, transitioning to a low-carbon and higher efficiency growth model, adapting human and physical capital to this new model, and protecting the vulnerable. As will be shown below, climate policy has an important role to play in reducing climate risks and the associated output and employment losses, and in financing the low-carbon transition.

CCA oil importers and oil exporters are facing different climate policy trade-offs. Decarbonization is expected to lead to reduced global oil demand and lower energy prices, impacting in different ways CCA oil importers and oil exporters. Global mitigation and domestic adaptation can significantly reduce climate-related output losses in CCA oil importers, supported by improvements in their terms of trade. However, to reap potential gains from global mitigation, CCA oil exporters also need to address transition risks through timely diversification and countercyclical fiscal policies. Failure to diversify away from hydrocarbons could result in terms of trade and fiscal volatility, with negative repercussions to long-term growth.

This chapter assesses the impact of climate change on long-term growth in the CCA. It investigates channels of transmission of climate change and its distributional impact, and potential gains from appropriately designed macroeconomic policies. It extends the model by Kahn and others (2021) by introducing new features that examine the impacts of temperature and a new drought index on factors of production.<sup>22</sup> The novelty of the approach is to integrate adaptation and transition risks in standard global mitigation scenarios, which allows to investigate complex trade-offs and interactions between climate policies and macroeconomic policies and their implications for long-term growth.<sup>23</sup>

## B. Long-Term Growth Impact of Climate Change<sup>24</sup>

Climate change could considerably lower long-term growth in the CCA. Model estimates suggest a strong impact through total factor productivity (TFP), but capital and employment also suffer because global warming and related natural disasters discourage investment (Burke, Hsiang, and Miguel 2015), damage human health and reduce productivity (Dell, Jones, and Olken 2014). If temperature deviations from their long-term trend increase persistently by 0.01 degrees Celsius per year for an extended period, then annual long-term per capita GDP growth would be lower by about 0.08 percentage points over this period. The estimates also imply that temperature negatively affects growth with lags of up to four years and therefore its effects cumulate over years. This persistent nature of climate change also implies that continued shocks can impact long-term growth rates (Kahn and others 2021).

Poorer countries appear particularly susceptible to climate change. The estimates point to a negative nonlinear relationship between countries' vulnerability to climate change and income levels. Countries with per capita incomes below \$10,000 appear most sensitive to global warming (Figure 29), likely because these economies rely on climate-sensitive sectors such as agriculture, energy, mining, and tourism and lack sufficient financial and human resources. Moreover, the sensitivity of growth to global warming increases with the size of poverty gaps suggesting that climate change can lead to cross-country divergence of incomes in the long term (Figure 30).<sup>25</sup>

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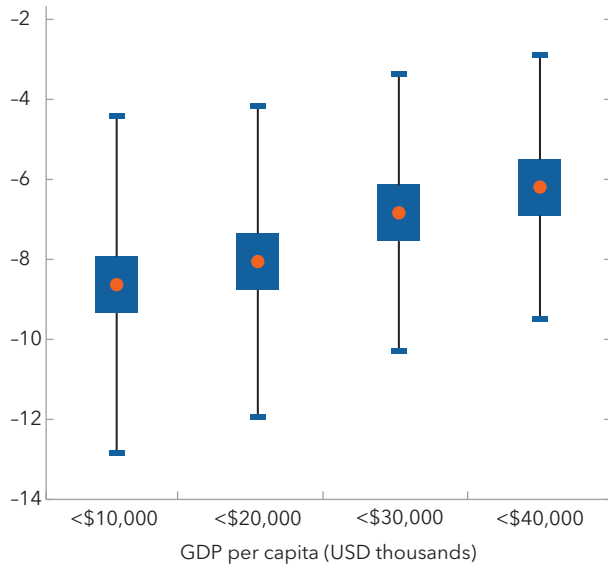
<sup>22</sup> Kahn and others (2021) model climate change as persistent deviations of temperature and precipitation from their long-term trends (climate) and investigate its impact on long-term growth.

<sup>23</sup> The approach distinguishes between weather fluctuations and climate change (Dell, Jones, and Olken 2014). While the former has predominantly short-term growth effects, the latter could impact long-term growth trajectory. The empirical analysis is based on an Autoregressive Distributed Lag model for 152 economies over the period 1970-2020. For detailed description of the methodology, see Tintchev and Tuuli (forthcoming).

<sup>24</sup> The findings in this section are based on Tintchev and Tuuli (forthcoming).

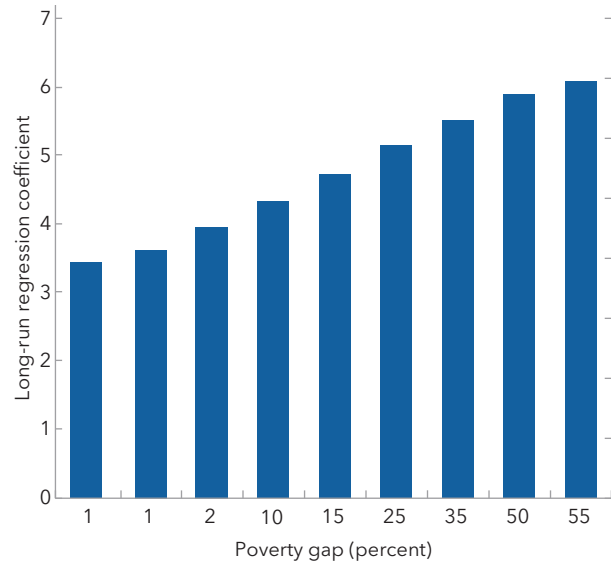
<sup>25</sup> The long-term responses of poverty to temperature become large and statistically significant for countries with poverty gaps above 10 percent.

**Figure 29. Growth Responses by Income Level**  
(Long-run responses to temperature shocks)



Sources: World Bank; and IMF staff estimates.

**Figure 30. Poverty Gap Response by Poverty Level**



Sources: World Bank; and IMF staff estimates.

Note: Estimates from quantile regressions.

Climate policies can bring distinct and mutually reinforcing economic benefits to the CCA. Global mitigation is essential to contain temperature increases, but domestic adaptation policies to increase fiscal savings, and strengthen human capital and social protection could improve resilience to climate change.<sup>26</sup> Global warming is found to weaken growth more in countries with large agricultural and industrial sectors and where water insecurity is high. Hence, early measures to increase water availability would also strengthen resilience in water-dependent sectors. These findings are consistent with the region's relatively low rank on key structural determinants of resilience to climate change, which in addition to income, include the output structure, productivity, human and physical capital, and social spending.

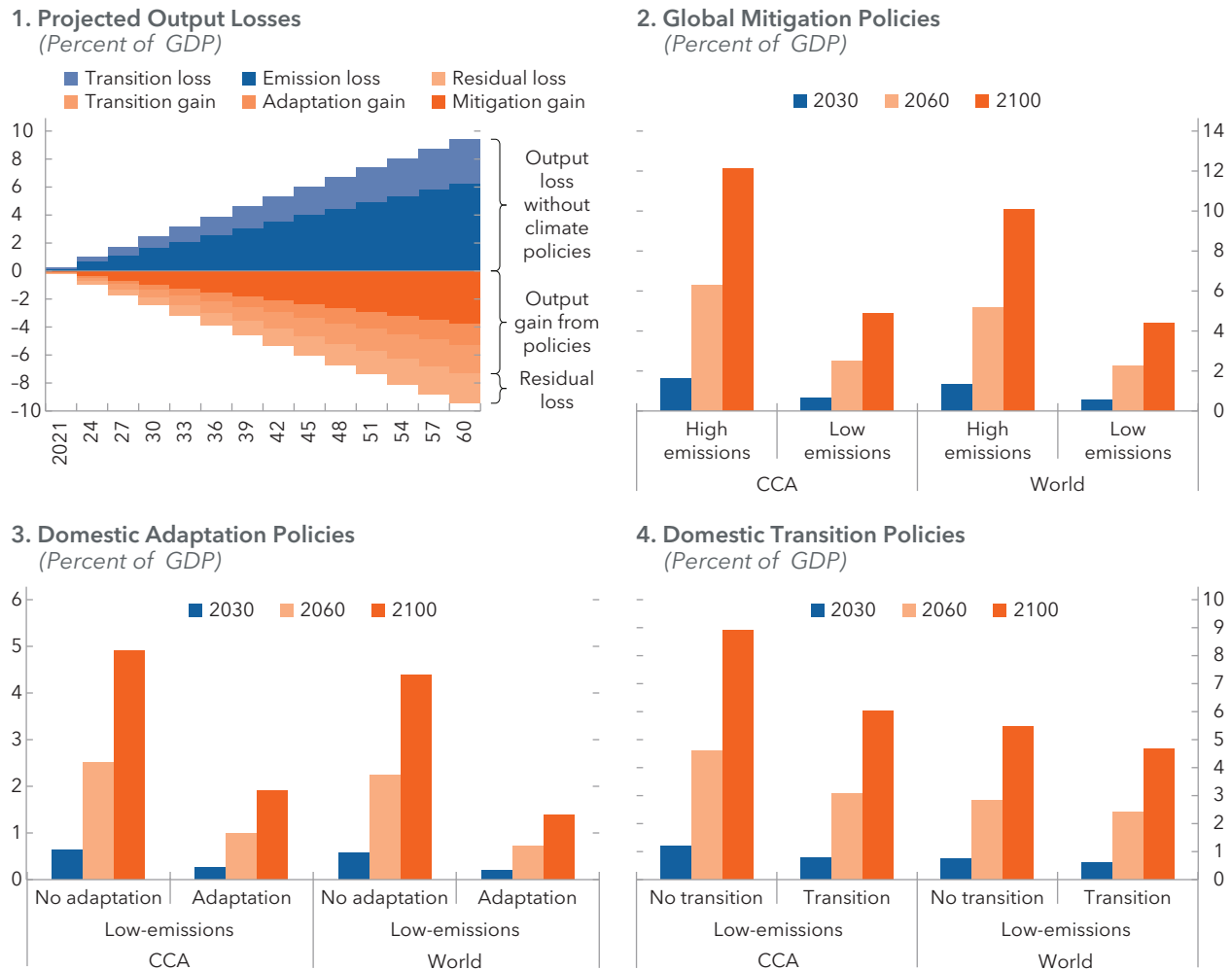
The scenario analysis (Box 1) confirms that climate change could significantly dent CCA's long-term growth potential, but the losses could be substantially reduced with global mitigation, domestic adaptation, and transition policies. Without global mitigation, regional temperatures will continue to rise faster than the global average, and CCA's annual output loss could reach nearly 6.5 percent of the baseline GDP by 2060 (Figure 31). Collective growth-friendly mitigation as committed under the Paris Agreement could cut these losses by close to 4 percent of GDP or less if the Paris Agreements are partially implemented and fiscal and external balances weaken.

Well-designed adaptation could further reduce the residual output losses. Without adaptation (but with global mitigation), average annual output losses in the CCA would exceed 2.5 percent of the baseline GDP by 2060.<sup>27</sup> Adaptive capacity will improve with income growth but to be effective, adaptation policies need to be targeted at strengthening fiscal buffers, social protection, and human capital. Countries that proactively address climate risks and start building buffers early will be better positioned to prevent long-term scarring. Domestic adaptation policies can reduce climate-related output losses by about 1.5 percent of the baseline GDP by 2060.

<sup>26</sup> For detailed discussion of potential policy responses see IMF (2022a).

<sup>27</sup> This figure does not include transition risk effects.

**Figure 31. CCA: Projected Output Loss in Climate Scenarios**  
(Per capita annual GDP losses in percent of baseline)



Sources: World Bank, and IMF staff estimates.

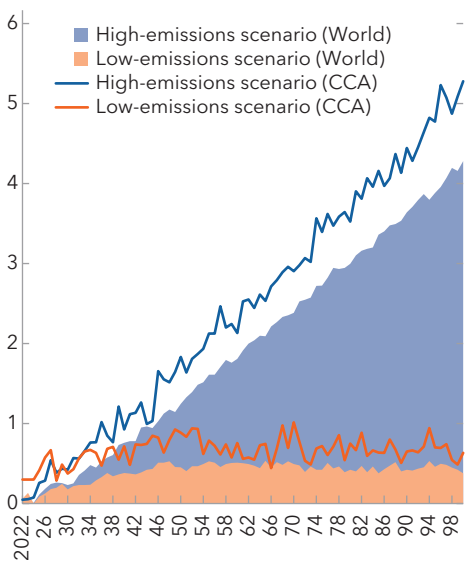
Note: Panel 1 shows the output loss from policy inaction above the x-axis and the positive effect of policies below the x-axis as well as the remaining (residual) loss. The first transition scenario assumes no active transition policies (diversification, fiscal savings, etc.) while in the second scenario such policies are put in place.

