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COUNTRY ECONOMIC MEMORANDUM

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Abbreviations

ACG	Azeri – Chirag – Gunashli
ADB	Asian Development Bank
ADIF	Azerbaijan Deposit Insurance Fund
AIH	Azerbaijan Investment Holding
ALMP	Active Labor Market Programs
AR	Azerbaijan Railways
AZN	Azerbaijani manat
BTC	Baku-Tbilisi-Ceylan
CAGR	Compound Annual Growth Rate
CBA	Central Bank of Azerbaijan
CEM	Country Economic Memorandum
ECA	Europe and Central Asia
FDI	Foreign Direct Investment
FIMSA	Financial Market Supervisory Authority of Azerbaijan
FSB	Financial Stability Board
FSC	Financial Stability Council
GDP	Gross Domestic Product
GOA	Government of Azerbaijan
GVC	Global Value Chain
IBA	International Bank of Azerbaijan
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
JSC	Joint Stock Company
KPI	Key Performance Indicator
LLC	Limited Liability Company
LTGM	Long-term Growth Model
MNC	Multinational corporation
MOE	Ministry of Education
MOF	Ministry of Finance
MPS	Marginal Propensity to Spend
MSME	Micro, Small and Medium Enterprises
MTEF	Medium-term Expenditure Framework
NDC	Nationally Determined Contributions
NPL	Non-Performing Loans
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of the Petroleum Exporting Countries
PFM	Public Financial Management
PIP	Public Investment Program
PMR	Product Market Regulation
PSA	Production-Sharing Agreement
REER	Real Effective Exchange Rate
RGI	Resource Governance Index
SME	Small and Medium Enterprise
SOCAR	State Oil Company of the Azerbaijan Republic
SOE	State-owned Enterprise
SOFAZ	State Oil Fund of the Republic of Azerbaijan
SWF	Sovereign Wealth Fund
TFP	Total Factor Productivity

UMIC	Upper Middle-Income Country
USD	United States Dollar
WB	World Bank
WTO	World Trade Organization
VET	Vocational Education and Training

Executive Summary

Azerbaijan has transformed its economy in the three decades since independence. A sharp increase in oil production and exports, starting in the late 1990s, coinciding with the global commodity super-cycle, pushed growth to unprecedented double-digit levels in 2005-2008. Together with high levels of investment, particularly public investment, this led to a nearly five-fold increase of real per capita incomes from 1995 to 2019, moving Azerbaijan from a lower middle-income to an upper middle-income country (UMIC). Per capita wealth also more than tripled between 1995 and 2014 but has declined since 2015, as the collapse of oil prices drove a decline in the value of assets. Proceeds from rapid growth helped finance social programs and public spending on infrastructure. Poverty declined dramatically from 49 percent of the population in 2001 to 4.8 percent in 2019.

However, growth has slowed since the end of the commodity boom. Following a sharp decline in oil prices in 2014, growth has averaged only 0.4 percent in the 2015-2019 period, with Azerbaijan experiencing its first major recession since its independence in 2016. In 2020, the economy contracted by 4.2 percent, due to the shock of the COVID-19 pandemic and the collapse in energy prices. The economy has since rebounded from the shock, surpassing pre-COVID-19 output by late 2021 and with the recovery continuing in 2022. Nevertheless, the country faces many challenges ahead that could threaten sustained future growth.

Azerbaijan is at a critical juncture in its development journey and has set out an ambitious roadmap for the future. Approved in February 2021, the *Azerbaijan 2030: National Priorities for Socio-Economic Development* sets out a vision for the country's long-term, sustainable development with the following key priorities: building a steadily growing, competitive economy; creating a dynamic, inclusive society; creating an innovative and competitive human capital base; sustainably reintegrating liberated territories and achieving a cleaner environment and greener growth.¹

To achieve these development objectives, Azerbaijan will need to boost and sustain growth, as highlighted in the recently released “Socio-Economic Development Strategy (SEDS) for 2022-26”. The SEDS targets an annual GDP growth rate of 3-4 percent over the medium-term, with close to 5 percent GDP growth in the non-oil and gas sector, to enable the country to achieve the five main strategic priorities outlined in the *Azerbaijan Vision 2030*.

Achieving the growth targets, in turn, will require tackling the headwinds that have emerged. Azerbaijan's population growth is slowing, the population is aging, and the country is faced with the depletion of its hydrocarbon reserves. The asset base is insufficiently diversified and the contribution from the non-oil/gas private sector to growth is limited. The World Bank's long term growth simulations show that, faced with these headwinds and without any policy response to address them, Azerbaijan's growth may average only 0.5 percent over 2024-2050, and in per capita terms, GDP may only increase by 11 percent over the next 30 years.

How can Azerbaijan tackle these headwinds and meet its aspirations amid a changing global landscape? This report looks to answer this critical question by mapping out possible future growth trajectories and developing concrete policy proposals that will help Azerbaijan sustain high growth in the future. This report highlights reforms across four policy pillars that will be critical: improving economic

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https://azertag.az/en/xeber/Order_of_the_President_of_the_Republic_of_Azerbaijan_on_approval_of_Azerbaijan_2030_National_Priorities_for_Socio_Economic_Development-1724707

management; boosting productivity in the non-energy sectors by reforming state-owned enterprises (SOEs) and providing an enabling environment for the private sector; building competitive human capital; and preparing the economy for the energy transition.

Azerbaijan's past growth performance: drivers and constraints

Growth in Azerbaijan has been driven by physical capital accumulation and oil rents², with little contribution from human capital and limited contribution from non-oil/gas sector productivity.

Prior to 2005, more than half of GDP growth was attributed to physical capital accumulation due to high state investment in physical infrastructure, exploration of hydrocarbon resources, and investments in transportation capacity. The oil boom period of 2005-2008 was predominantly characterized by total factor productivity (TFP) gains within the energy industry and oil rents. Post-global financial crisis (GFC), physical capital accumulation continued as the country invested heavily in natural gas exploration and built new transport infrastructure. The contribution from human capital accumulation to GDP growth was close to zero during 1995-2018, while non-oil/gas sectors' TFP contribution was also limited.

The state has been a key driver of the transformation as an investor and participant in the economy. During a decade of high oil revenues, consolidated budget spending rose steeply and saw a nearly eight-fold increase by 2014 as compared to 2005. Spending composition was skewed toward public investment, with a focus on rebuilding infrastructure that had deteriorated during the 1990s economic downturn. In addition, SOEs played a prominent role in the economy. Many of the largest SOEs still enjoy monopoly or near-monopoly status in their sectors of operation, and SOEs operate in several sectors that are traditionally dominated by the private sector in other countries, including manufacturing and banking. SOEs have certain competitive advantages that are unavailable to private firms, such as preferential access to factors of production, which hinders resource allocation and acts as a drag on productivity.

The private sector, outside of the oil and gas sector, has played a limited role in Azerbaijan's growth. A large and well-integrated energy sector coexists with non-energy sectors characterized by low productivity, low investment, and weak global linkages. The non-energy sectors comprise mostly small firms that are domestically owned and engaged in low value-added activities. Export orientation of the non-energy sectors is quite low and is reflected in a low and stagnant share of non-energy exports in non-energy GDP.

Macroeconomic stability has been a challenge. High dependence on oil revenues exposes the country to risks, emanating from volatility in oil prices, exhaustibility of revenues, and exchange rate risks. Effective management of these risks, through fiscal, monetary, and financial sector policy, is critical to safeguarding macroeconomic and financial stability. However, fiscal policy has allowed volatility in oil prices to be transmitted to the economy; monetary policy effectiveness has been limited, as the de facto fixed exchange rate peg has constrained its effectiveness; exchange rates have often been over-valued, undermining the competitiveness of non-oil/gas exports; and the financial sector is small, bank-dominated and with significant vulnerabilities posing risks to financial stability and hindering financial intermediation.

² It should be noted that the growth analysis is limited to 1995-2019. Trends in 2020 and 2021 are not considered for this analysis, as this period has coincided with the COVID-19 shock and rebound.

Global megatrends and implications for Azerbaijan

Azerbaijan's trajectory in the long term will be shaped in an evolving global environment. The world is more uncertain than ever and rapidly changing with a few megatrends threatening to be disruptive, while also opening new opportunities. These global trends were already taking shape prior to the COVID-19 pandemic, though the pandemic has accelerated some of them. Policymakers face the significant challenge of driving a post-COVID-19 recovery while grappling with the challenges of falling potential growth, strains in global value chains, the changing nature of work, and the energy transition.³ Azerbaijan must carefully navigate these trends, being well prepared for the risks and on the lookout for the emerging opportunities.

Global trend 1: Falling potential growth globally

Even before the pandemic, the global economy had already experienced more than a decade of declining potential growth due to a combination of falling population growth and aging, weak investment, and slowing TFP growth. By 2019, growth in global potential output⁴ had fallen to 2.2 percent, well below its annual average of 3.3 percent during the first decade of the 2000s. This decline in potential growth was broad-based, affecting three-quarters of countries, including two-thirds of emerging market and developing economies (EMDEs).⁵ Productivity growth has fallen by two-thirds in the ECA region since 2008, the sharpest fall in any EMDE region.⁶ In Russia, for example, it has been close to zero in recent years, whereas in Turkey, productivity growth fell by more than half following the global financial crisis. Periods of global economic downturns also make trade tensions, political tensions, geopolitical risks, and conflicts more likely. Going forward, the pre-pandemic trends in fundamental drivers of growth suggest that annual average potential output growth would slow by 0.4 percentage points (pp) globally over the next decade.⁷ The pandemic may deepen the slowdown in potential growth by an additional 0.3 pp per year; with losses concentrated among people who are already disadvantaged, making it harder for countries to return to inclusive growth after the shock recedes.

The implications for Azerbaijan would be significant. First, lower growth in major trading partners will lower demand for oil, in turn, reducing the economic rationale for further exploration in Azerbaijan. This, in turn, implies that the oil sector may face a bleaker outlook in Azerbaijan. In this context, greater diversification of production and exports can reduce vulnerability. This report highlights policy options for Azerbaijan to build a vibrant non-oil and gas sector, which could, in turn, help Azerbaijan's exports to reach new markets, for example in regions where productivity growth is expected to remain robust despite the global slowdown (such as South and East Asia and the Pacific). Separately, demographic trends suggest Azerbaijan's potential growth may decline further. To address this headwind, this report highlights options for the country to better utilize its existing labor force (including to make up for the losses from COVID-19 disruptions to the education system delivery) as well as to boost productivity.

Global trend 2: Strains in Global Value Chains

Greater participation in global value chains (GVCs) is associated with a host of positive economic outcomes. Firms participating in GVCs show significant gains in productivity—a one-percent increase in GVC participation is estimated to boost per capita income by more than one percent, five times the gain from standard trade.⁸ GVCs are also linked to employment growth and reduced poverty. However, even before the spread of the pandemic, the growth of GVCs had already slowed. GVCs' share of global trade peaked at just over 50 percent prior to the global financial crisis and slipped thereafter as trade liberalization efforts stalled. GVCs were further strained by international trade tensions, and by ongoing disruptions from the pandemic and associated lockdown measures. Ultimately, however, GVCs have

rebounded from the pandemic quickly, with global goods trade recovering above pre-pandemic levels by late 2021.

The desire of companies to increase the reliability of their supply chains could lead to a reconfiguration the existing arrangements. Repeated negative shocks could lead many companies to consider reshoring of operations. However, previous experience suggests that GVCs are typically more reshaped, rather than re-shored, with companies looking to increase the geographic diversity of inputs, and therefore the robustness of their supply network. In other words, despite the additional costs, the case for international trade, through differences in comparative advantage, specialization, and economies of scale, remains strong. This means that countries that undertake reforms could attract foreign investment and promote greater participation in GVCs.

Azerbaijan has struggled to integrate the non-oil/gas sector in GVCs and the reshaping of GVCs provides an opportunity to catch up. When considering potential locations to invest, the large multinationals that form the backbone of most value chains place a high premium on a predictable and efficient legal and regulatory environment, a skilled workforce, low taxes, and the quality of the physical infrastructure.⁹ This report provides policy options on how Azerbaijan could build an attractive environment for foreign investors.

Global trend 3: The changing nature of work

The role of digital technologies in the workplace has been steadily increasing¹⁰, opening opportunities for developing countries but also carrying risks. Digital technologies allow firms to reach a wide range of people quickly and scale up operations to a global level far more rapidly than had previously been possible. The accelerated adoption of digital services because of the pandemic could help bolster future productivity growth, as greater digitalization increases the returns on investment in human capital and has been associated with higher firm-level productivity. However, changing technologies (i.e., advanced robotics, industrial automation, and 3-D printing) alongside shifting globalization patterns, has brought the feasibility of manufacturing-led development into question.¹¹

For Azerbaijan, this trend implies that competing in the global economy now requires much more than low labor costs. In fact, automation is threatening to significantly alter jobs and make some occupations obsolete. The benefits and risks of digitization became very visible during the pandemic. Digitalization helped many people avoid some of the economic consequences of the pandemic through telework or distance education. However, those without access to computers and the internet or the skills

³ This is not an exhaustive list of all challenges, but some that have the potential to be quite disruptive and re-shape the next decade. In addition, the world economy and Azerbaijan are facing spiraling trade costs and inflationary pressures that have not been seen for a decade. While the prevailing consensus appears to be that these are expected to subside by 2022 with the tightening of global monetary conditions, prolonged disturbance cannot be ruled out.

⁴ Potential output is the level of output an economy can sustain at full capacity utilization and full employment. It is a function of labor, capital stock, and total factor productivity, which is itself determined by technology and factor allocation efficiency.

⁵ Kilic Celik, S., M. A. Kose, and F. Ohnsorge. 2020. “Subdued Potential Growth: Sources and Remedies.” In *Growth in a Time of Change: Global and Country Perspectives on a New Agenda*, edited by H.-W. Kim and Z. Qureshi. Washington, DC: Brookings Institution.

⁶ Dieppe, A., ed. 2020. *Global Productivity: Trends, Drivers, and Policies*. World Bank: Washington, DC.

IOSCO (International Organization of Securities Commissions). 2020. “Development of Emerging Capital Markets: Opportunities, Challenges and Solutions. Final Report” October. International Organization of Securities Commissions, Madrid, Spain.

⁷ World Bank. 2021. *Global Economic Prospects*. January. Washington, DC: World Bank.

⁸ World Bank. 2020b. *World Development Report: Trading for Development in the Age of Global Value Chains*. Washington, DC: World Bank.

⁹ World Bank. 2020c. *Global Investment Competitiveness Report 2019/2020: Rebuilding Investor Confidence in Times of Uncertainty*. Washington, DC: World Bank.

¹⁰ World Bank. 2019. *World Development Report: The Changing Nature of Work*. Washington, DC: World Bank.

¹¹ World Bank. 2017a. *Trouble in the Making: The Future of Manufacturing-Led Development*. Washington, DC: World Bank.

needed to leverage digital technologies, have been less fortunate. The longer-term impacts of disruptions to schooling, for example, are likely to particularly affect those populations with limited access to the internet or personal computers.

Azerbaijan's economy is gradually embracing the benefits of digitization but also facing its challenges. The immediate pressures from automation are probably less acute as Azerbaijan appears to have a smaller share of its employment in professions that are more easily automated. Still, even basic occupations are becoming more demanding, especially in digital skills that many Azerbaijani workers are lacking. Without further improvements, Azerbaijan's economy could remain concentrated in the production of commodity-based tradable goods, and its labor trapped in low-tech and labor-intensive industries. To harness the potential of digital services, Azerbaijan needs to build its base of cognitive and digital skills, which, in turn, requires a focus on building human capital, as highlighted in this report and underscored by the 2030 vision.

Global trend 4: Climate change and the energy transition

Climate change is increasingly disrupting both ecosystems and economies. The effects of a changing climate could push between 68 to 132 million people globally into poverty within the decade, adding to the toll from the pandemic and slowing potential growth.¹² Many categories of extreme events are becoming more frequent, with low-income countries suffering disproportionately. The poor also suffer disproportionately from changes in agricultural and fishing yields, on which their livelihoods predominantly depend. Global efforts for climate change mitigation and adaptation are critical and will remain so for an extended period.

Reducing carbon emissions will necessitate an energy transition, with a shift from fossil fuels towards greater use of renewable energy. Many countries and companies have announced commitments to achieve zero carbon by 2050, for example through the European Green Deal. The transition extends beyond the energy sector as other sectors, including agriculture, industry, and transportation, will also need to reduce emissions. The energy transition will have significant implications for the demand of different commodities, with a reduction in the demand for fossil fuels, particularly coal, and increased demand for the metals and minerals required for renewable energy generation. Low-carbon technology is significantly more metals intensive than fossil fuel energy. Solar-generated electricity requires twice as much copper as natural gas, and wind requires three times as much.¹³ The same is true for electric vehicles. The requirement is even larger when factoring in charging infrastructure, which also requires significant amounts of copper for wiring. The transition will also significantly alter the trade environment, as countries increasingly tax emissions at the border.

Azerbaijan should prepare better for climate change. Azerbaijan has made commitments under the Nationally Determined Contributions (NDCs) that may require a faster decoupling of economic activity from emissions in the next decade. In addition, Azerbaijan is exposed to the impacts of climate change – temperatures are up, heat waves are more frequent, and the Caucasus glaciers are melting. Azerbaijan ranked 67 out of 182 countries in terms of vulnerability – around 10 countries in ECA were at Azerbaijan's level or more vulnerable.¹⁴ It should be noted that adapting to climate change is not a focus of this report and will be addressed in subsequent World Bank publications on green growth and sustainable development.

¹² World Bank. 2020f. *Poverty and Shared Prosperity Report: Reversals of Fortune*. Washington, DC: World Bank.

¹³ World Bank. 2017b. *The Growing Role of Minerals and Metals for a Low Carbon Future*. World Bank, Washington: DC

¹⁴ Notre-Dame Global Adaptation Initiative.

While the energy transition puts Azerbaijan at risk, it may also provide opportunities. Azerbaijan faces risks as the economic viability of extracting sub-soil oil and gas resources declines and the incentive for additional exploration falls. It should be noted that the energy transition specific recommendations are not the focus of this report. However, Azerbaijan could embrace the energy transition by focusing on its broader diversification agenda (as highlighted in the report), improving energy efficiency, and adopting renewable sources of energy (such as wind and solar). In the medium term, natural gas could serve as a reliable transition energy source as well as to continue to bring in external revenues.

A policy agenda for reviving and sustaining growth

Azerbaijan's existing growth model, underpinned by oil and gas rents and public investment, is showing signs of strain. Structural headwinds – in the form of declining oil and gas reserves, declining population growth and an aging population – dampen long-run growth prospects (as described in Section 1). In addition, Azerbaijan needs to carefully navigate the risks and maximize the opportunities arising from global megatrends (as described in Section 2), such as falling global potential growth, strains in global value chains, and the energy transition.

The new growth model (Figure ES1) will need to be driven by the private sector. In the future, growth will need to be driven by a dynamic non-oil/gas private sector that will be more productive than the current SOEs present in many sectors of the economy. The changing skills needs of the private sector will need to be met by investing and building a competitive human capital base.

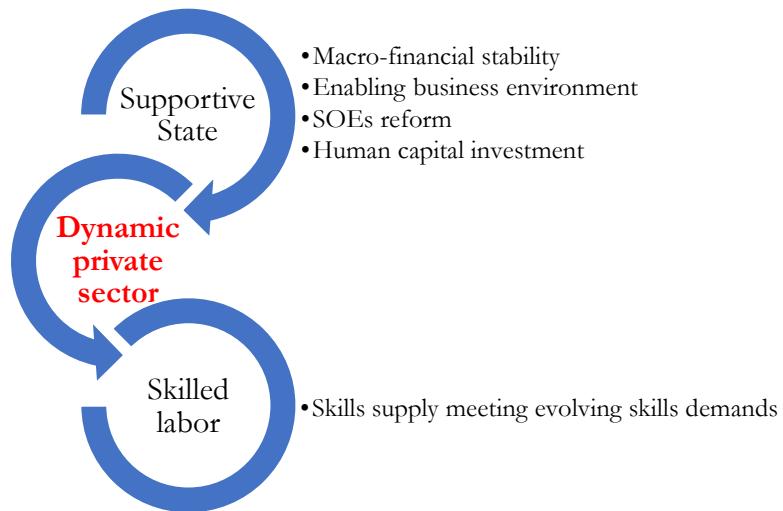
The role of the state will need to change from an active investor and participant in the economy to a ‘supportive state’. A supportive state maintains macroeconomic and financial stability; invests in human capital to ensure supply of skilled labor; eases constraints for the private sector; and participates in the economy through dynamic and productive SOEs in sectors that are much more limited in their scope. Over time, sustained growth led by the private sector would help Azerbaijan build a more diversified asset base that is the key long-run driver of sustained and resilient economic growth.