CCA oil exporters will also face the challenges of transition to a low-carbon environment. CCA's oil and gas are exported mainly to the EU and China, which have both pledged to reach carbon neutrality by 2050-60. The EU is also considering introducing a carbon border tax for non-EU importers. Moreover, in a net zero global scenario by 2050 the International Energy Agency projects gas demand to decline by 55 percent and oil demand by 75 percent from the 2020 levels (IEA 2021). This would result in lower prices and demand for CCA's oil and gas, stranded assets and consequently a significant contraction of fossil fuel production and exports, which are currently primary sources of growth, national income, foreign exchange, and fiscal revenue. Without successful transition policies, CCA oil exporters will face formidable macro-stability challenges, permanently low growth, rising unemployment, and worsening economic welfare.

The estimates show that persistent shocks to oil exporters' terms of trade and primary fiscal balances would largely erode the growth benefits of global mitigation. This erosion, however, could be avoided by building fiscal buffers and timely diversification through reforms to promote production and use of green energy, strengthening the business environment, and supporting private sector development (Figures 32 and 33).

### Box 1. Scenario Analysis

**Box Figure 1.1. Temperature Projections**  
(Cumulative increase; degrees celsius)

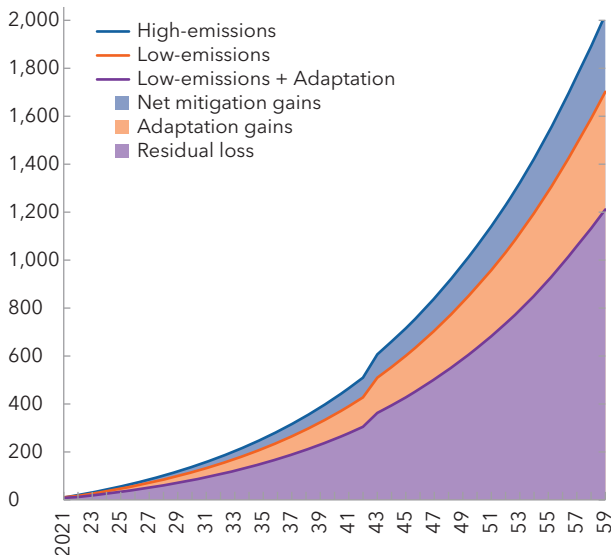


Sources: World Bank, Climate Change Knowledge Portal; and IMF staff estimates.

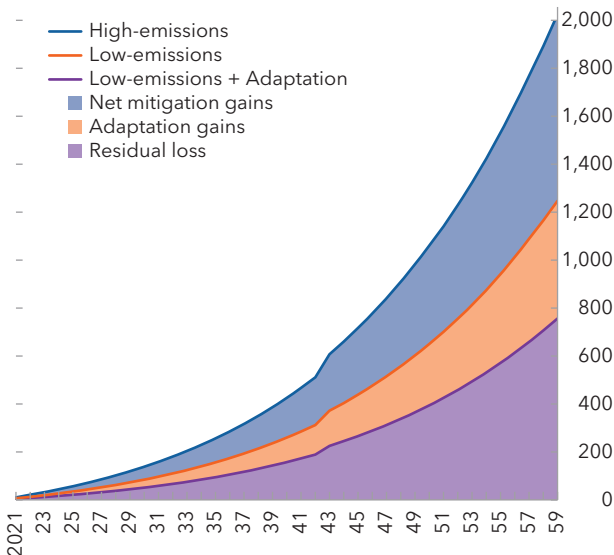
Five policy scenarios are considered. In the high-emission scenario no global mitigation policies are implemented, and global temperatures persistently rise by more than 4 degrees Celsius by 2100. In the low-emission scenario, global mitigation consistent with the Paris Agreement keeps temperature increases below 1 degrees Celsius. The gains from global mitigation are estimated as a difference in projected outputs between these two scenarios. The adaptation scenario gauges potential output gains from reducing the sensitivity of growth to climate change. Lastly, two scenarios look at transition trade-offs for oil exporters by estimating output losses with and without timely transition measures in anticipation of the declines in hydrocarbon prices and production. Output losses are benchmarked against the baseline where temperatures follow long-term trends

**Figure 32. Transition Losses in CCA Oil Exporters, 2060**  
(Per capita GDP losses in USD)

#### 1. High Transition Losses



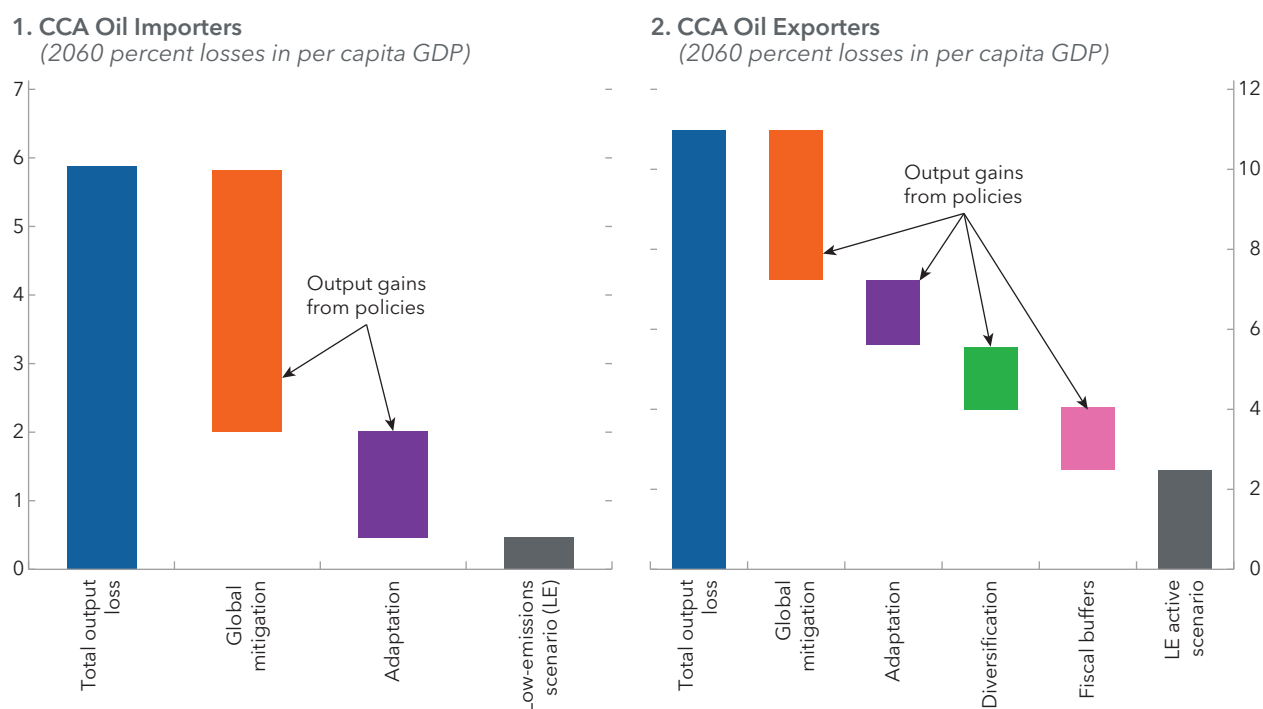
#### 2. Low Transition Losses



Sources: World Bank; and IMF staff estimates.

Note: CCA's gains from global mitigation are netted against its estimated transition-related output losses. Panel 1 reflects the transition losses that would prevail if no transition policies were implemented (diversification, fiscal savings, etc.). Panel 2 is based on the transition losses implied by the scenario with active transition policies.

**Figure 33. Potential Policy Gains in CCA Oil Importers and Exporters, 2060**  
(Per capita GDP losses in percent of baseline)



Sources: World Bank; and IMF staff estimates.  
Note: Middle bars represent avoided output losses.

## C. Climate Policies

### Mitigation

CCA's carbon footprint is small and accounts for less than 2 percent of global emissions (Figure 34). However, per capita emissions are high, especially in Central Asia. Kazakhstan, Turkmenistan, and Uzbekistan account for the bulk of regional emissions, 40 percent of which come from electricity and agricultural sectors. In oil exporters, power generation is mostly based on fossil fuels and accounts for the largest share of emissions. In oil importing countries, agriculture contributes the most to emissions.

All CCA countries have committed to reducing their carbon footprint as part of the Paris Agreement and submitted nationally determined contributions (NDC). Most countries have since ratcheted up their unconditional targets to reduce GHG by 2030 (Table 3). The progress, however, has been uneven across the region. The IMF's Carbon Pricing Assessment Tool (CPAT) (Black and others, 2022) suggests that the current mitigation policy mix in Azerbaijan, the Kyrgyz Republic and Kazakhstan may not be sufficient to curtail emissions to their targets. On the other hand, Georgia, Uzbekistan, and Tajikistan appear to be on track to meet their unconditional commitments. Armenia is also likely to achieve its conditional target.

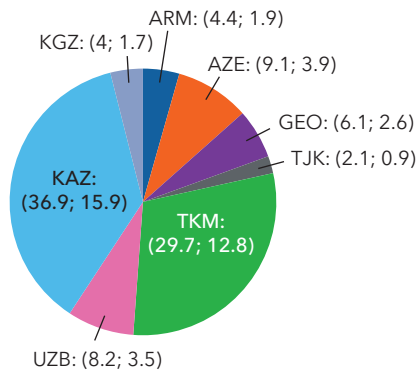
Carbon pricing is a direct and efficient way of reducing carbon emissions by incentivizing firms and households to internalize the related costs based on carbon content. This can be accomplished either through carbon taxation or an emissions trading system (ETS). A carbon tax determines the CO<sub>2</sub> price directly, allowing emissions to adjust, while an ETS controls emissions through quotas which firms can trade with one another while the market determines the price. Carbon emissions can also be priced through payments for



**Figure 34. CCA Countries: Carbon Emissions**

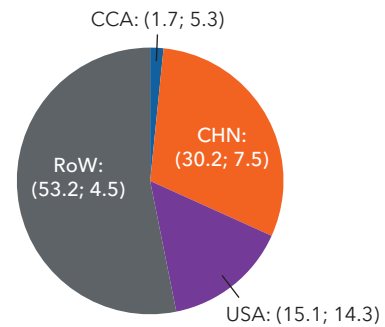
**1. CCA Total Emissions, 2019**

(Percent of total; million tonnes per capita)



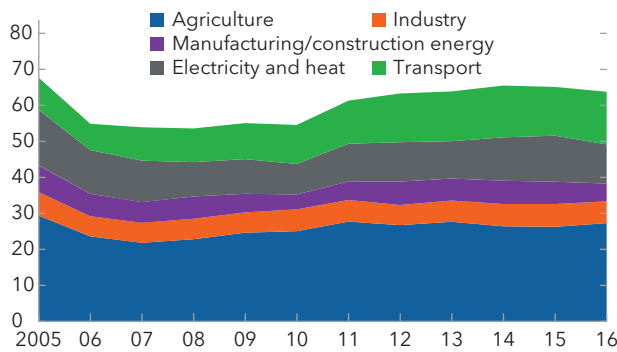
**2. World: Total Emissions, 2019**

(Percent of total; million tonnes per capita)



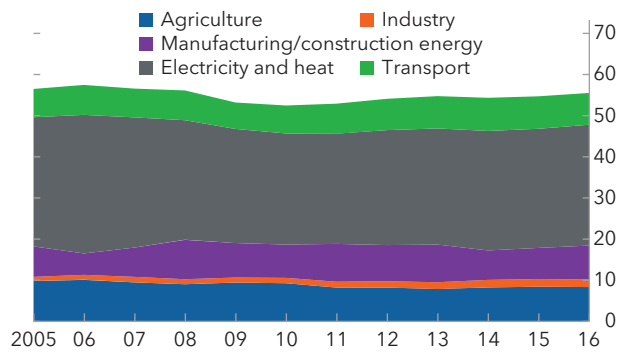
**3. Oil Importing: Sectoral GHG Emissions**

(Percent of total emissions)



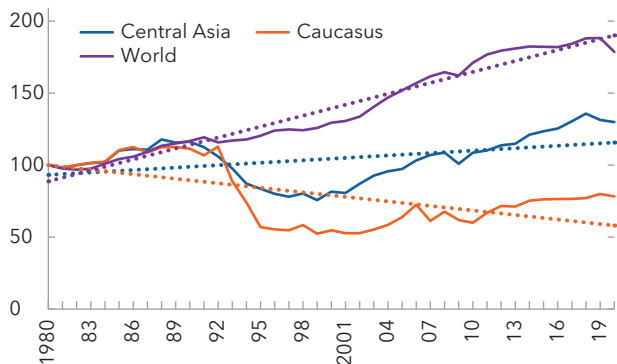
**4. Oil Exporting: Sectoral GHG Emissions**

(Percent of total emissions)



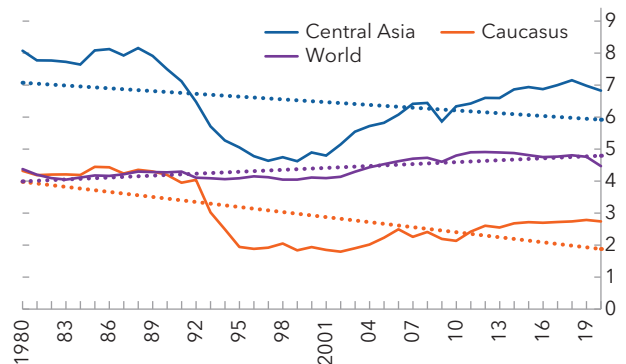
**5. Average CO<sup>2</sup> emissions**

(Index, 1980 = 100)



**6. Average CO<sup>2</sup> emissions per capita**

(Million tons per capita)



Sources: Google Earth Engine; Ritchie and Roser (2020); and IMF staff estimates.