The country will need to integrate more into the global economy, particularly in the non-oil/gas sectors. No country with a small economy like Azerbaijan has ever reached high-income status with levels of exports below 50 percent of GDP. The lack of integration of the country’s non-oil/gas sectors reflects overall weak competitiveness of the private sector as well as the impact of trade policy. Certain trade policy measures, such as reducing tariffs and WTO accession, would increase the country’s trade openness and spur economic growth by improving the efficiency of resource allocation and fostering globally competitive domestic firms.

Growth should not be derailed by volatility in the oil and gas markets, which may worsen with the energy transition. A fast-growing economy is desirable so long as the growth rate is sustainable. The oil and gas sectors will remain a critical part of the Azerbaijan’s economy. Therefore, it is important that volatility in the global energy markets does not transmit to the economy through volatile spending, or through credit and price increases, in the case of overheating. In other words, Azerbaijan will need to avoid ‘boom-bust’ cycles that have characterized past growth.

The potential gains from moving to a new growth model are significant. By improving productivity in the non-oil/gas sector and building human capital to the level of its structural peers, Azerbaijan can boost average growth by a minimum of 1.7 percentage points from 2024-2050. This would leave the average Azerbaijani at least 40 percent richer as compared to the current growth trajectory. A more ambitious set of reforms that accelerates structural transformation and reduces inefficiencies could boost productivity and average incomes further.

Figure ES 1: Azerbaijan CEM framework: toward sustained and resilient economic growth



In line with this framework, the **Country Economic Memorandum is organized as follows**, with each chapter concluding with policy recommendations.

- **Chapter 1 (Long-Run Growth Drivers)** provides a diagnostic of past growth drivers, long-run growth prospects, and challenges and opportunities presented by the global energy transition.
- **Chapter 2 (Improving Economic Management)** analyzes the efficacy of fiscal, monetary and exchange rate policies, in managing the challenges posed by resource dependence.
- **Chapter 3 (SOEs in Azerbaijan's Economy)** analyzes the country's largest SOEs in terms of their financial and fiscal performance, and their role in the economy.
- **Chapter 4 (Supporting a Dynamic Private Sector)** reviews the current state of the non-oil/gas private sector and identifies the key constraints to private sector growth.
- **Chapter 5 (Building Human Capital)** analyzes challenges to building the country's human capital base, with analysis of labor market structure and skills shortages; and the effectiveness of the social protection system to protect the vulnerable population.

The CEM proposes a policy agenda for Azerbaijan that is centered around:

- (i) **Improving economic management (Chapter 2)** to reduce macroeconomic volatility, such that Azerbaijan can move away from 'boom and bust' cycles. **The key reforms proposed** include developing a fiscal framework to support macroeconomic stability and ensure an adequate balance of spending and saving; using fiscal policies to support strategic priorities; modernizing exchange rate and monetary policy; safeguarding financial stability and ensuring more effective macroeconomic policy coordination.

- (ii) **Enhancing productivity in the non-energy sectors**, by:
 - a. **Reforming state-owned enterprises (Chapter 3)**, such that SOEs are more efficient, improve their fiscal and financial performance, and do not thwart competition. **The key reforms proposed** include comprehensive stock-taking of all SOEs in line with a clear rationale for continued government ownership or divestiture; improving SOEs' corporate

- governance practices; clarifying SOEs' relationship with the budget and maintaining competitive neutrality so that, over time, the private sector can effectively compete in sectors currently dominated by SOEs.
- b. **Supporting a dynamic private sector (Chapter 4)**, with the **key reforms proposed** include improving access to finance, particularly for MSMEs; ensuring that the supply of skills is meeting the changing demands of the private sector; addressing issues related to market competition; and improving the investment climate.
- (iii) **Building human capital (Chapter 5)** with **key reforms proposed** including: improving basic education and quality; linking skills development with the labor market by improving the quality of tertiary and VET education and connecting skills supply with the labor market; and strengthening social protection.
- (iv) **Preparing the economy for the energy transition**, which is discussed briefly in Chapter 1 of this report and will be explored in depth in subsequent World Bank publications.

Chapter summaries

Chapter 1: Long-run growth prospects

Azerbaijan's post-independence growth performance has been linked to oil production and prices. From the late 1990s to 2010, growth was high but volatile and with limited structural transformation. Azerbaijan's growth started rising in the late 1990s with an uptick in oil production and exports, and reached unprecedented double-digit levels in 2005-2008, at the height of the commodity price super-cycle. Growth started slowing following the GFC and averaged 2.9 percent in 2010-2014, before coming to an abrupt halt after the sharp decline in oil prices in 2014.

After slowing since 2010, Azerbaijan experienced its first recession since the turn of the century in 2016. After the collapse of oil prices in 2014, external surpluses were wiped out, foreign capital inflows turned to outflows, procyclical fiscal policy was tightened, and the Central Bank of Azerbaijan (CBA) spent two-thirds of its reserves to maintain the de facto fixed exchange rate against the US dollar. Nevertheless, in 2015, the national currency was devaluated twice and lost half of its value. A credit crunch in the financial sector and a banking crisis followed. As a result, both the energy and non-energy sectors contracted in 2016 – real GDP fell by 3.1 percent and non-oil/gas GDP by 4.4 percent. Growth revived gradually post-2016, but momentum has slowed significantly, with average growth from 2015-2019 falling to 0.4 percent. The economy was further hit by the COVID-19 pandemic in 2020 and contracted by 4.2 percent that year, before rebounding and recovering to pre-COVID-19 output levels by late 2021.

Growth has been primarily driven by physical capital accumulation and energy sector rents, with little contribution from human capital and limited contribution from non-energy TFP. Prior to 2005, more than half of GDP growth could be attributed to physical capital accumulation due to high state investment in physical infrastructure, exploration of hydrocarbon resources, and investments in transportation capacity. The oil boom of 2005-2008 was predominantly characterized by TFP gains in the energy sector driven by oil rents. Post-GFC, physical capital accumulation continued, as the country invested heavily in natural gas exploration and built new transport infrastructure. Since 2010, labor's contribution to GDP growth has increased along with the acceleration in labor force growth. However, contribution from human capital accumulation to GDP growth has been close to zero from 1995-2018, and contribution from non-energy sector TFP has also been limited in this period.

In the last two decades, Azerbaijan has remained resource-dependent and the underlying asset base has remained undiversified. Azerbaijan's per capita wealth grew more than four-fold between 2000 and 2014 but has declined since 2015, due to the fall in oil prices that drove a decline in asset valuation. At one point reaching 57.3 percent of the country's asset base in 2011, non-renewable natural capital still represents more than 50 percent of aggregate wealth as of 2018. This is a higher share than several of Azerbaijan's resource-rich peers. Produced capital per capita has tripled since the late 1990s, due to high levels of investment in energy and other infrastructure, and the share of produced capital in total wealth almost doubled in the 2010s. Worryingly, human capital accumulation has been weak. Human capital accounted for only 23 percent of its overall asset portfolio in 2018 as compared to 40 percent in 2000. Azerbaijan's human capital share is about a third of that in upper

middle-income countries (UMICs) and less than half of that in Europe and Central Asia (ECA) (excluding high-income countries), and, in per capita terms, the gap in human capital wealth between Azerbaijan and its peers is widening.

Azerbaijan is well integrated in global energy markets but not in the non-energy markets. The country's merchandise export profile is heavily dominated by oil and, to a lesser extent, gas, with the share of both in total exports increasing from 68.8 percent in 1999 to 89.5 percent in 2019. Even though the value of non-energy exports (primarily agricultural products such as tomatoes, fruits, hazelnuts, cotton, and non-monetary gold) increased between 1999 and 2019, their share in total exports declined from 31.2 percent to 10.5 percent and they accounted for an average of 3 percent of Azerbaijan's GDP over this period. Non-energy products also show relatively low survival rates. Services exports such as travel, transportation, computer, and information services, have picked up but the COVID-19 pandemic hit travel services particularly hard. Looking forward, trade policy changes (such as reduction in tariff and non-tariff measures) and accession to the World Trade Organization (WTO) would be important for non-energy exports.

Resource dependence and demographic trends pose structural headwinds that put Azerbaijan's future growth prospects at risk. The economy faces headwinds that are difficult to change with policy choices, including: (a) declining population growth, (b) aging population, and (c) depletion of oil and natural gas reserves. The World Bank's Long-Term Growth Model (LTGM) highlights that, faced with these headwinds, under the baseline growth path, Azerbaijan's GDP growth would slow down from 1.5 percent in 2024 to zero by 2050, with an average growth of only 0.5 percent over 2024-2050. The projection is even less encouraging in per capita terms. GDP per capita growth is projected to start just below 1 percent and approach zero in the mid-2030s. As a result, GDP per capita would increase from USD 5,900 in 2020 to USD 6,500 in 2050, a cumulative growth of only 11 percent over 30 years.

Reviving growth is possible by focusing on improving productivity in the non-oil/gas sector and building human capital. Reform simulations using the LTGM model highlight that it is possible, with ambitious reforms, for Azerbaijan to boost average annual growth by 1.7 percentage points from 2024-2050. This has a significant impact on GDP per capita, which could reach USD 10,250 in 2050, leaving the average Azerbaijani 40 percent richer as compared to the baseline. The key drivers of long-run growth are improvements in productivity (TFP) in the non-energy sector and building human capital. Increased public investments and improved investment efficiency could generate some extra growth until the 2030s, but diminishing marginal returns imply that public investment is unlikely to be a key driver of long-run growth.

It is also critical that long-run growth is sustained at a steady pace and not derailed by volatility. A fast-growing economy is desirable so long as the growth rate is sustainable. The oil and gas sector will remain a critical part of the Azerbaijan's economy, and it will be critical that volatility in the sector, which may worsen with the energy transition, does not transmit to the economy through volatile spending, or through credit and price increases, in the case of overheating. Azerbaijan's past growth performance, and the experiences of other resource-rich countries, highlight the challenges posed by such 'boom-bust' cycles, which can lead to prolonged recessions.