**Table 3. CCA: Nationally Determined Contributions***(Percent below 1990 emission levels unless indicated otherwise)*

	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Year of NDC	2021	2017	2021	2016	2021	2021	2016	2021
Net Zero Target				Yes, by 2060				Yes, by 2050
Unconditional Target	None	35	35	15	16	30–40	< GDP growth	35
Conditional Target	40	None	50–57	25	44	40–50	zero CO <sub>2</sub> growth	None

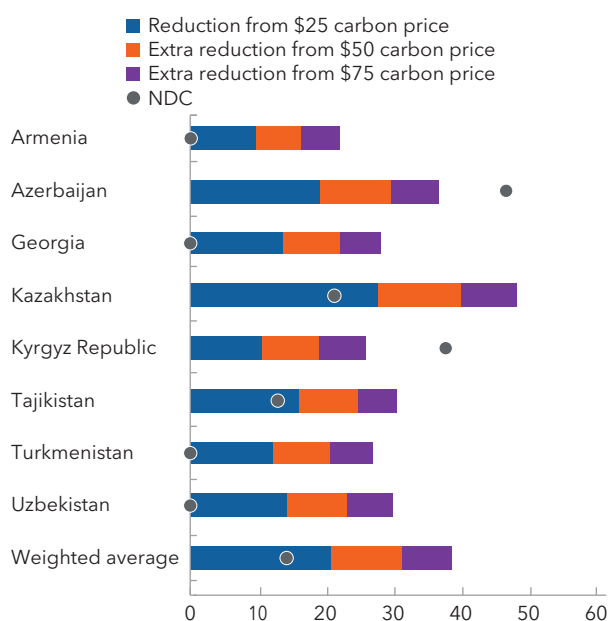
Sources: Cerutti and others (2021); and UNFCCC NDC Registry.

Note: NDC = nationally determined contribution.

emission reductions to governments and firms (for example, World Bank Emission Reductions Payment Agreements Program—ERPAs). The recent IMF research has shown that carbon taxation could be an effective source of revenue (Parry, Black, and Roaf 2021).<sup>28</sup>

More than 60 carbon taxes and emissions trading programs currently exist at national, regional, and subnational levels, but they cover only about one-fifth of global emissions, with an average carbon tax of \$3 per tonne. This is far from the \$75 per tonne needed to reduce emissions to the levels consistent with the Paris Agreement (Parry, Black, and Roaf 2021). Apart from carbon pricing schemes, the World Bank has concluded ERPAs with 65 countries. To support Paris Agreement goals, the IMF has recently proposed a differentiated international carbon price floor for large emitters (Parry, Black, and Roaf 2021), ranging from \$25 per ton for low-income countries to \$75 per ton for advanced economies.

A regional carbon pricing mechanism for the CCA could help meet the Paris Agreement commitments while generating revenue for economic greening (Figure 35). Kazakhstan is the only CCA country with a functioning ETS (IMF 2022b). The CPAT suggests that the weighted average NDC emissions target in the CCA can be met with a uniform \$25 carbon tax on average, before elimination of subsidies. This would generate about 2.6 percent of GDP in

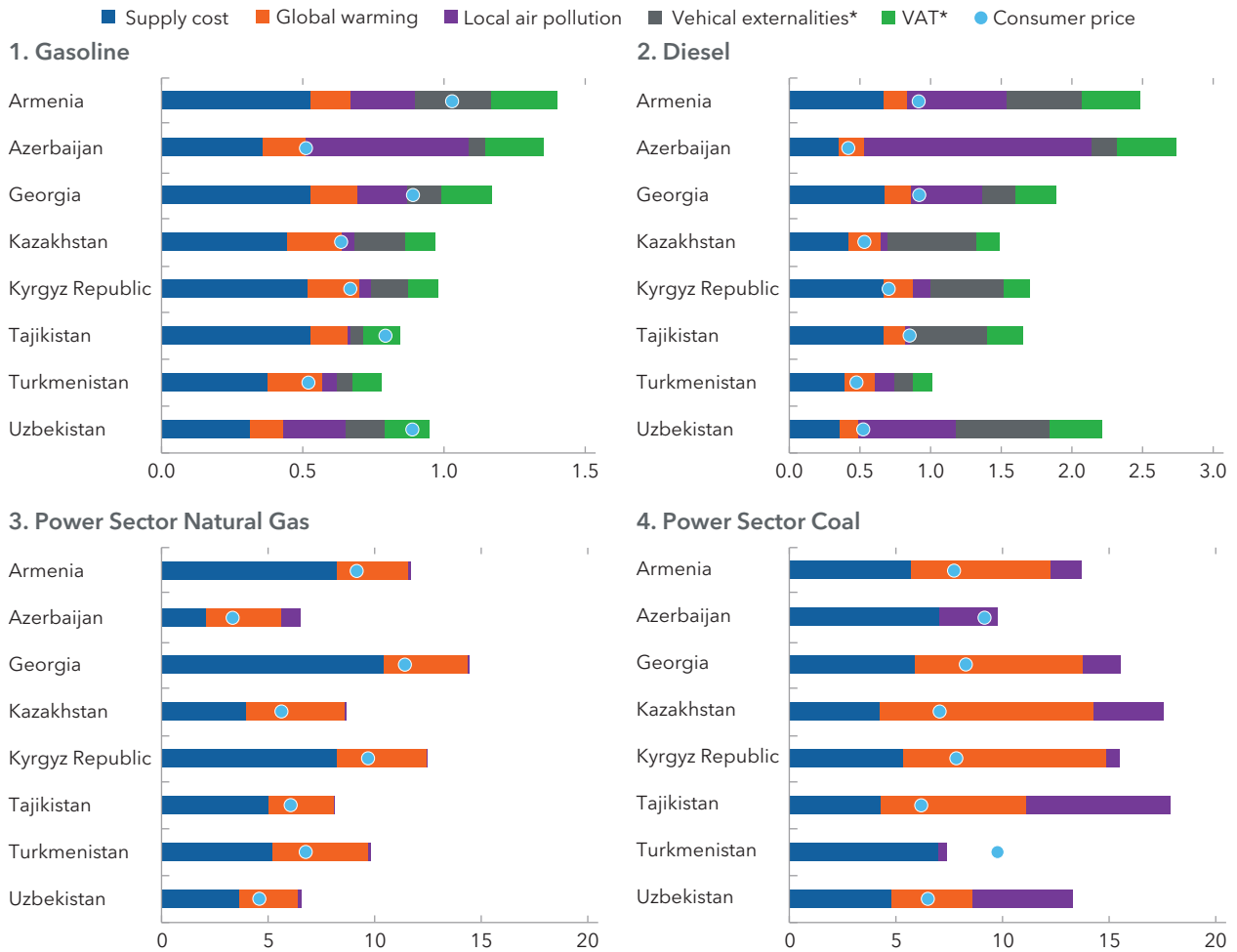
**Figure 35. Emission Reduction and Pledges**  
*(Emissions, percent of baseline)*

Sources: IMF CPAT tool; and IMF staff estimates.

Note: Armenia, Georgia and Uzbekistan have pledges that imply emissions increase in 2030 against the baseline. Turkmenistan's NDC is unquantifiable.

<sup>28</sup> In many countries with ETS, emission allowances are distributed to companies free of charge.

**Figure 36. CCA: Efficient Fuel Pricing**  
(US dollars)



Sources: IMF, CPAT tool; and IMF staff estimates.

Note: 2020 prices. Supply costs are defined as the opportunity costs of consuming domestically instead of exporting, based on import/export price parity.

revenue (from about 3.3 percent of GDP in Uzbekistan to 2 percent of GDP in Armenia). While the emission levels in Armenia, Georgia, and Uzbekistan are low and their emission targets can be achieved without a carbon tax, Kazakhstan and Tajikistan could reach their targets with a tax of less than \$25 while Azerbaijan and the Kyrgyz Republic—with \$75.<sup>29</sup>

A broader fuel pricing reform to eliminate implicit and explicit subsidies could support regional mitigation. Current fuel prices do not reflect the environmental cost of fossil fuel (Figure 36), and in almost all CCA countries are below their efficient levels, which in addition to supply costs reflect environmental costs and revenue considerations (Coady and others 2019). Explicit fossil fuel subsidies have declined somewhat over the last decade but continue to account for more than 2 percent of GDP in the Caucasus and Kazakhstan. Low fuel prices discourage energy savings and disincentivize investment in renewable energy.

Revenue from carbon taxation could offset its impact on the vulnerable and finance investments needed for diversification. Higher fuel prices could be a burden on the poor and businesses, which could be alleviated through targeted transfers to low-income households, investment in renewables, and possible cuts

<sup>29</sup> Turkmenistan is using a nonstandard target (using GDP growth as a threshold) and is not covered by the CPAT methodology.

of other distortionary taxes (for example, labor income taxes). Carbon pricing could be gradually phased in and could be considerably lower than the estimated \$25/tonne if preceded by removal of energy subsidies (see IMF 2022c).

## Adaptation

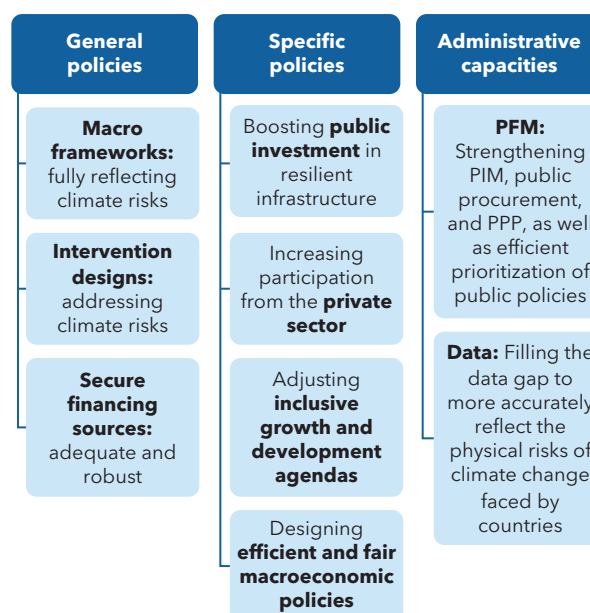
Adaptation policies are aimed at strengthening resilience of the economy to climate change and should be an integral part of broader developmental frameworks. This includes building climate-resilient infrastructure; investing in health and education to strengthen human capital; improving social protection to shield the poor; and building economic buffers, reducing poverty and unemployment, promoting income and gender equality and spurring innovation. These frameworks should also reflect climate risks and key adaptation priorities, supported by appropriate funding mechanisms, governance, coordination, and control (Figure 37).

Best practices suggest that adaptation should be guided by National Adaptation Plans (NAP) underpinned by robust legal and institutional frameworks.<sup>30</sup> CCA's NAP processes are still developing. All CCA countries are parties to the United Nations Framework Convention on Climate Change (UNFCCC) and have committed to developing NAPs (UNFCCC 2021). Armenia is the first CCA country to have published its NAP in September 2021 and has taken measures to implement its plans and integrate them into national development planning. Georgia has also made progress, completing two out of the four elements of the NAPs.<sup>31</sup> Azerbaijan and Central Asia have taken initial steps of laying the NAP groundwork and addressing gaps. Adaptation priorities could be further developed in sector-specific legal acts and plans focused on water, renewable energy, biodiversity, etc.

Adaptation priorities are increasingly reflected in CCA's legal and development frameworks. Kazakhstan's new environmental law sets adaptation priorities and institutional responsibilities. The Kyrgyz Republic enacted laws and programs to develop renewable and efficient energy and put in place a sectoral action plan for climate adaptation. Tajikistan's new adaptation and green development strategies take a multi-sectoral approach aimed at energy, water, agriculture, industry, and construction. Uzbekistan adopted a Low Carbon Energy Strategy and is developing a NAP focusing on irrigation, agricultural chains, and green energy.