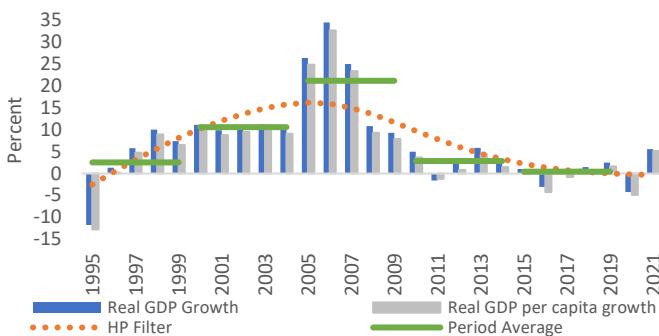
Maintaining macroeconomic and financial stability will thus remain critical to Azerbaijan's long-run growth prospects.

In addition, the challenges posed by dependence on oil and gas are likely to be exacerbated in the future with the global energy transition. As global energy consumption shifts away from fossil fuels, the economic viability of extracting these resources may decline, and incentive for additional exploration may also fall. Since sub-soil resources are owned by the country rather than companies, Azerbaijan will bear the brunt of this risk.

To revive and sustain growth, and to mitigate the risks and maximize the opportunities associated with the energy transition, reforms will be needed across four pillars:

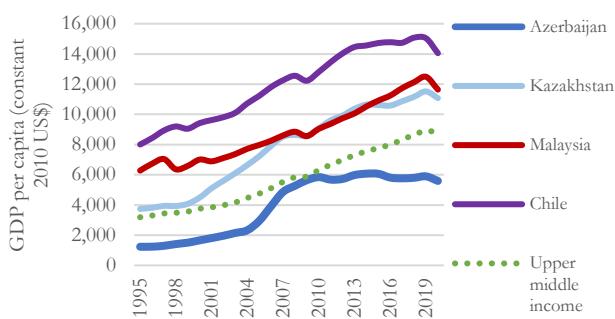
- **Pillar 1: Improving economic management**, with key constraints and reforms discussed in depth in Chapter 2.
- **Pillar 2: Enhancing productivity in non-energy sectors**, which will require changing the relationship between the state and the economy (discussed in depth in Chapter 3) and providing an enabling environment for private sector development (discussed in depth in Chapter 4).
- **Pillar 3: Diversifying assets** through investment in human and institutional capital, with key constraints and reforms for **building human capital** discussed in depth in Chapter 5.
- **Pillar 4: Preparing the economy for the energy transition**, which will be explored in depth in subsequent World Bank publications.

Figure ES 2: Growth momentum has slowed significantly



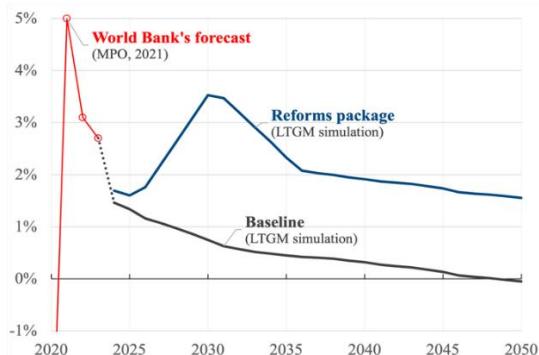
Source: Staff calculations based on State Statistics Service of Azerbaijan and World Bank data

Figure ES 4: Azerbaijan is still well behind its peers in GDP per capita



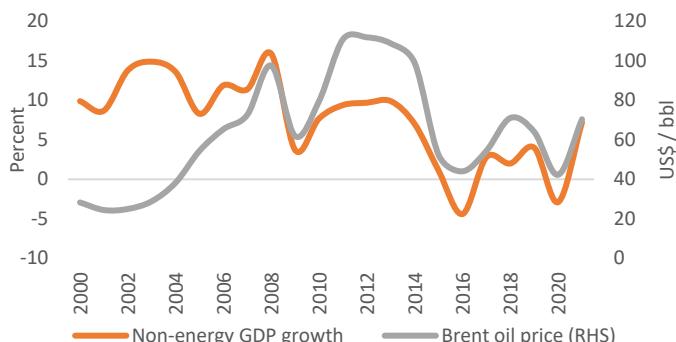
Source: World Bank WDI

Figure ES 6: Growth is projected to stagnate in the long run, but it can be reversed...



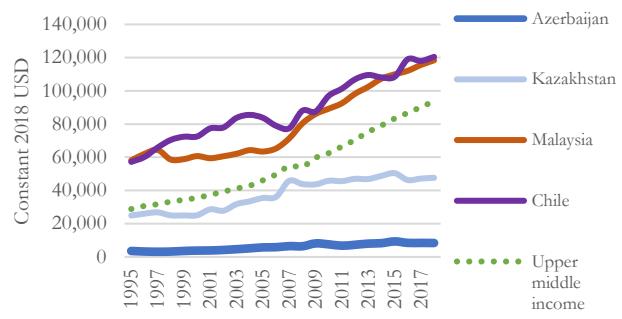
Source: Staff estimates based on the World Bank's Long Term Growth Model (LTGM)

Figure ES 3: Even non-oil/gas sector is tied to oil prices



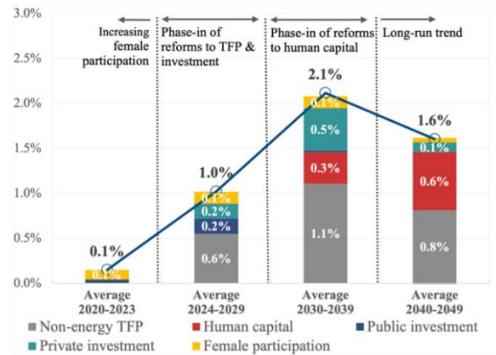
Source: Staff calculations based on State Statistics Service of Azerbaijan and World Bank data

Figure ES 5: ...as well as in its level of human capital



Source: World Bank Changing Wealth of Nations

Figure ES 7: ...with a focus on non-energy sector productivity and human capital



Note: Decomposition of Azerbaijan's incremental GDP growth driven by reforms

Source: Staff estimates based on the World Bank's Long-Term Growth Model (LTGM)

High dependence on oil revenues exposes Azerbaijan to risks emanating from volatility in oil prices, exhaustibility of revenues and real exchange rate fluctuations. Fiscal, monetary, and financial sector policies were not effective in managing these risks, having: (i) transmitted volatility in oil and gas prices to the economy, amplifying rather than dampening boom-bust cycles; and (ii) contributed to inefficient resource allocation, through over-valued exchange rates ('Dutch Disease') and inefficient financial intermediation. This, in turn, has had a significant impact on sustaining growth (as noted in Chapter 1).

Fiscal policy in Azerbaijan has been insufficiently countercyclical. After the 2016 crisis, some fiscal policy changes have been introduced to ensure countercyclicality, such as a new fiscal rule in 2019. Sizable assets at the State Oil Fund (SOFAZ) also provide a buffer against short-term external shocks. However, savings out of oil revenues have declined over time, threatening intergenerational equity, with savings set to fall further as the oil and gas sector faces headwinds in the medium- to long-term.

Fiscal spending saw a rapid rise since 2004 and has been a major driver of growth in the non-oil/gas sector. During a decade of high oil revenues, consolidated budget spending rose steeply and saw a nearly eight-fold increase from 2005 to 2014. Spending composition was skewed toward public investment, with a focus on rebuilding infrastructure that had deteriorated during the 1990s economic downturn. The public investment program propelled non-oil/gas sector growth, but also exposed the non-oil/gas sector to volatility, as public investment was the main tool for fiscal adjustment to oil price changes. Investment in human capital, including education and healthcare, remained subdued and lagged peer countries (as highlighted in Chapter 5).

Monetary policy effectiveness has been constrained by the de facto fixed exchange rate peg, which is not effective in buffering external shocks. Fiscal policy has bred exchange rate expectations that are closely linked to oil price movements. Together with structural weaknesses in the financial sector, this has contributed to high dollarization. The sharp decline in oil prices in 2014 exposed the vulnerability of the fixed exchange rate regime, with the CBA losing almost two-thirds of its reserves to defend the peg. Subsequent devaluations of the manat erased half of its value against the USD, which, in turn, exposed weaknesses in the financial sector and triggered a shift toward dollarization.

Azerbaijan has showed some signs of Dutch disease during the oil boom period. The country experienced a large real exchange rate appreciation during the oil boom period, which led to some adverse outcomes, including a shift in economic structure toward non-tradable sectors and stall in the outward orientation of the non-oil/gas sector. However, structural constraints are likely to have played a more pronounced role in terms of holding back non-oil/gas exports and tradable sector growth. The fact that Azerbaijan economy was dominated by non-tradable activities and was mostly inward-oriented even prior to the oil boom points to deeper structural issues that impede the development of tradable sectors. This is further reinforced by the fact that substantial changes in relative prices in 2015 have not yet resulted in a large adjustment in non-oil/gas sector structure and exports.

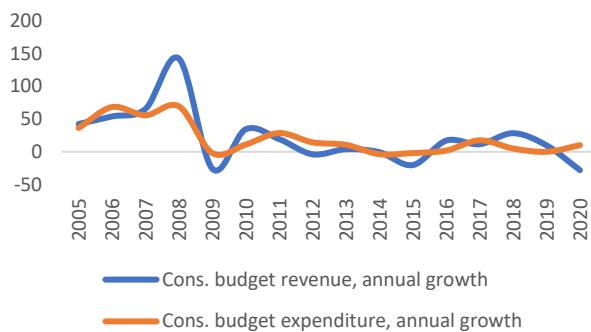
The financial sector is hampered by significant vulnerabilities, which poses risks to financial stability and hinders financial intermediation. The financial sector enjoyed rapid expansion in the years of the oil price and production boom, from 2004-2014, but expansion also created vulnerabilities due to gaps in banking regulation and supervision. The sharp decline in oil prices in 2014 and the subsequent adjustment to the exchange rate peg led to a financial crisis in 2015 and exposed these vulnerabilities, such as the dominance of banks, inefficiencies in financial intermediation, and lack of competition. Substantial weakness of financial intermediation is reflected in low credit to GDP in Azerbaijan (18.2 percent in 2019 substantially below the regional average of 41 percent). Following the financial crisis, authorities have taken steps to clean up the financial system and to bolster financial stability. However, vulnerabilities are still significant and pose risks to the soundness and effectiveness of financial intermediation.

Coordination of economic policies has been a legacy issue hampering formulation of coherent macroeconomic policies. Prior to 2015, a combination of procyclical fiscal policy and de facto fixed exchange rate, bred exchange rate expectations that closely aligned with oil prices. At the same time, lack of effective mechanisms for policy coordination (prior to 2015) hindered the formulation of a coherent response to a large external shock and manifested itself in an uneven adjustment to the “new normal” of oil prices. This included a prolonged defense of the exchange rate peg resulting in large reserve loss, persistent uncertainty around exchange rate management fueling depreciation expectations, sharp fiscal adjustment, economic recession, credit crunch and bank failures. There has been notable progress in policy coordination since 2015, with the establishment of a Financial Stability Board, which was later transformed to an Economic Council with a broader mandate, but more needs to be done to operationalize the council.

Looking ahead, to ensure stability, the chapter proposes several key recommendations:

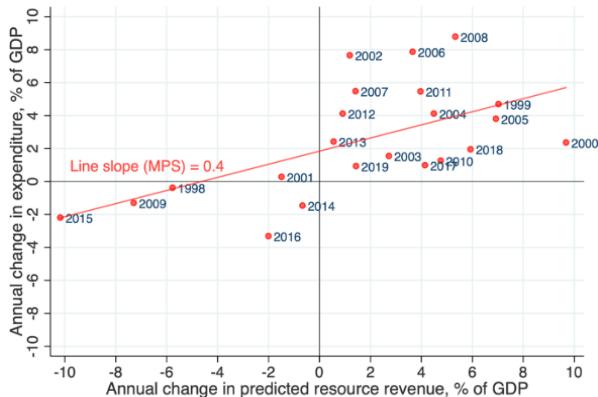
- i) **Strengthen the fiscal framework to support macroeconomic stability and ensure an adequate balance of spending and saving** by: (a) implementing the new fiscal rule; (b) adopting fiscal sustainability benchmarks; and (c) strengthening enforcement mechanisms for the rule and benchmarks.
- ii) **Use fiscal policies to support strategic priorities** by: (a) moving toward a medium-term expenditure framework such that spending is aligned to priorities, while being sustainable; and (b) boosting fiscal space by focusing on non-oil and gas revenue mobilization.
- iii) **Modernize exchange rate and monetary policy**, by moving toward a new nominal anchor in the medium-term in sync with efforts to address structural gaps in the financial sector.
- iv) **Safeguard financial stability** by: (a) resolving legacy problems in the financial sector; and (b) upgrading legal, regulatory, and supervisory frameworks.
- v) **Ensure more effective macroeconomic policy coordination** by operationalizing the Economic Council such that it can fulfill its mandate for policy coordination among key agencies involved in the implementation of fiscal, monetary, and financial sector policies.

Figure ES 8: Fiscal aggregates have been volatile



Source: Ministry of Finance

Figure ES 9: Volatility of oil and gas revenues led to a procyclical fiscal policy



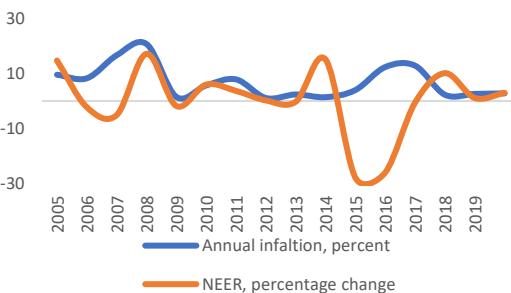
Source: World Bank staff estimation World Bank CMO.
Data on Real GDP and Gen. Govt. expenditure are from the IMF-WEO database

Figure ES 10: Fiscal sustainability is a potential concern



Source: State Oil Fund of Azerbaijan, WB Staff Estimates

Figure ES 11: Exchange rate is not acting as a credible nominal anchor



Source: Central Bank of Azerbaijan

*Figure ES 12: Financial intermediation remains weak
(Active banks - annual loan growth, percent)*



Source: Central Bank of Azerbaijan.

Note: Balance sheet and income statements of active banks in 2020 were aggregated according to their ranking in total assets.

State-owned enterprises (SOEs) continue to play a significant role in Azerbaijan’s economy. In 2019, 14 out of 22 of the largest SOEs generated a total revenue of AZN 89.3 billion (USD 52.5 billion) or 109 percent of GDP, and their total assets reached AZN 87 billion (USD 51.1 billion) or 106 percent of the country’s GDP. SOEs receive significant subsidies from the budget and only marginally contribute to revenues through taxes and dividends. SOEs account for a considerable percentage of total employment in Azerbaijan and are the main recipients of public investment financing.

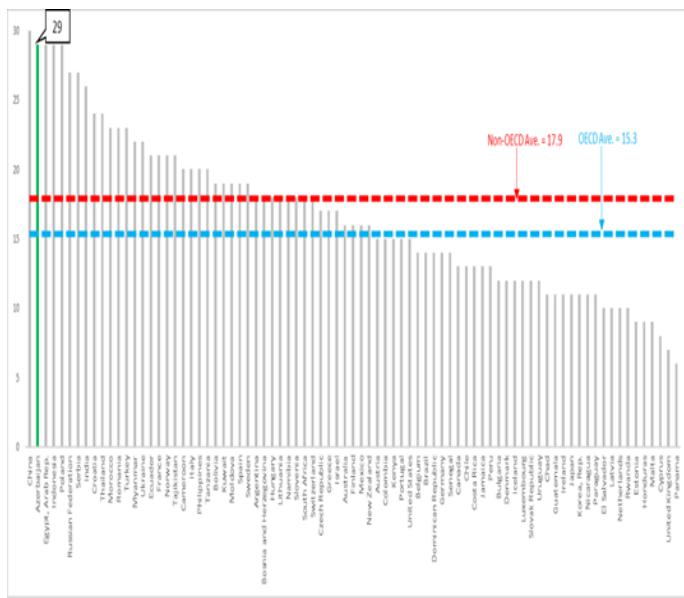
SOEs also benefit from state support, in the form of subsidies and competitive advantages such as preferential access to factors of production and better access to credit. SOEs also retain a large presence in sectors that in developed economies would typically be dominated by private participation, such as general manufacturing, construction, telecom, and agriculture. As a result, SOEs may be crowding out private sector growth and deterring the entry of new competitors.

The number of SOEs is high, at around 5,000, although only about 20 entities have a significant influence. These SOEs account for almost all revenues, public investment projects and SOE debt. The portfolio is dominated by the oil and gas sector, with SOCAR and its subsidiaries accounting for a substantial—over 70 percent—share of SOE portfolio’s total assets, revenues, debt, and employment. SOCAR’s profits have offset rising losses in the rest of the portfolio, but, as of 2019, the SOE portfolio was loss-making on an overall basis.

Improving SOEs’ efficiency, performance and transparency is critical to supporting sustained growth and is a key government priority, as highlighted in the 2030 National Strategy vision. Reforms undertaken in the past five years include introducing an expedited corporatization process and requiring SOEs to follow annual key performance indicators (KPIs). In 2020, Azerbaijan enacted the key reform of centralizing and strengthening its oversight of SOEs ownership and governance by establishing the Azerbaijan Investment Holding (AIH).

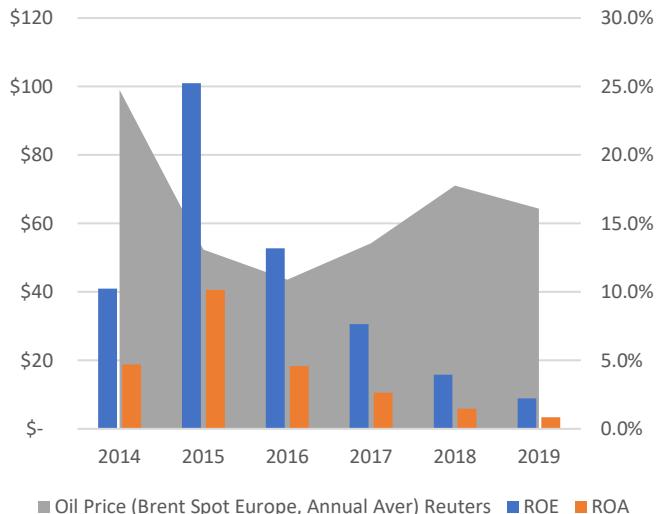
This chapter highlights some policy options to build on the reform momentum to improve SOEs governance and performance. An important step is a comprehensive stock-taking of all SOEs in line with a clear rationale for continued Government ownership or divestiture. Concurrently, the recently established AIH could focus on improvements in SOEs’ corporate governance practices coupled with vigorous monitoring of their operational and financial performance and delivery of important social and public policy objectives. To limit fiscal exposure, SOEs’ relationship with the budget could be modernized with mechanisms and incentives to improve performance and to move toward financial sustainability. Finally, it is important to enact reforms to maintain competitive neutrality so that, over time, the private sector can effectively compete in sectors currently dominated by SOEs.

*Figure ES 13: Number of SOEs is large by global standards
(Number of sectors with at least one SOE)*



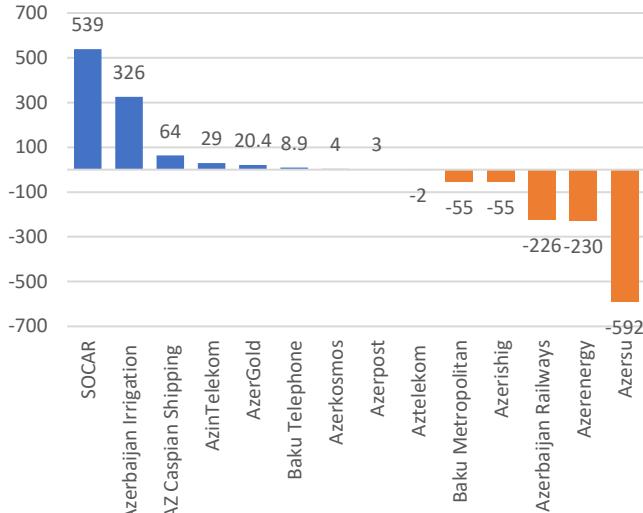
Source: WBG Competition Policy Team analysis based on desk research following the OECD PMR template and OECD–WBG PMR data from 2013 methodology as of August 2020.