Adaptation policy implementation should be supported by adequate funding. Cost estimates for the region ranged between 0.6 percent and 3.3 percent of GDP in 2020 (IMF 2022a). In addition to carbon taxation, fiscal space for adaptation can be generated from multiple sources: elimination of energy subsidies (Figures 38 and 39), reprioritizing expenditure, diversifying the tax base, removing tax exemptions, and strengthening revenue administration. Possibilities for public-private partnerships should also be explored. Adaptation

**Figure 37. Holistic Adaptation Strategies**

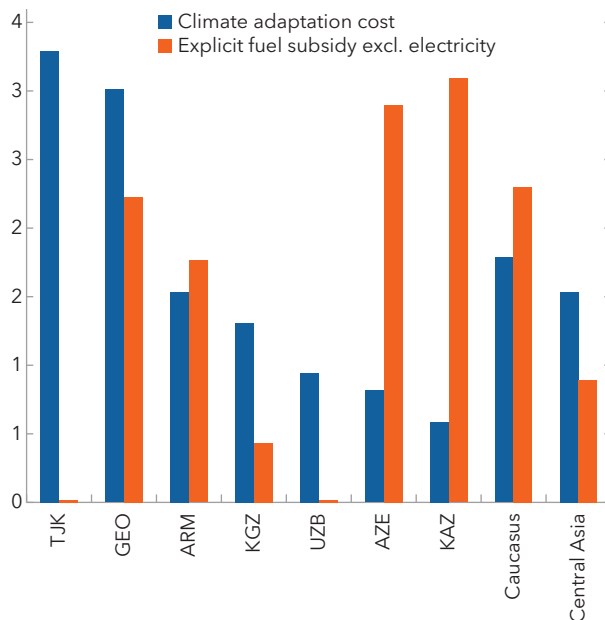


Source: IMF (2022a).

<sup>30</sup> The NAP process, launched by the United Nations in 2010, provides capacity building and financial support to (1) identify adaptation needs; (2) prioritize actions in national and sectoral planning; (3) strengthen institutional capacity and regional coordination; and (4) monitor, review, and update NAPs (UNFCCC 2012).

<sup>31</sup> The four elements are (1) lay the groundwork and identify gaps in information and administration; (2) strategic orientation and preparation; (3) implementation strategies; and (4) report, monitor, and review.

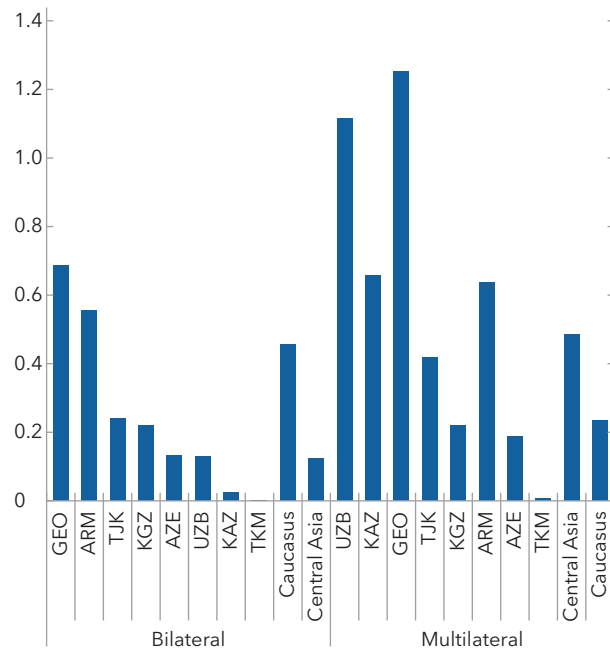
**Figure 38. Adaptation Costs and Fuel Subsidies, 2020**  
(Percent of GDP)



Sources: Parry, Black, and Vernon (2021); IMF, *World Economic Outlook*; and IMF staff calculations.

Note: The data do not reflect subsequent subsidy reforms. Climate adaptation costs cover floods and storms and do not capture investments needed to protect against other risks, including droughts and heatwaves.

**Figure 39. Average Adaptation Financing, 2009-19**  
(2019 US dollars, billions)



Sources: IMF; OECD; and IMF staff calculations.

needs should be subject to rigorous cost-benefit analysis and weighted against other government priorities (Bellon and Massetti 2022). Some adaptation measures (like social safety nets) overlap with other development policies and thus come without added cost (Hallegatte, Rentschler, and Rozenberg 2020).

A number of external financing sources are available. Multilateral development banks provide climate financing, particularly in sectors such as water, energy, infrastructure, and food production. The IMF Resilience and Sustainability Facility offers long-term financing for reforms to strengthen resilience to climate change. Grant-based assistance is available from bilateral donors and UNFCCC sources, including the GCF, The Least Developed Countries Fund, and the Special Climate Change Fund.

Other multilateral providers include the Pilot Program for Climate Resilience, the Adaptation for Smallholder Agriculture Program, and the Adaptation Fund.

## Transition

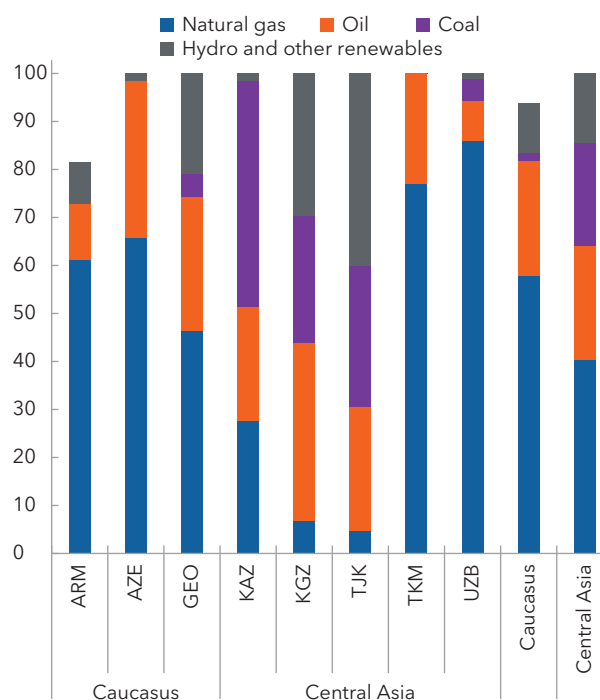
Decisive steps are needed to address transition risks. A smooth transition will require measures to reduce dependence on oil, build countercyclical fiscal buffers, and strengthen the business climate to support non-oil investments. Achieving these goals will take time, which underscores the urgency of early action and policy debate on these long-term challenges. The needed policy packages could include:

- Diversification of the economy will be key to minimizing transition risks. This will require advancing structural reforms to address the most binding constraints to non-oil growth and raise potential output (see Chapter 1). Priority reforms include governance and transparency, the rule of law, competition, and

access to finance and trade. These reforms are important to improve the business environment and support regional integration and access to global value chains. Targeted tax incentives could be used sparingly to promote a switch to greener technologies.

- Improving energy efficiency would contribute to decarbonization and strengthen fiscal buffers. Oil exporters need to reduce energy leakages and technical losses; raise energy prices to full cost recovery, including externalities; and encourage greater private sector participation in the energy and transportation sectors.
- Targeted social protection for the affected communities would need to be increased and combined with active labor market policies such as training, skills upgrading, and retooling (Peszek and others 2020).
- Transition management, including investment in green energy and industries, will require significant financial resources. Fiscal buffers can be strengthened by saving a higher share of oil and gas revenue, including the windfalls from the current high fossil fuel prices, and enhancing investment policies of sovereign funds to generate higher returns. In addition, carbon taxation has a large revenue generation potential in some countries (for example, Kazakhstan). Reduction of non-priority spending and elimination of energy subsidies would create additional fiscal space. In addition, countries should seek external climate financing although the rising debt levels may become a constraint.

**Figure 40. Total Energy Mix**  
(Percent of total energy supply)



Sources: International Energy Agency; and IMF staff calculations.  
Note: Renewable energy capacity installed after 2019 is not included.

Expanding green electricity generation capacity would serve both mitigation and transition objectives. At present, the region generates most of its electricity from fossil fuels (Figure 40), and the sector accounts for the bulk of carbon emissions. In the Caucasus only about 10 percent of energy supply comes from hydro and renewable sources while in Central Asia this share is about 15 percent. Changing this balance entails transition risks, and CCA oil exporters would need to invest in renewable electricity. Azerbaijan, Kazakhstan, and Uzbekistan have pledged to increase shares of renewables in power generation to 15–30 percent by 2030 and to about 50 percent by 2050–60 (IEA 2015). They have made initial strides to develop their solar, wind, and small hydropower potentials but progress is hindered by regulatory and financial constraints (Laldjebaev, Isaev, and Saukhimov 2021). Kazakhstan currently hosts the largest wind farm in Central Asia and is planning to build wind and solar parks in the windy parts of its territory and hydropower stations in the mountains. There is also scope for oil exporters to leverage the significant hydropower potential of the Kyrgyz Republic and Tajikistan and by partnering with these countries on new hydropower projects and sharing the costs.

## Conclusions

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The CCA region is particularly vulnerable to climate change. Rising temperatures and more frequent and severe climate hazards expose CCA's economies, which are concentrated in weather-prone sectors, such as agriculture, energy, mining, and tourism, especially in Central Asia. Without strong global mitigation efforts and climate policies, regional temperatures will continue to rise, causing significant loss of output through productivity, investment, and employment channels. Proactive and early implementation of climate policies is needed to shield CCA economies from the impact of climate change. Global mitigation and domestic adaptation would almost fully eliminate climate-induced output losses in oil-importing countries. Oil exporters would also need to manage transition risks, which if left unaddressed could take a significant toll on growth.

CCA's carbon footprint is small, but its per capita emissions are high, and CCA countries should contribute their fair share to global mitigation efforts. Efficient fuel pricing would eliminate wasteful and regressive subsidies, cover negative externalities, and disincentivize the use of fossil fuel, which is a major carbon pollutant. Carbon pricing mechanisms could also reduce carbon emissions and generate revenue for investments in renewables or to finance social assistance programs.

The region's adaptive capacity is constrained by fiscal space, which has been largely eroded by two successive global shocks—the COVID-19 and Russia's war in Ukraine. CCA countries need to rebuild fiscal buffers to strengthen macroeconomic resilience, introduce or raise carbon taxation, invest in infrastructure and human capital, and strengthen social safety nets, all of which can reduce their sensitivity to climate change. Improving water management and investing in sustainable green agriculture is also critical to address the risk of water and food insecurity. Given large adaptation costs, countries should actively seek domestic and external climate financing.

Transition risks for CCA oil exporters can be substantially reduced by diversifying their economies away from hydrocarbons, which will require structural reforms to improve productivity of the non-oil sector and support regional integration and access to global value chains. Priority areas include governance, the rule of law, competition, infrastructure, trade, and green power generation.

Climate change transcends borders and can be tackled most effectively through regional policy coordination. The latter is key for developing cost-effective mechanisms for information sharing and early detection and management of disaster risks. Regional partnerships—such as regional carbon price floors or Emission Trading Systems, improved connectivity of CCA transmission networks, and joint green investment projects—would allow sharing of costs and benefits and yield significant net welfare gains to all countries.

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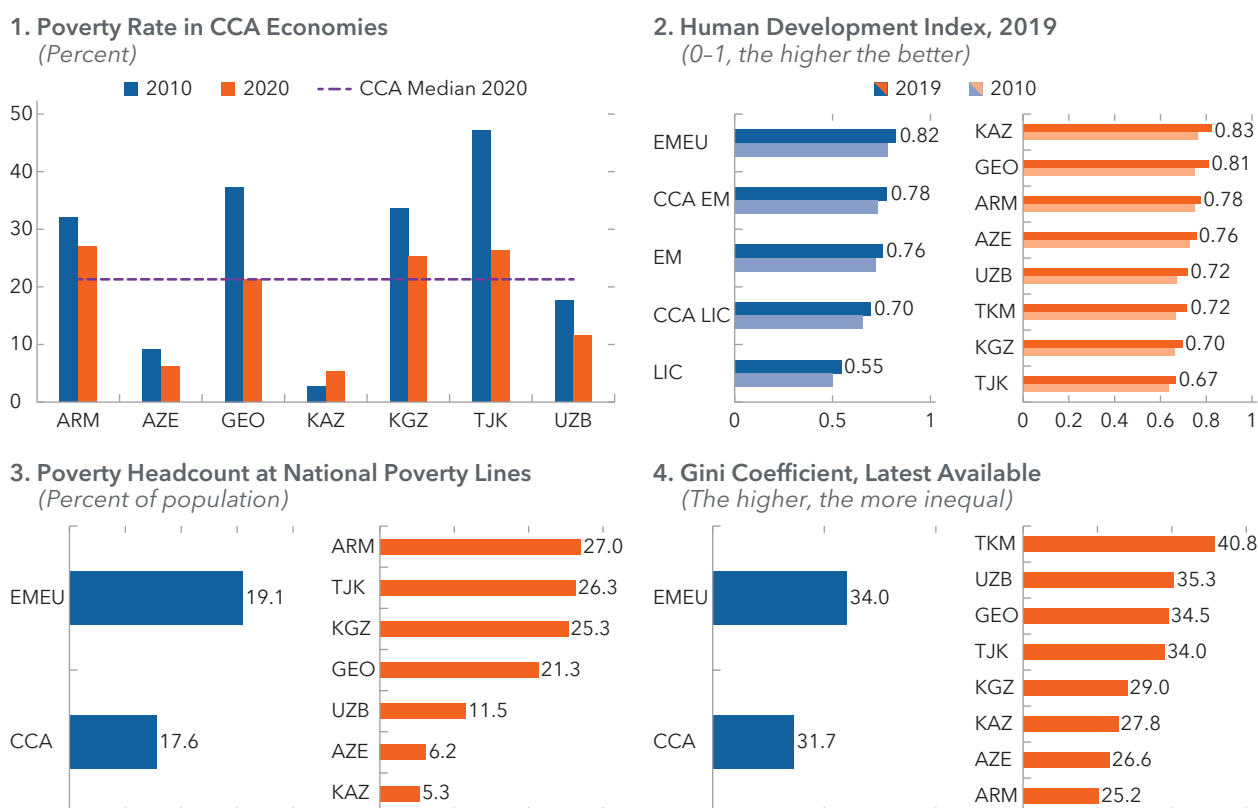
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## 4. Strengthening Social Safety Nets

### A. Introduction

Socioeconomic outcomes have improved notably in the Caucasus and Central Asia (CCA) during the last two decades, but challenges remain. Poverty rates in the region declined from 55 to 19 percent on average between 2010 and 2020 (IMF 2019a), and health and education indicators have improved (IMF 2020a). Nevertheless, poverty remains higher than in EMEU, particularly in Armenia (27 percent), the Kyrgyz Republic (25 percent), and Tajikistan (26 percent). Georgia and the Kyrgyz Republic saw an increase in poverty in 2020 due to the impact of the COVID-19 pandemic.<sup>32</sup> Inequality, measured by the Gini coefficient, is on average comparable with EMEU but varies between CCA countries, with Turkmenistan having the highest level. The Human Development Index (HDI) has improved by 6.2 percent on average but continues to lag EMEU peers. The HDI is the highest in Kazakhstan and the lowest in the Kyrgyz Republic (Figure 41).

**Figure 41. Socioeconomic Indicators in the CCA**



Sources: World Bank; UNDP; and IMF staff calculations.

<sup>32</sup> Poverty rate increased by about 7 percent in the Kyrgyz Republic and 3 percent in Georgia in 2020. The WB, Poverty calculator, <https://pip.worldbank.org/country-profiles/>.

The war in Ukraine has exposed the region to heightened risks due to its close ties with Russia through trade, remittances, tourism, and investment. The global slowdown and financial tightening, and high inflation are additional risks, while oil price volatility particularly exposes oil exporters. Remittances are also likely to slow, reducing disposable incomes, particularly in low-income CCA countries, where many rely on remittances for subsistence. As a result, poverty and inequality could rise, and social conditions worsen further.

Effective social safety nets (SSNs) can reduce poverty and inequality and promote inclusive growth. Empirical evidence suggests that income inequality has a sizable negative impact on economic growth, including by hindering investments in human capital and limiting innovation and technology diffusion.<sup>33</sup> SSN programs are non-contributory transfer programs designed to protect households from hardship and destitution by providing a minimum level of income (Grosch and others 2008). These programs can also support human and physical capital accumulation by households, improve job opportunities and help breaking intergenerational transmission of poverty and inequality (OECD 2019). SSNs are an integral part of social protection systems, and they interact with and complement social insurance and labor market programs (Box 2). They also play a key role in protecting vulnerable households from economic shocks, the importance of which has been manifested by the impacts of the COVID-19 pandemic and the recent sharp increase in energy and food prices on the poor (Box 3). Strong SSN systems would also help governments to move forward with structural reforms by mitigating possible adverse impacts on the vulnerable and mobilizing public support.

## B. Social Protection and Social Safety Nets in the CCA

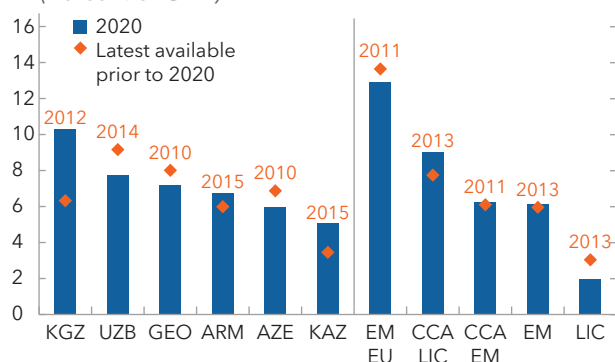
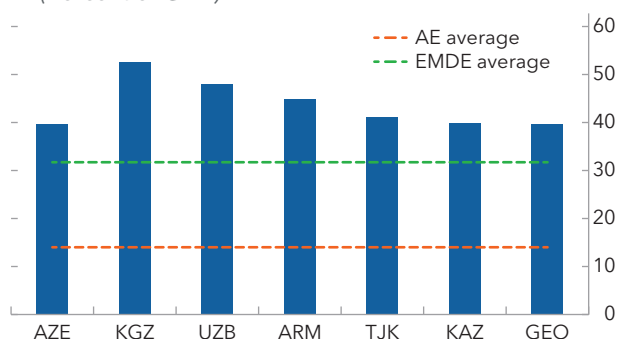
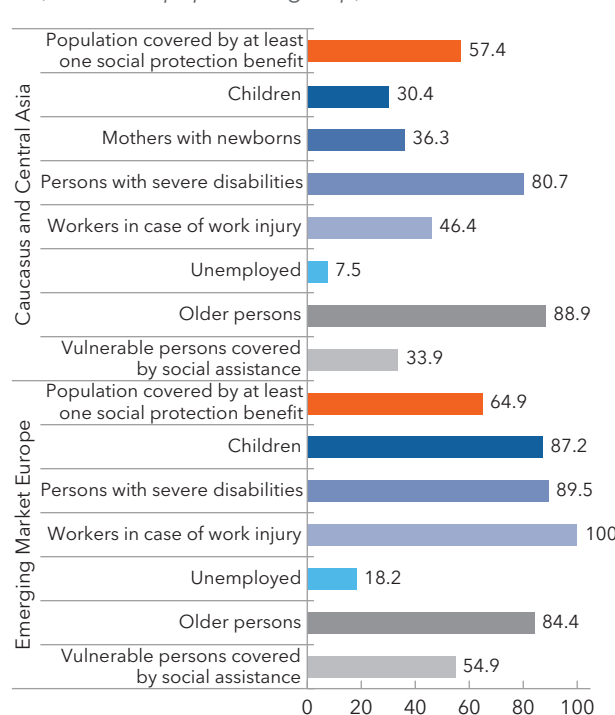
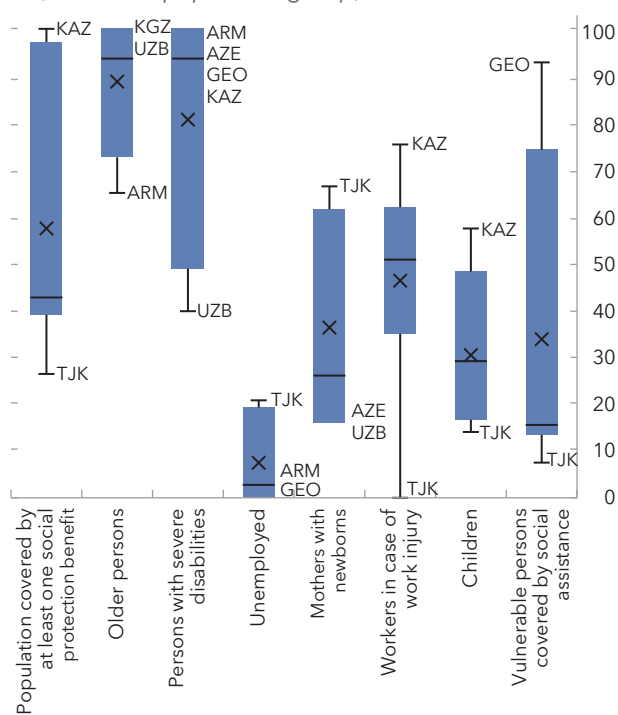
Social protection spending and its coverage in the CCA region is lower than in EMEU (Figure 42).<sup>34</sup> Total spending ranges from 4 percent of GDP in Tajikistan to 10 percent of GDP in the Kyrgyz Republic. However, a significant share of this spending in some countries (for example, the Kyrgyz Republic) is on social insurance (for example, pensions for older persons, assistance to people with disabilities), while spending to protect the vulnerable and unemployed is much smaller (OECD 2018). Moreover, the share of the population covered by at least one social benefit in the CCA is 57 percent compared to 65 percent in EMEU. The highest coverage is in Kazakhstan (97.1 percent) and lowest in Tajikistan (39 percent). Persons with severe disabilities are covered by 100 percent in the Caucasus and Kazakhstan while in Uzbekistan the coverage is only 49 percent. The CCA, however, outperforms EMEU on coverage of older persons owing to the generous categorical system.<sup>35</sup>

Labor market programs play limited roles in the CCA or are non-existent in some countries. Determination and verification of eligibility for unemployment benefits is a challenge in many CCA countries with high shares of informal economies. This is because of the difficulty to track informal workers and their pay, who may also claim unemployment benefits even if not eligible (Brollo, Ibarra, and Campante Vale, forthcoming). Further complications arise due to limited technical and administrative capacity to assist the unemployed with job search and training, which are important elements of an efficient unemployment benefit scheme. Average coverage of unemployed in the CCA is 7.5 percent relative to 18 percent in EMEU. In advanced economies labor market policies automatically scale up with adverse shocks to stabilize household income and consumption, but in the CCA income support to the unemployed is mainly provided through SSN programs.

<sup>33</sup> Lucas (1988); ILO (2011); OECD (2015); Cerra, Lama, and Loayza (2021); Maradana and others (2017).

<sup>34</sup> The quality of social spending data varies across countries in the CCA, and the results should be treated with caution.

<sup>35</sup> Categorical systems provide coverage to specific groups, but do not necessarily target the poor and the vulnerable. For more information see Box 4.

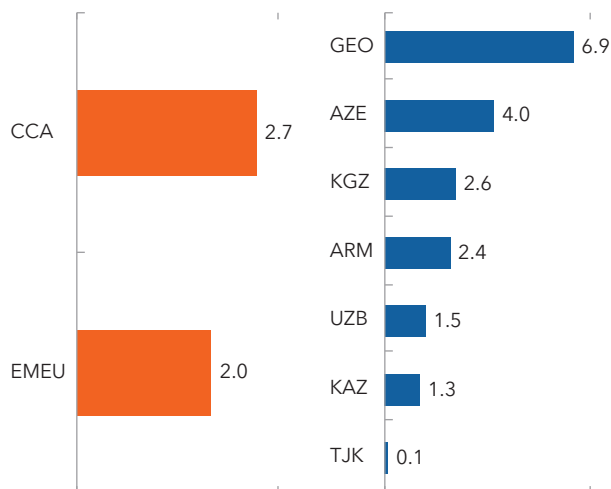
**Figure 42. Social Protection Programs in the CCA****1. Evolution of Social Protection Spending**  
(Percent of GDP)**2. Size of Shadow Economy**  
(Percent of GDP)**3. Effective Social Protection Coverage, 2020 or Latest Available**  
(Percent of population group)**4. CCA: Effective Social Protection Coverage, 2020 or Latest Available**  
(Percent of population group)

Sources: International Labor Organization; Medina and Schneider (2020); UN; WB; and IMF staff calculations.  
Note: In panel 4, data refers to 2020 or latest available.

SSN spending in the CCA on average is higher than in EMEU but varies across the countries (Figure 43). The highest level of SSN spending is registered in Georgia at 6.9 percent of GDP while the lowest is in Tajikistan at less than one percent of GDP.<sup>36</sup> Almost all CCA countries operate at least one noncontributory SSN program, which are targeted at the poor and vulnerable and are designed to provide a minimum level of income. A significant share of SSN spending, however, relates to programs based on categorical targeting such as childbirth benefits, or old age noncontributory pensions. Table 4 summarizes existing programs in CCA countries.