*Figure ES 15: But SOCAR's profitability is declining with falling oil prices
(SOCAR Profitability Ratios and Oil Price, 2014-19)*



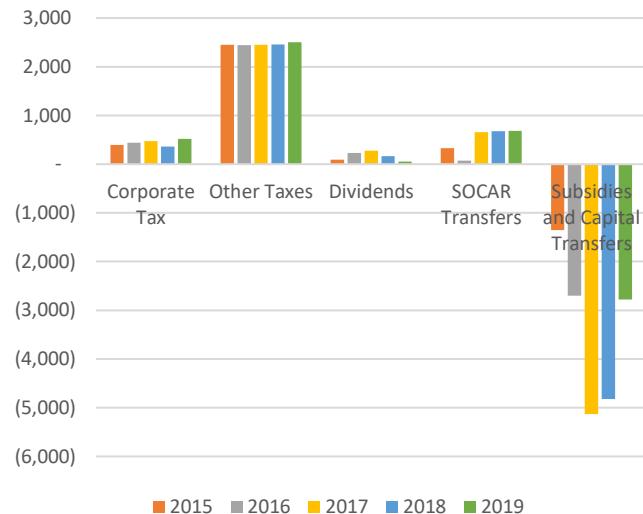
Source: Thompson Reuters Europe Brent Spot Price FOB, SOCAR Financial Statements, WB Staff calculations

*Figure ES 14: SOE portfolio performance highlights the critical role of SOCAR
(SOE net results in 2019, AZN million)*



Source: SOE Financial Statements for 2019, WB Staff calculations

*Figure ES 16: SOE fiscal inflows have been steady, but outflows have increased
(SOE fiscal flows, 2015-15, AZN)*



Source: State Tax Service, SOE Financial Statements, WB Staff calculations

The private sector is characterized by duality. A large and well-integrated energy sector coexists with a non-energy sector characterized by low productivity, low investment, and weak global linkages. The non-energy sector comprises mostly small firms that are domestically owned and engaged in low value-added activities. Export orientation of the non-energy sector is quite low, which is reflected in a low and stagnant share of non-energy exports in non-energy GDP. As noted in Chapter 3, SOEs also have a significant presence across several sectors that are typically dominated by the private sector in other countries.

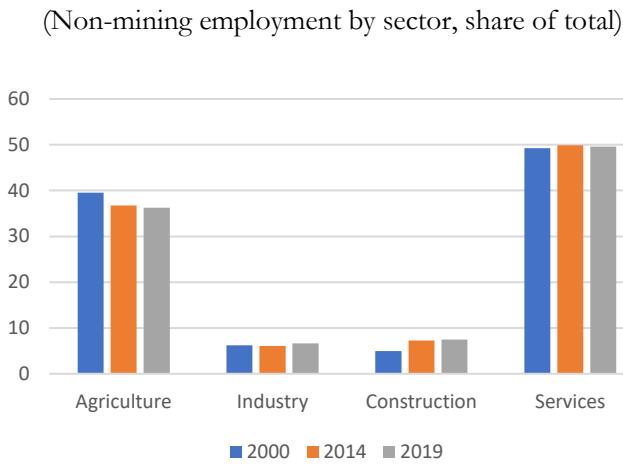
Structural transformation has been limited. Labor is still concentrated in low value-added activities, with the share of agriculture in total employment declining only marginally from 40 percent in 2000 to 36 percent in 2019. The devaluation of the manat in 2015 spurred some growth in employment in tradeable sectors, but employment growth remains dominated by low value-added services. Available data suggests that investment has also not flowed to high value-added sectors – for example, in 2019, construction received a significant share of investments, despite its low contribution to value-added growth.

The key constraints holding back a more vibrant private sector include: (i) access to skilled labor, particularly for larger firms and exporters; (ii) access to finance, particularly for small and medium-sized enterprises; (iii) competition from the informal sector, particularly for small firms; (iv) bottlenecks to market competition, particularly driven by SOE dominance, a weak legal framework for competition, and price controls; and (v) an investment climate undermined by weak governance standards.

This chapter highlights some policy options to address the constraints to private sector growth:

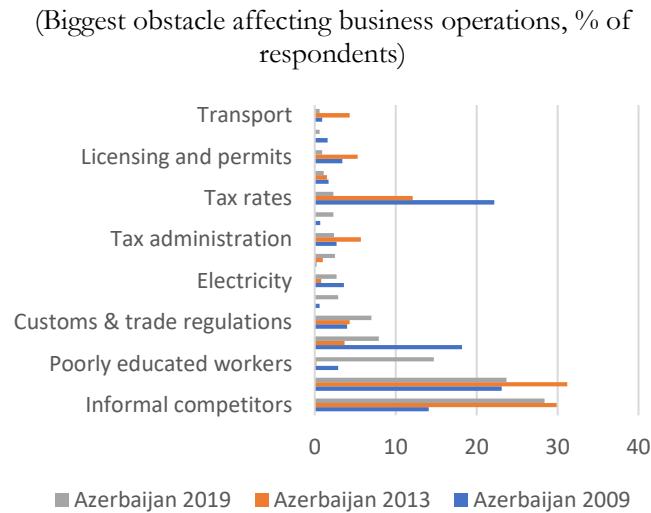
- (i) **Address challenges to access to finance, particularly for MSMEs**, through a focus on strengthening financial sector resilience; upgrading legal, regulatory, and supervisory frameworks; and promoting financial deepening, including building up alternative capital markets.
- (ii) **Ensure that the supply of skills is meeting the changing demands of the private sector** (recommendations highlighted in detail in Chapter 5).
- (iii) **Address issues related to market competition** by: (i) promoting pro-competition rules and aligning them with international standards, strengthening the competition governing agency, and limiting foreign equity restrictions in key sectors; and (ii) fostering competitive neutrality principles by levelling the playing field between SOEs and private sector firms and removing distortive price controls.
- (iv) **Improve the investment climate** by: (i) promoting predictability through regular public-private consultation; (ii) expanding and better targeting the services provided by the SME Development Agency, AzPromo, and AzExport; (iii) tackling persistent issues related to poor governance, particularly regarding corruption control; and (iv) continuing progress made in legal and judicial reforms through effective implementation of reforms, while addressing additional issues (such as IPR-related disputes) critical for attracting FDI.

Figure ES 17: Structural transformation has been limited over the last two decades



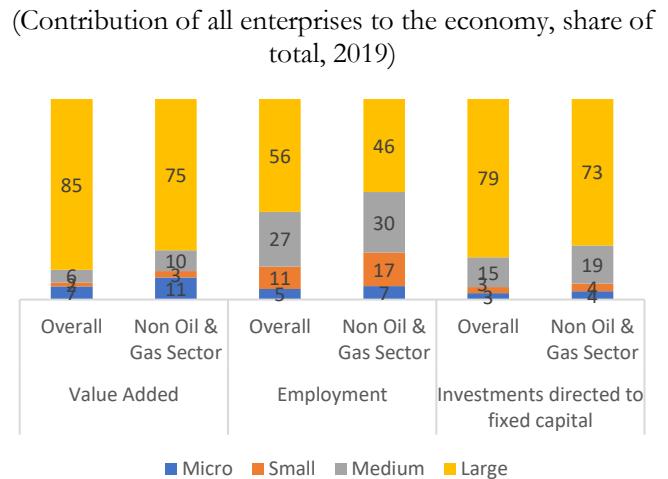
Source: World Bank Group staff calculations based on Azerbaijan State Statistics Service data

Figure ES 19: Access to finance and skilled labor, practices of informal sector are top 3 constraints by firms



Source: World Bank Enterprise Survey 2019

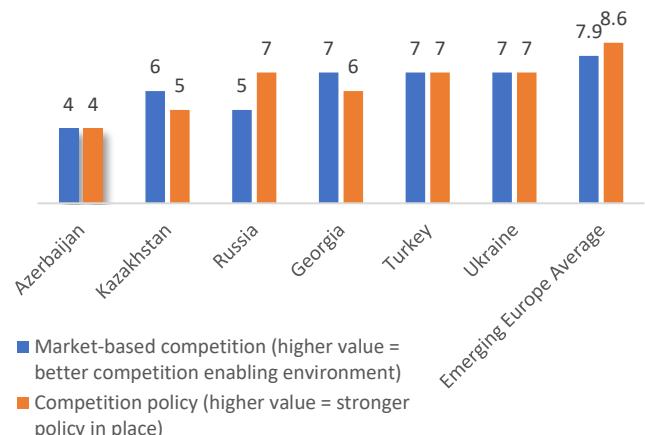
Figure ES 18: Smaller firms account for a larger share of employment than value added



Source: Statistical Committee of the Republic of Azerbaijan, Statistical Yearbook (2020)

Figure ES 20: Competition and lack of a level playing field is another key perceived constraint

(Organization of the market and competition, 1–10 (best))



Source: BTI 2020. Note: The BTI is a perception indicator based on in-depth assessments of countries and is managed by the Bertelsmann Stiftung

Chapter 5: Building human capital for sustained and inclusive growth

Azerbaijan's *Vision 2030 for Socio-Economic Development* acknowledges the importance of addressing the country's human capital constraints in ensuring that long-run growth is strong, sustainable, and inclusive. The key aims under Vision 2030 are building competitive human capital starting from an early age and supporting innovation. In this regard, the vision document highlights the following priorities: modernizing the education system, expanding early and pre-school education, delivering high-quality education, developing digital skills from school age, building an ecosystem that stimulates creativity and innovation, and assuring the longevity and healthy lifestyle of citizens.

The focus on human capital is needed as human capital accumulation in Azerbaijan has been weak driven by low and highly uneven learning outcomes. Human capital wealth per capita is considerably lower than predicted by Azerbaijan's income, and human capital accumulation is characterized by significant disparities, particularly based on socioeconomic background. Low levels of and inequity in human capital accumulation have been driven by weak post-primary learning outcomes, which are themselves the result of several factors, including: inadequate support to raise teacher effectiveness; lower student attendance; and inequitable access to quality early childhood education. The COVID-19 pandemic, and attendant school closures, have further compounded learning losses, and more must be done to prevent long-run consequences.