<sup>36</sup> Pensions in Georgia are higher than in other countries in the region, partly because they include part of contributory pensions.

**Figure 43. SSN Spending**  
(Percent of GDP)



Sources: National authorities; World Bank, ASPIRE data; and the IMF staff calculations.

SSN programs draw on social registries that in many cases are segmented and not integrated in unified information systems. In Azerbaijan and Georgia more than one SSN program relies on social registries. In Azerbaijan, Georgia, and Uzbekistan social registries exchange data with other official databases to cross-check and update beneficiary information including on ownership of assets such as real estate and cars. Uzbekistan includes remittances in incomes calculation. In the Kyrgyz Republic, on the other hand, each SSN program has its own information system and data exchange is not fully automated. In Tajikistan data exchange between different state agencies is also not well established.

Digitalization would help to modernize the information and delivery systems, improving efficiency. In all CCA countries benefits are paid digitally through banks or post offices. Kazakhstan, for example, introduced a digital

platform that connected and automated large number of government databases to assess eligibility of applicants for social benefits. However, overall digitalization of the region is still weak. For example, nearly half of the population in Central Asia are not digitally connected (World Bank 2022b), and applications in most countries are not automated and are processed manually, especially in remote areas. Cooperation and information sharing between government agencies are limited, which significantly increases administrative and information processing costs and raises probabilities of errors of exclusion and inclusion. SSNs can be considerably strengthened by introducing digital identification systems, such as digital IDs, biometrics, and social security numbers; integrating various household-level databases that include income, age, household composition, education, occupation, assets, home ownership, etc.; and developing inclusive, safe and transparent delivery mechanisms such bank accounts, mobile money, e-wallets, digital vouchers, smart cards, etc.<sup>37</sup>

SSNs should be carefully designed to generate maximum social benefits for the society in a most cost-efficient manner. Three interconnected features that underpin macro criticality of SSNs and are often used to characterize them are spending adequacy, spending efficiency and fiscal sustainability (IMF 2019; see Box 4 for definitions). This paper examines SSNs in the CCA region across these three characteristics and focuses primarily on the poorest quintiles as poverty reduction largely depends on providing adequate support to the most vulnerable.

- Spending adequacy refers to the total amount of SSN spending that is needed to provide sufficient income to the poor and reduce poverty. The larger the coverage and the poverty gap, the greater are the spending needs.<sup>38</sup>

<sup>37</sup> An example of successful database integration is Thailand, where 20 digital databases are inter-linked, allowing online application processing and benefit eligibility verifications with only a national ID number. In Spring 2020 alone, Thailand approved about 23 million applications from informal sector workers and farmers, which is more than half of their working-age population (World Bank 2022a).

<sup>38</sup> Since the objectives of some SSN programs may go beyond a narrow focus of poverty alleviation, they may require a more comprehensive evaluation that takes on board such broader objectives, which in turn requires a clear understanding of the policy objectives. It also requires an evaluation of a country's capacity to design and implement alternative transfer and tax policies (IMF 2022a).

**Table 4. Social Safety Nets in CCA Countries**

	Name of program	Spending (Percent of GDP)	Coverage <sup>1</sup>
Armenia	Family allowance	0.3	7.7
	One-off childbirth allowance	0.3	2.0
	Old-age allowance <sup>2</sup>	0.1	0.4
	Other social benefits <sup>3</sup>	2.0	n/a
	<b>Total</b>	<b>2.7</b>	<b>10.1</b>
Azerbaijan	Targeted social assistance	0.3	3.3
	Other social benefits	1.3	6.0
	<b>Total</b>	<b>1.6</b>	<b>9.3</b>
Georgia	Poverty benefit	0.8	11.5
	Other social <sup>4</sup>	1.4	11.8
	Non-contributory pensions	4.7	20.5
	<b>Total</b>	<b>6.9</b>	<b>43.8</b>
Kazakhstan	Targeted social assistance	0.1	5.2
	Housing assistance <sup>5</sup>	n/a	0.2
	<b>Total</b>	<b>0.1</b>	<b>5.4</b>
Kyrgyz Republic	Benefits for low-income families	0.6	5.1
	Social welfare (United Social Benefit)	0.6	n/a
	Childbirth benefit	0.1	n/a
	Household privileges <sup>6</sup>	0.3	n/a
	Other social benefits	0.2	n/a
	<b>Total</b>	<b>1.8</b>	<b>6.7</b>
Tajikistan	Targeted social assistance	0.1	2.0
	<b>Total</b>	<b>0.1</b>	<b>2.0</b>
Uzbekistan	Financial support of low-income families	1.5	15.0
	<b>Total</b>	<b>1.5</b>	<b>15.0</b>

Sources: Country authorities; and IMF staff calculations.

Note: Data for Tajikistan and Uzbekistan refer to 2019 and 2021, respectively. For all other countries data refer to 2020.

<sup>1</sup>The share of population covered by Social Safety Nets programs.

<sup>2</sup>Old-age allowance covers people who have reached 65 years and are not eligible for pension.

<sup>3</sup>Social support to conflict-affected people.

<sup>4</sup>In Georgia other social programs include maternity leave, support to people in remote mountainous areas, refugees, etc.

<sup>5</sup>Cash transfer to poor people for housing rental.

<sup>6</sup>Household privileges: non-contributory pension covering people with disabilities, war veterans, and other vulnerable groups in the Kyrgyz Republic.

**Table 5. Average Monthly Benefits (US dollars)**

Country	Amount	Comments
ARM	64.1	Cash allowance to low-income household with one or more children
AZE	33.7	TSA to person
GEO	19.3	TSA to person
KAZ	16.3	TSA to person
KGZ	11.2	Cash allowance to low-income household with one child
TJK	3.2	Cash allowance to low-income household
UZB	15.0	Cash allowance to low-income household

Sources: National authorities; and IMF staff calculations.

Note: TSA = targeted social assistance.

- Spending efficiency refers to the ability of meeting the government's policy objective in a cost-effective manner without causing labor or other market distortions. It is usually measured by poverty headcount reduction indicators and benefit-cost ratio.<sup>39</sup> Targeting of SSN programs is crucial for spending efficiency. Well-targeted SSNs achieve better poverty outcomes at lower costs by identifying and providing support to those in need, while containing leakage to the households with incomes above pre-determined thresholds. Efficiency also encompasses administrative and implementation capacity, and proper calibration of benefits and income thresholds to avoid disincentivizing work.
- Fiscal sustainability of SSNs is critical to ensure that the related public spending does not undermine macroeconomic stability.

## Spending Adequacy

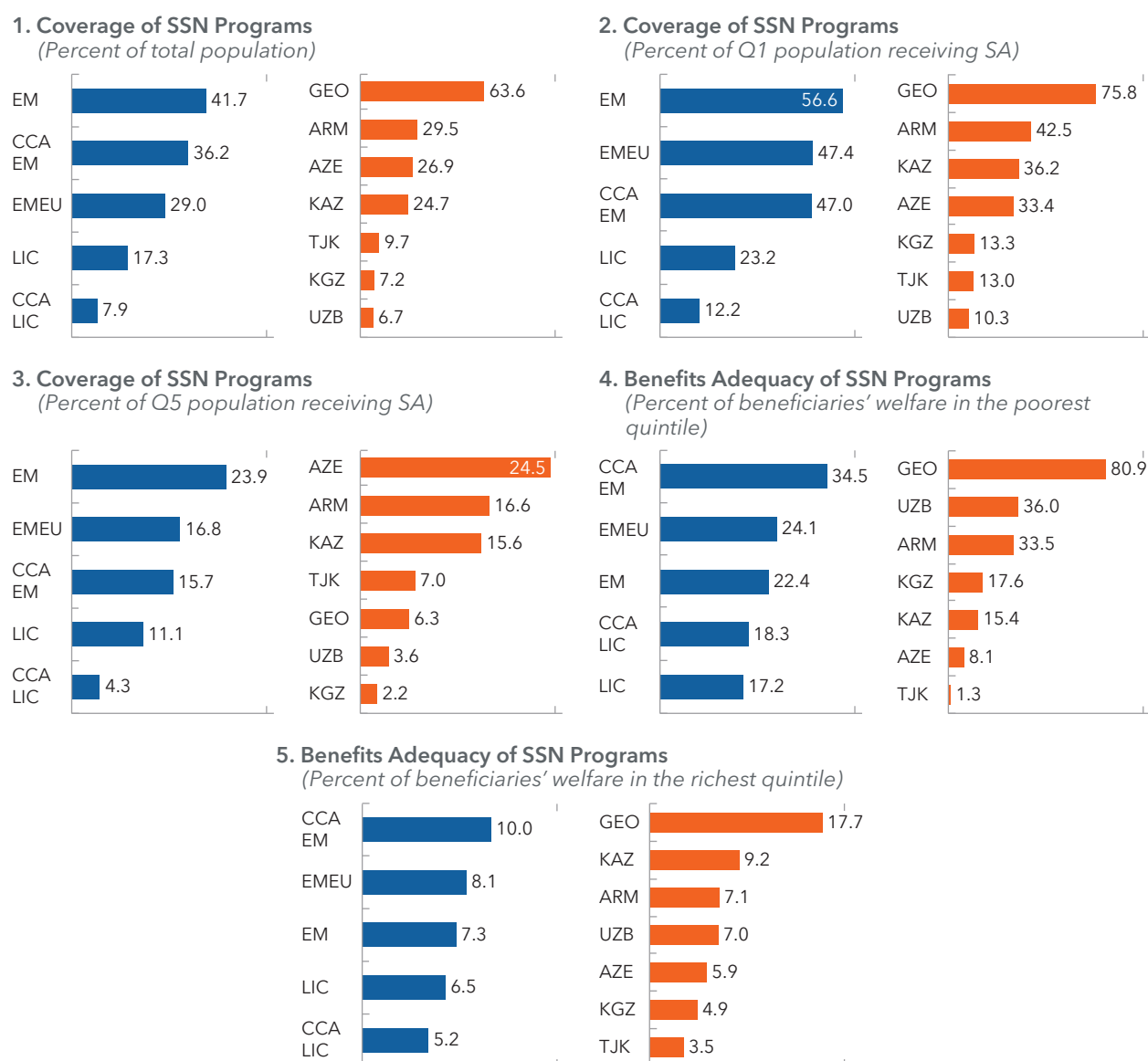
Coverage of SSN programs varies across the region and in general is lower than in EMEU (Figure 44). The overall coverage of SSN, as well as of the lowest quintile, is highest in Georgia at 63.6 and 75.8 percent respectively, and the lowest in Uzbekistan at 6.7 and 10.3 percent, respectively. Higher coverage in some countries is partly due to categorical SSN programs, which tend to extend beyond the most vulnerable because of poor targeting. On average, the coverage of the poorest quintile is comparable with EMEU in emerging economies of the CCA, but is lower in low-income CCA countries, the latter likely reflecting financing constraints and leakages to richer quintiles.

Adequacy of SSN benefits in the CCA is also lower than in EMEU. The highest level of adequacy is recorded in Georgia and the lowest in Tajikistan. In some countries benefits have not been indexed to inflation (for example, Armenia, the Kyrgyz Republic, and Tajikistan), which has led to erosion of the real value of benefits. For example, in Tajikistan social benefits have not been adjusted since 2010, resulting in approximately 44 percent reduction in their purchasing power (World Bank 2022a).<sup>40</sup> Table 5 presents average benefits across the CCA region.

CCA countries need to raise social spending considerably to close poverty gaps. Poverty gaps, which measure how far a median income of the poor falls below the international poverty line of \$3.65 per day, is particularly large for oil-importing countries. Tajikistan is estimated to have the largest gap, followed by

<sup>39</sup> Benefit-cost ratio is defined as a reduction in poverty gap obtained for each \$1 spent in SSN programs (World Bank ASPIRE database).

<sup>40</sup> Pensions were doubled in the Kyrgyz Republic in 2022 and indexation of social benefits was introduced in Tajikistan in 2020.

**Figure 44. Coverage and Adequacy of SSN Programs in the CCA**

Sources: World Bank, ASPIRE; and IMF staff calculations.

Georgia, the Kyrgyz Republic, and Armenia. Poverty gaps for Azerbaijan and Kazakhstan are small (Figure 45). To close these gaps, the region needs to increase SSN spending by 2.5 percent of GDP on average.<sup>41</sup> These estimates assume perfect targeting, which implies that the actual spending needs could be higher in view of likely leakages to non-poor families.

## Spending Efficiency

The CCA region has significant room to improve targeting efficiency, which is below the EMEU average in all countries except Armenia (Figure 46).<sup>42</sup> Efficiency is the lowest in Tajikistan. The benefit-cost ratio and benefit incidence<sup>43</sup> in the poorest quintile is above EMEU in Armenia and the Kyrgyz Republic, but the rest

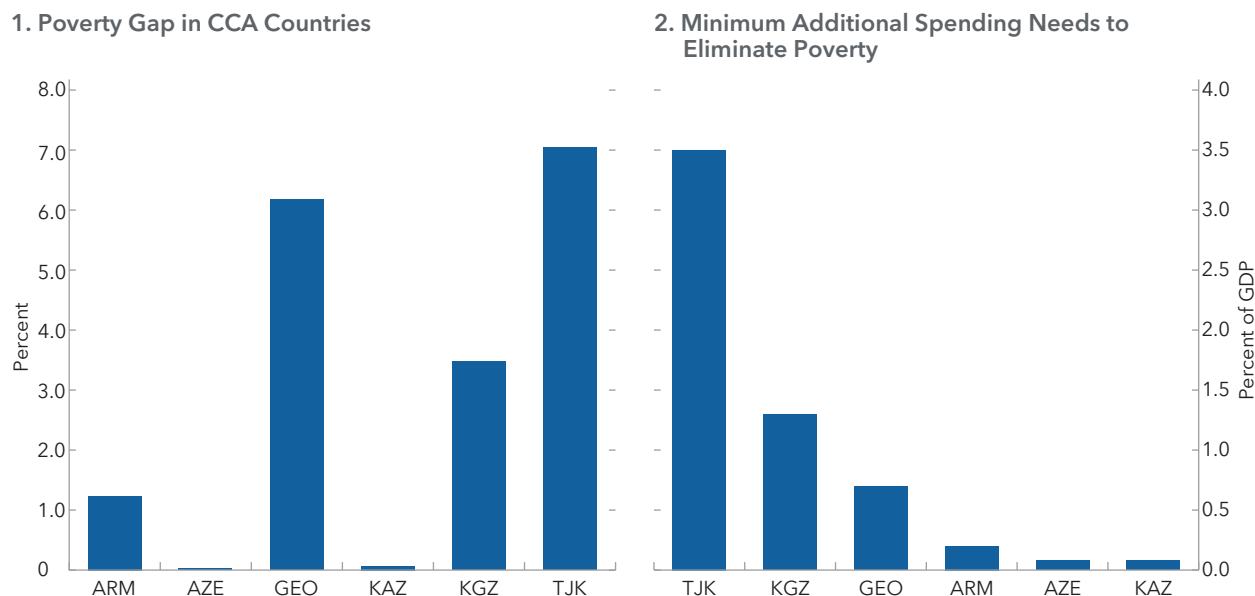
<sup>41</sup> The estimate is based on the methodology from IMF (2022b).

<sup>42</sup> Targeting efficiency reflects the share of poor households that SSNs reach (see Box 4).

<sup>43</sup> Benefit incidence is a percentage of benefits going to the poorest quintile as a share of the total benefits paid. Beneficiary incidence is a percentage of program beneficiaries in a quintile relative to the total number of beneficiaries in the population.



**Figure 45. Poverty Gaps and SSN Spending Needs in the CCA**  
(Latest available data)



Sources: The World Bank PovcalNet; and IMF staff calculations.

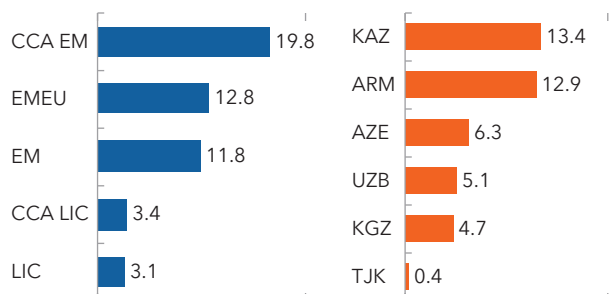
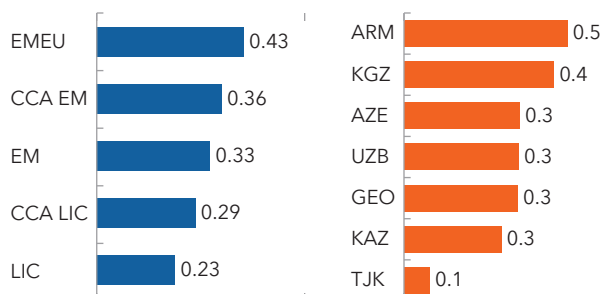
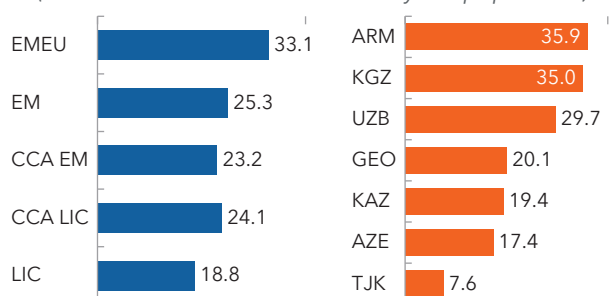
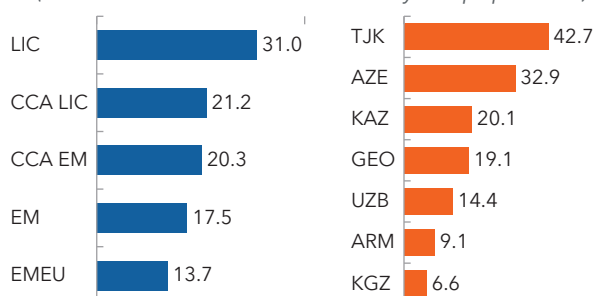
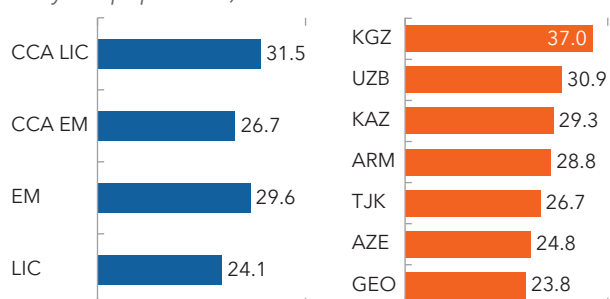
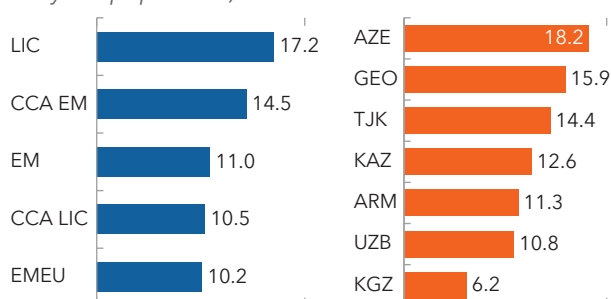
Note: The poverty gap is a mean shortfall in income or consumption from the poverty line (the non-poor having zero shortfall) as a percentage of the poverty line. The additional spending needs are estimated for the international poverty line of \$3.65 per day using the methodology in IMF (2022b).

of the CCA countries fall well below. At the same time, benefit incidence and beneficiary incidence in the richest quantile is high in Tajikistan and Azerbaijan, implying poor targeting. In general, most CCA countries experience significant leakage of transfers to non-poor households. In Georgia and Kazakhstan, benefit incidence to the poorest and the richest quintiles is around 20 percent each, implying near universality of social transfers.

## Fiscal Sustainability

SSN programs should be fiscally sustainable. Fiscal buffers that the region had built before 2020, have been eroded by strong policy responses to the COVID-19 shock. As a result, fiscal deficits have widened, and public debts have reached historical highs (Figure 47). Higher debt levels and financing constraints in some countries limit the room for additional social spending. Finding fiscal savings elsewhere is challenging given other competing spending needs, especially on socially critical health, education, roads, electricity, and water and sanitation, all of which are also important to achieve the UN 2030 Sustainable Development Goals (SDGs). Including SSN spending, the CCA needs additional social spending of about 7.6 percent of GDP per year on average (Figure 48). In low-income CCA countries—the Kyrgyz Republic, Tajikistan, and Uzbekistan—these spending needs are particularly high at 14, 10.5, and 10 percent of GDP per year respectively (Gaspar and others 2019). The needs of other countries are smaller, but significant, nevertheless.

Therefore, these significant spending needs require additional fiscal space. Expenditure prioritization and domestic revenue mobilization will be essential to strengthen SSNs including to allow scaling up during economic downturns. Tax revenue as a share of GDP in the CCA on average is lower than in EMEU suggesting that most CCA countries have room to raise more tax revenue by strengthening tax policy and administration (Figure 49). A strong medium-term fiscal framework can be an important tool to define spending priorities in the medium term and create room for social spending. Equally important is to raise spending efficiency

**Figure 46. Efficiency of SSN Programs in the CCA****1. Poorest Quintile: Poverty Headcount Reduction of SSN Programs***(Percent pre-transfer poverty headcount)***2. Poorest Quintile: Benefit-Cost Ratio of SSN Programs***(Percent of total transfer amount)***3. Poorest Quintile: Benefits Incidence of SSN programs***(Percent of all transfers received by the population)***4. Richest Quintile: Benefits Incidence of SSN programs***(Percent of all transfers received by the population)***5. Poorest Quintile: Beneficiary Incidence of SSN Programs***(Percent of all transfers received by the population)***6. Richest Quintile: Benefits Incidence of SSN Programs***(Percent of all transfers received by the population)*

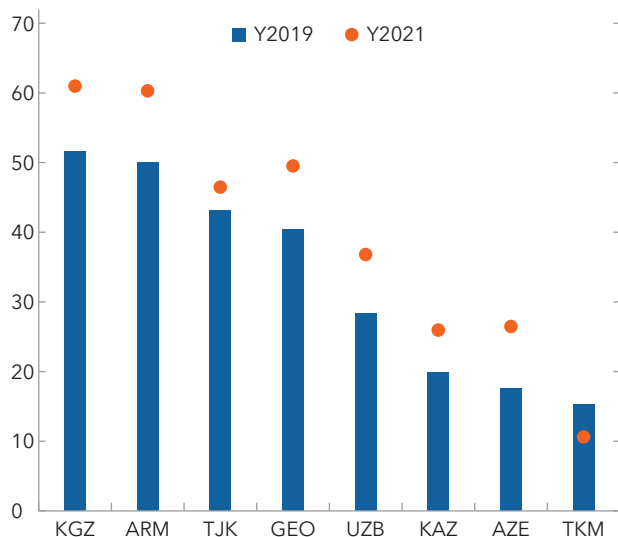
Sources: World Bank, ASPIRE; and IMF staff calculations.

by improving public finance management, governance and public procurement systems, and transparency and accountability of the public sector. Low-income countries would also benefit from seeking external concessional financing.

## Conclusions

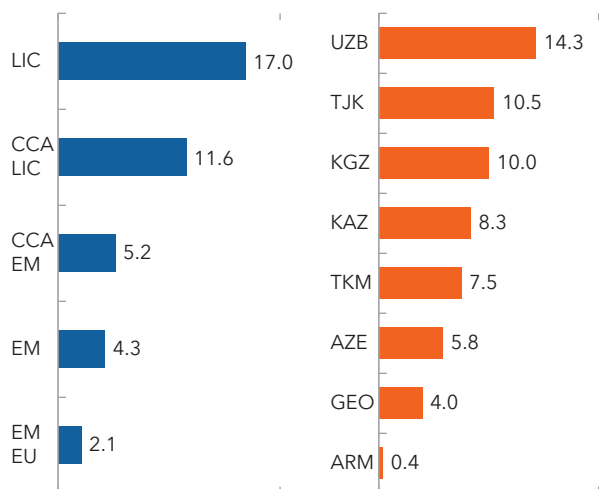
Despite the progress achieved during the past decade, poverty and inequality remain significant in several CCA countries. The COVID-19 crisis has reversed the positive trend in poverty reduction and inequality in some CCA countries and underscored the importance of strong SSN systems to protect households from adverse economic shocks. It also revealed weaknesses in scalability of SSN systems during downturns, which

**Figure 47. Public Debt in CCA Countries**  
(Percent of GDP)



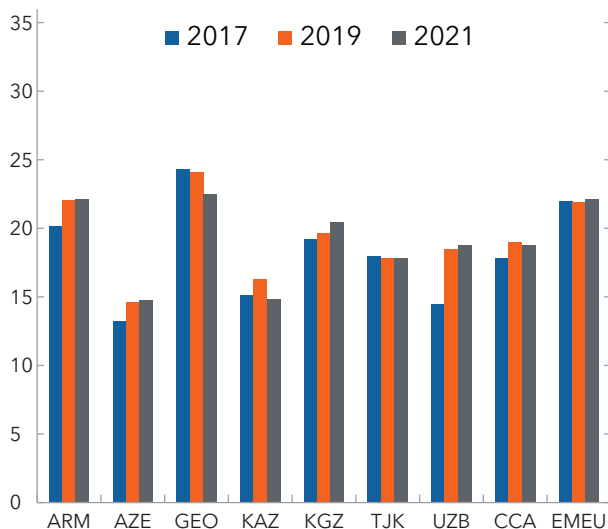
Source: World Economic Outlook, October 2021 (IMF, 2021b).