In addition to low learning outcomes, other critical constraints hinder skills development and lead to the private sector facing skills shortages. These constraints include: (i) low enrollment in tertiary education¹⁵ caused by high costs, learning disparities at the secondary level, admissions quotas, and lack of physical access to higher education institutions (HEIs),¹⁶ (ii) low quality of tertiary education and vocational education and training (VET); and (iii) insufficient linkages between tertiary education and VET institutions and the private sector. These constraints are, in turn, reflected in skills shortages, with the private sector, particularly large firms, citing access to skilled labor as the most critical constraint impeding their growth. Firms face critical challenges filling vacancies in STEM areas.

Strengthening the social protection system will be critical to prevent human capital losses in the face of shocks. Some key areas of improvement for the social protection system include enhancing the coverage and adequacy of benefits and a greater focus of labor market programs to respond to labor market shocks. By building the social protection system's capacity to cast a wider net and react to and prepare for present and unexpected events, the country can mitigate human capital losses in the face of shocks such as the COVID-19 pandemic.

Constraints to learning, skills development and social protection point to the need for reforms across three pillars to support human capital accumulation:

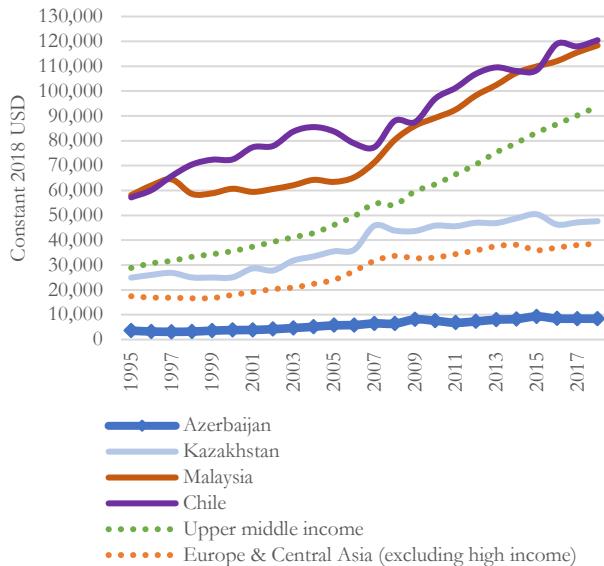
¹⁵ Tertiary education refers to education provided by public and private universities, academies and colleges, and includes bachelor's degree programs (4 years of study), Master's programs (2 years of study), and Doctor of Philosophy and Doctor of Science programs (3 years of study).

¹⁶ HEI include academies, universities, and colleges. Higher educational institutions prepare high level specialists and scientific-pedagogical staff taking into account requirements of society and labor market and this training includes "bachelor" (basic (base higher education) medical education), "magistracy" (residentia) and "doctorate" (adjunctura) level.

- **Pillar 1: Improving basic education and quality**, which entails (i) in the short term, addressing the impact of COVID-19 on learning loss through support for distance learning, remedial teaching, and enhancing teacher effectiveness; (ii) in the medium term, promoting equitable expansion of early childhood education through increased financing, using results of national and international assessments to inform policy changes, identifying and addressing factors affecting daily school attendance; and reviewing the quality and relevance of curricula at all levels based on the needs of the labor market; and (iii) in the long term, enacting reforms to boost teacher effectiveness.
- **Pillar 2: Linking skills development with the labor market**, which entails:
 - (i) **Improving the quality of tertiary and VET education** by designing mechanisms to promote equitable expansion in the short term; in the medium term, providing more academic flexibility to higher educational institutions, consolidating VET schools, addressing disparities in access for the unemployed, and improving relevance of VET curricula; and, in the longer term, reforming higher education financing.
 - (ii) **Connecting skills supply with the labor market** by implementing Active Labor Market Programs (ALMPs)¹⁷ and promoting on-the-job training programs focusing on target groups in the short term; in the medium term, strengthening linkages between service providers and the private sector, establishing a dynamic skills inventory system for labor market developments and disseminating skills and occupations in demand regularly; and, in the longer term, fostering public-private partnerships in skills development.
- **Pillar 3: Strengthening social protection**, which entails (i) in the short term, continuing to protect the vulnerable from the lingering impacts of the COVID-19 pandemic and conducting ongoing review of efficacy of support; (ii) in the medium term, improving the linkages between social services and social assistance, improving responsiveness and resilience of the social protection delivery system to shocks, and increasing coverage of social assistance programs through a stronger outreach mechanism; and (iii) in the longer term, examining trends and drivers of inequality, and linking social assistance programs with labor market programs.

¹⁷ Active labor market programs (ALMPs) aim to keep workers employed, bring them into employment, increase their productivity and earnings, and improve the functioning of labor markets. ALMPs to retain employment, for example, work-sharing schemes, should be used only for short periods during severe recessions.

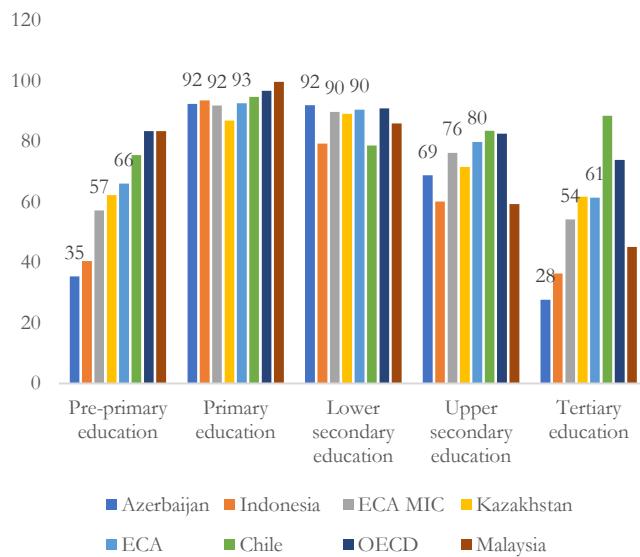
Figure ES 21: Azerbaijan's human capital accumulation has been well below peers
 (Azerbaijan's per capita human capital wealth vs regional and aspirational peers, 2005-2018)



Source: World Bank Changing Wealth of Nations

Figure ES 23: Enrollment in pre-primary and tertiary education is below peers

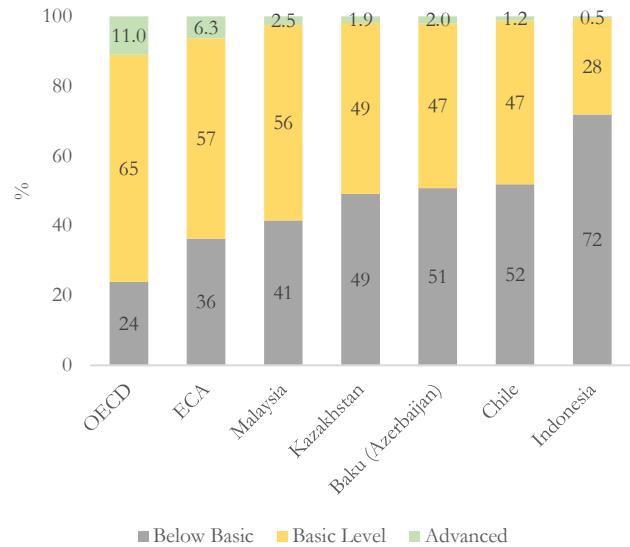
(Net enrollment rates, 2016 or latest)



Source: WB Staff Estimates based on UNESCO UIS (2020).
 Gross enrollment rates are for tertiary education

Figure ES 22: Learning outcomes have been a particular concern

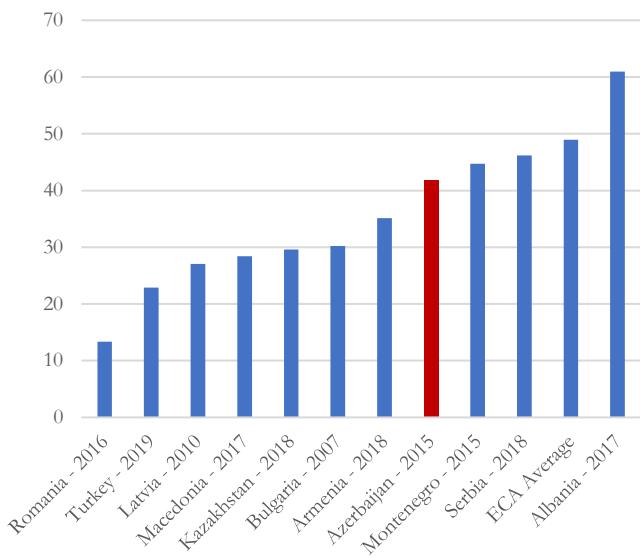
(Baku performance in PISA (math) by proficiency level, 2018)



Sources: World Bank staff estimation based on PISA 2018

Figure ES 24: Adequacy of social assistance is below peers

(Adequacy of social assistance for the bottom quintile, selected countries, latest year available)



Sources: World Bank SPEED database



Chapter 1

Long-run growth prospects

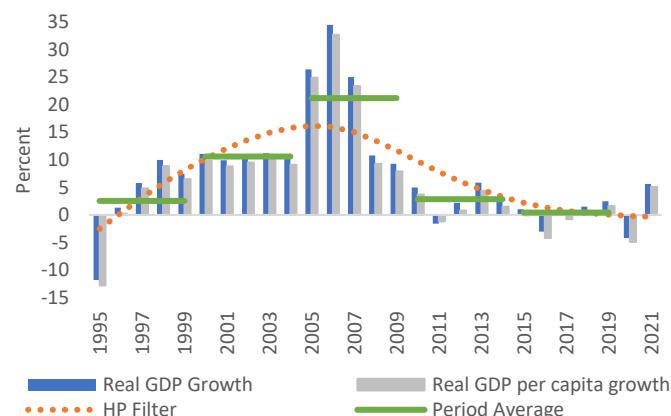
This chapter provides a diagnostic of Azerbaijan's past growth performance (Section 1. Azerbaijan's growth over the past two decades), degree of integration into the global economy (Section 2. Azerbaijan's integration in global economy), extent of diversification of the asset base (Section 3. Azerbaijan's asset portfolio), long-run growth prospects (Section 4. Long-run growth prospects), and challenges and opportunities presented by the global energy transition (Section 5. Azerbaijan needs to prepare for the energy transition). The chapter ends with an overview of the policy agenda to revive and sustain growth in the long run, with specific aspects of the policy agenda explored in subsequent chapters.