**Figure 48. Additional Spending to Achieve 2030 SDGs**  
(Percent of GDP)



Sources: Gaspar and others (2019); and IMF staff calculations.

**Figure 49. Tax Revenue in the CCA**  
(Percent of GDP)



Sources: Country authorities; and IMF staff calculations.

is an important attribute to protect the vulnerable during shocks. This requires reforms to improve efficiency and adequacy of SSNs.

CCA countries need to improve targeting of SSNs to protect those in need while minimizing leakages. Well-targeted SSN programs tend to yield better social outcomes than categorical systems, which are fraught with errors of inclusion and exclusion. Integrated information systems that consolidate or readily exchange household data could significantly improve targeting efficiency, while robust administrative capacity is essential to deliver benefits in a cost-effective and timely manner. These objectives can be facilitated by improving digitalization and financial inclusion and reducing informality.

SSNs should provide adequate support to the most vulnerable. Overall SSN spending in the CCA is low and needs to increase. However, benefits

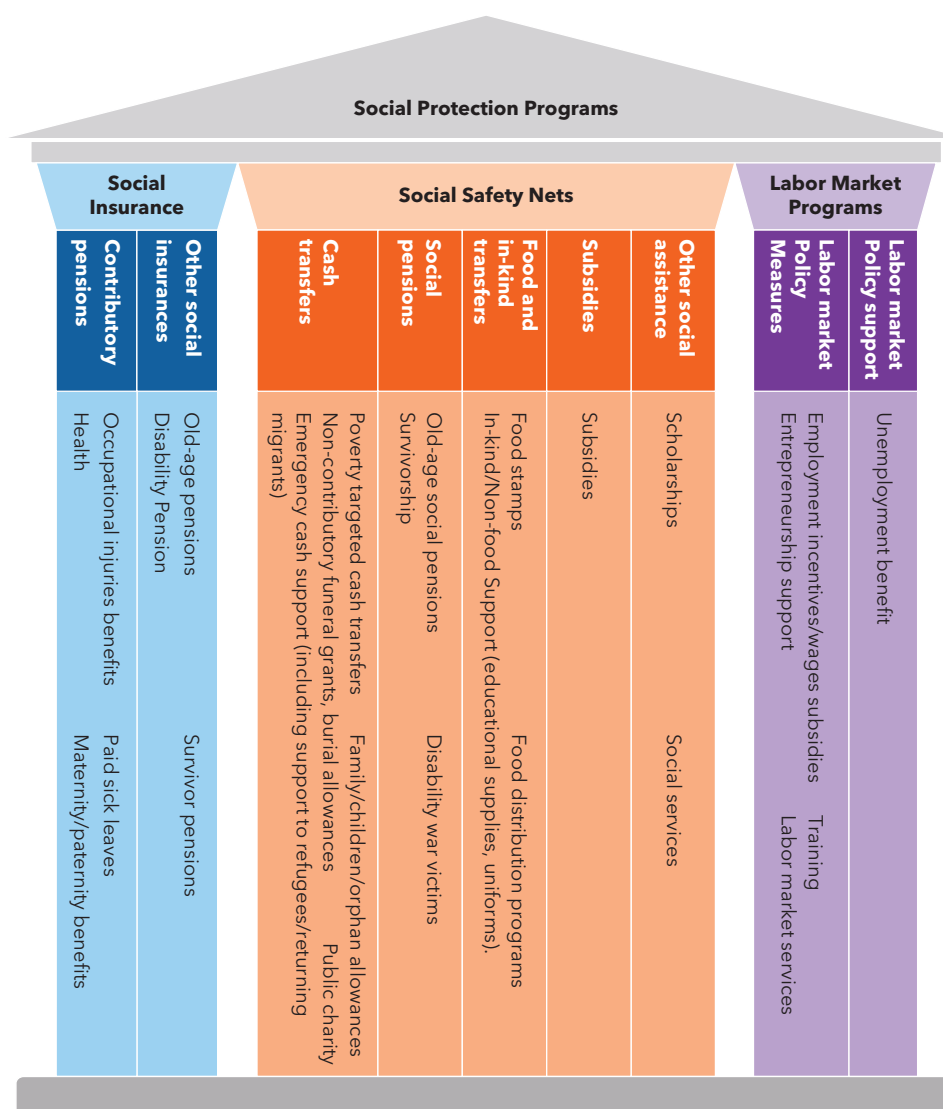
should be properly calibrated to incentivize labor force participation. SSNs that scale up during shocks to protect people from falling into poverty, but scale back during economic upturns, can act as countercyclical buffers. Strengthening spending efficiency would free up resources to allow raising benefits within a given budget envelope but more is needed to improve adequacy.

CCA countries need additional fiscal space to effectively implement SSNs without undermining macroeconomic stability. Some CCA countries have significant room to raise more tax revenue through tax policy and administration reforms. Strengthening public finance management to better prioritize expenditure and improve spending efficiency, improving governance, modernizing public procurement, and enhancing fiscal transparency and accountability, could also generate substantial fiscal savings.

## Box 2. Main Components of Social Protection Policy

Social protection is a set of programs designed to reduce poverty, inequality, and vulnerability throughout life. Social protection policies generally consist of three pillars: (I) Social Insurance Programs cover contributory transfer programs to help households insure themselves against sudden reductions in income caused by old age (pensions), ill health, disability, or loss of a breadwinner. They include contributory old-age, survivor, and disability pensions, sick leave and maternity/paternity benefits, and health insurance. (II) Social Assistance Programs/Social Safety Nets (SSNs) are noncontributory transfer programs, which aim at reducing poverty through cash and in-kind assistance. These programs target the poor and vulnerable segments of society to alleviate extreme poverty, reduce inequality, and mitigate the impact of shocks. (III) Labor Market Programs include active schemes to provide job search assistance and training programs and passive schemes such as unemployment benefits to provide basic temporary income to the unemployed.

Box Figure 2.1. Social Protection Programs

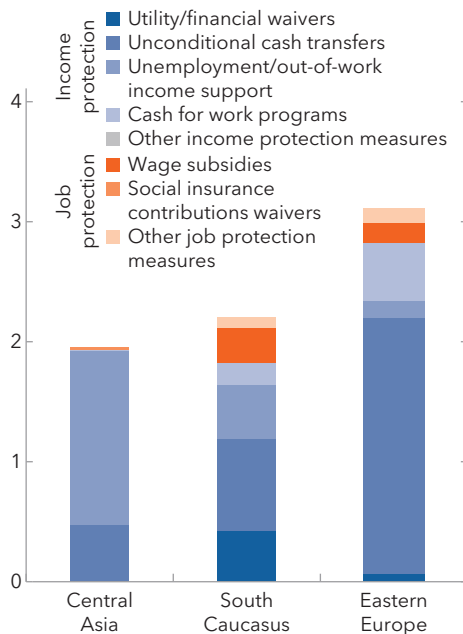


Source: Authors, based on World Bank (2018).

Note: Private transfers are not a part of social protection policy. Private transfers include remittances, support from charity, in-kind transfers, and alimony. In many low-income countries private transfers play an important role in reducing poverty and constitute a substantial source of income for households. However, because such transfers are private in nature, they are not included in social protection policy.

### Box 3. COVID-19 Response in CCA Countries

**Box Figure 3.1. Social Protection Response to COVID-19 in 2020-21**  
(Percent of 2019 GDP)



Source: Data from Demirgüç-Kunt, Lokshin, and Torre (2022).

Note: Figure plots subregional averages (GDP weighted).

The COVID-19 pandemic put enormous fiscal pressure on the CCA region. All countries in the region implemented stimulus packages to mitigate the economic shock and protect the vulnerable. On average, the stimulus amounted to 3.8 percent of GDP, of which 1.6 percent of GDP comprised social protection measures (World Bank 2022a), mostly to protect incomes, but also jobs. This was lower than 2.7 percent of GDP in EMEU. In addition, unlike EMEU where the share of job protection measures was 44 percent, CCA countries spent 92 percent of overall social expenditure on income protection.

Large informality of CCA economies can explain the greater reliance on income protection as it allowed broader coverage, especially of the vulnerable. All countries in the CCA extended duration of existing programs, introduced new programs to expand coverage, and some countries relaxed qualification criteria. The existing information systems were key to expanding the COVID-19 response. Azerbaijan, Armenia, Kazakhstan, and Uzbekistan launched public works to provide jobs. All countries in the region temporarily waived utility payments to support the vulnerable.

## Box 3. (continued)

Box Table 3.1. Pre- and Post-Pandemic Social Protection Budgets

Subregion/country	Pre-pandemic social protection budget				Pandemic social protection response			
	Total	Income protection	Job protection	Pandemic stimulus budget	Total	Income protection	Job protection	Total
Armenia	5.60	5.39	0.21	1.89	0.84	0.60	0.24	0.84
Azerbaijan	4.36	4.31	0.04	2.17	1.58	1.10	0.48	1.58
Georgia	6.23	6.18	0.04	5.54	4.74	4.60	0.13	4.74
Kazakhstan	4.81	4.45	0.36	4.45	3.03	3.03	0.00	3.03
Kyrgyz Rep.	11.00	10.47	0.53	5.14	0.60	0.47	0.13	0.60
Tajikistan	4.21	3.95	0.27	2.93	0.48	0.48	0.00	0.48
Uzbekistan	12.35	12.11	0.24	4.27	0.24	0.24	0.00	0.24
<b>CCA Average</b>	<b>6.94</b>	<b>6.69</b>	<b>0.24</b>	<b>3.77</b>	<b>1.64</b>	<b>1.50</b>	<b>0.14</b>	<b>1.64</b>
<b>EMEU Average</b>	<b>10.82</b>	<b>10.40</b>	<b>0.56</b>	<b>6.45</b>	<b>2.66</b>	<b>1.18</b>	<b>1.47</b>	<b>2.66</b>

Sources: World Bank; and IMF staff calculations.

#### **Box 4. Definitions of Coverage, Targeting Accuracy, Adequacy, and Effectiveness**

**Coverage:** Percentage of population participating in social protection and labor programs (includes direct and indirect beneficiaries). Typically, the population is divided into five groups (quintiles) that are ranked in terms of income or expenditure level, where quintile Q1 is the poorest and Q5 the richest.

**Targeting** is measuring whether the funds allocated to social protection programs reach the intended recipients—the poor and vulnerable groups of the population. The benefit incidence and the beneficiary incidence are two measures that are commonly used to assess the targeting or effectiveness of SSN benefits.

*Benefit Incidence:* the percentage of benefits (money) going to the poorest group (quintile 1) as a share of the total benefits going to the population for all social protection programs. Higher benefit incidence for quintile 1 implies a more efficient or a better targeted social protection program.

*Beneficiary incidence:* is the percentage of beneficiaries (people) in a quintile relative to the total number of beneficiaries in the population.

The choice of targeting mechanism depends on policy objectives and the institutional capacity of a country. Many countries with low institutional capacity use categorical targeting methods that cover specific groups of the population (for example, older people) and not necessarily the most vulnerable.

**Adequacy of benefits:** The total transfer amount received by all beneficiaries in a quintile as a share of the total welfare of beneficiaries in that quintile. Welfare is measured as total income or consumption of beneficiaries.

**Poverty headcount reduction:** Poverty headcount ratio is the percentage of the population below the poverty line. It is measured assuming the absence of programs (pre-transfer welfare distribution). Poverty headcount reduction is computed as (poverty headcount pre-transfer–poverty headcount post transfer)/poverty headcount pre-transfer.

**Box 4. (continued)****Box Table 4.1. Targeting Methods**

Method	Description	Strength	Weakness
Means test	Actual consumption or income is compared to eligibility threshold	Very accurate with good income or consumption data	Expensive to collect income or consumption data for all potential beneficiaries
Proxy means test	Consumption is proxied through readily observable and verifiable variables and compared to eligibility threshold	Can accurately and cost effectively target the chronic poor	Does not address the impact of short-term shocks
Community-based targeting	Groups of community leaders and members determine household eligibility	Incorporates local knowledge and is responsive to short-term shocks. Can generate community support.	Vulnerable to elite capture and eligibility decisions can lack transparency
Geographic targeting	Targets by location, including all residents within a location	Easy to implement and transparent. Can rapidly target in response to natural disasters and other large covariate shocks	Does not account for differences in household well-being in area

Source: del Ninno and Mills (2015).



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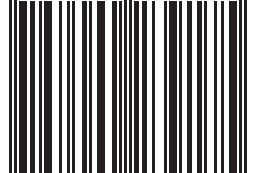


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