Section 1. Azerbaijan's growth over the past two decades

Growth has been tied to the oil and gas sector

Azerbaijan is a small economy, rich in hydrocarbons. After the fall of the Soviet Union and the geopolitical turmoil of the early 1990s, the country experienced a deep recession, contracting by over 12 percent in 1995¹⁸ (see Figure 1.1). However, after the situation stabilized in 1995, Azerbaijan focused on its socio-economic development and introduced the first generation of market reforms, including liberalizing domestic markets and creating a private banking sector. The country also established the Azerbaijan International Operating Company (AIOC), a consortium of companies that would, jointly with the Government of Azerbaijan (GoA), develop and share its hydrocarbons production in the oil and natural gas fields in Azerbaijan's part of the Caspian Sea.¹⁹ Shortly after the energy production sharing agreement (PSA) was implemented, both public and private capital was poured into the exploration of hydrocarbon resources, increasing the productivity of Azerbaijan's energy sector. Coupled with the commodity prices super-cycle, during which the average oil price rose from 19 USD/bbl in late 2001 to 130 USD/bbl in mid-2008, the share of extractives (crude and refined oil, gas, and other petroleum-derivative products) in Azerbaijan's net exports rose from about 50 percent in the late 1990s to over 90 percent in the 2000s (see Figure 1.2). The country turned from a net importer to a net exporter and is now an established player in global oil markets (Box 1.1) and a growing player in global gas markets (Box 1.2).

Figure 1.1: Azerbaijan's real GDP and GDP per capita growth, 1995-2020

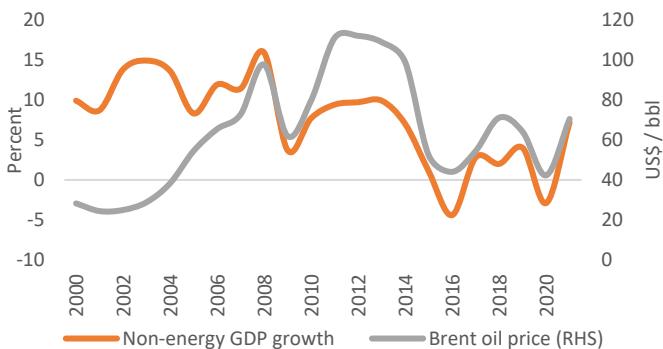


Source: Staff calculations based on State Statistics Service of Azerbaijan and World Bank data

¹⁸ All the Azerbaijan's GDP growth figures in this note are based on data from the State Statistics Service of Azerbaijan.

¹⁹ The AIOC initially consisted of 11 companies from 6 countries (the United Kingdom, USA, Norway, Turkey, Japan, and India). The PSA was re-signed in 2017 and prolonged till 2050. British Petroleum (BP) remains the largest shareholder, while the U.S.-based shareholders decided to leave the AIOC in 2019.

Figure 1.2: Azerbaijan's real non-oil/gas GDP growth and oil price, 2000-2020

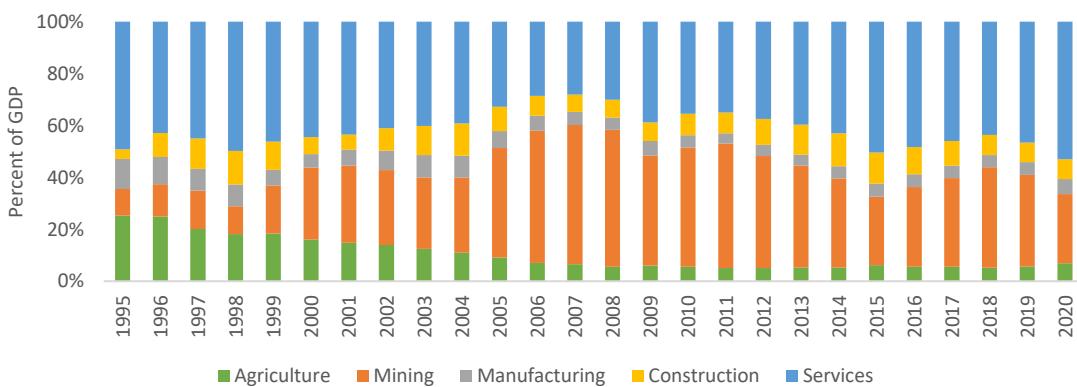


Source: Staff calculations based on State Statistics Service of Azerbaijan and World Bank data

The surge in the hydrocarbon sector altered the structure of the economy and brought extraordinarily high growth during the oil boom of 2005-2008. Between 1995 and 2007, agriculture's share in the economy fell from 25 percent of GDP to 6.5 percent (see Figure 1.3). Manufacturing halved as a share of GDP, and services declined from about 50 percent of GDP in the late 1990s to less than 33 percent of GDP in 2007. In contrast, during the same period, energy-related industries' (mining) share skyrocketed, from 10 percent to 54 percent. The economy's overreliance on hydrocarbons, particularly on oil production and export, and its corresponding growth volatility have been present ever since. Azerbaijan's economic growth, even non-oil/gas, has followed the path of energy prices for the past two decades, suggesting that a dynamic private sector detached from the oil and gas sectors did not emerge (see Figure 1.4). During the oil boom of 2005-2008 the economy grew at an extraordinarily high annual average of 24 percent (see Figure 1.1).

Skyrocketing oil prices of the mid-2000s brought a wealth of foreign exchange reserves, which were deposited in Azerbaijan's sovereign wealth fund (State Oil Fund of Azerbaijan or SOFAZ). Following the fund's creation in 1999, transfers from SOFAZ became part of the state budget revenue stream. This allowed for increased spending and led to a pro-cyclical fiscal policy path (see more details on Azerbaijan's macro-fiscal framework in Chapter 2). The windfall of revenues during the oil boom enabled the government to focus on poverty alleviation and widening the extension of social programs. The population growth rate doubled during the same period. In 2009, Azerbaijan transitioned from a low-income country to an upper-middle income country (UMIC).

Figure 1.3: Azerbaijan's GDP structure (supply side), 1995-2020

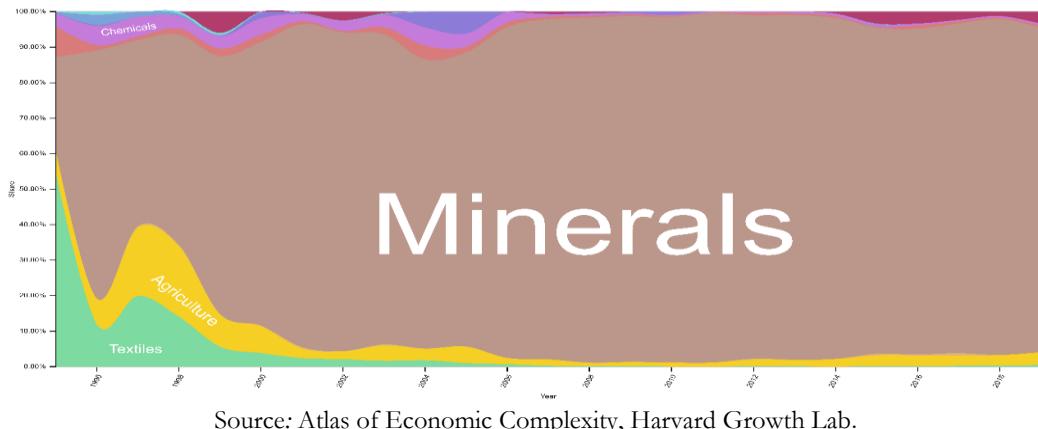


Source: Staff calculations based on State Statistics Service of Azerbaijan data.

Note: Current prices.

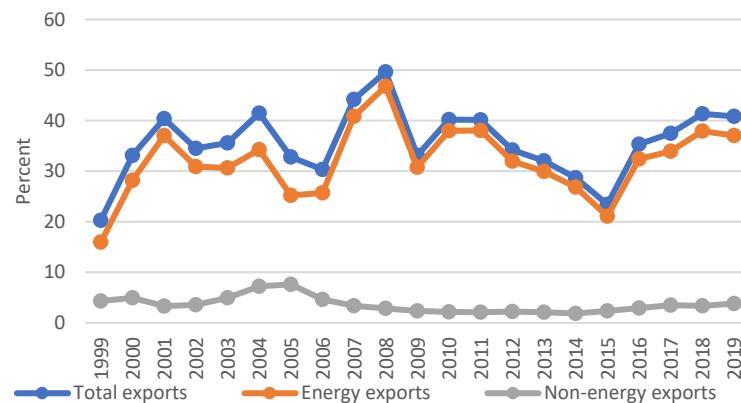
However, beginning in 2010, the country's economic growth slowed substantially, averaging about 2.9 percent annually between 2010 and 2014 (see Figure 1.1). Aided by still high energy prices, Azerbaijan largely avoided the global financial crisis of 2007-2008, but deceleration in growth revealed lingering structural economic rigidities that hindered its economic potential. On the supply side, the government focused on agriculture and services (tourism and hospitality in particular) as potential diversification opportunities, and the share of these sectors in economy started to increase (see Figure 1.3). These changes were also noticeable in a slight shift in trade flows, with growing shares of agricultural products such as tomatoes, fruits (e.g., persimmons, cherries, and apples), hazelnuts, cotton, as well as non-monetary gold and services in net exports (see Figure 1.4 and Figure 1.5). Yet the monetary policy of a de facto fixed (and appreciating in real terms) exchange rate against the US dollar since 2008²⁰ undermined diversification efforts and hurt the competitiveness of the non-oil/gas sectors.

Figure 1.4: Azerbaijan's net export structure, 1995-2019



Source: Atlas of Economic Complexity, Harvard Growth Lab.

Figure 1.5: Azerbaijan's exports-to-GDP, 1999-2019



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

A plunge in oil prices in 2014 caused the first recession in Azerbaijan's modern history. External surpluses were wiped out, foreign capital inflows turned to outflows, procyclical fiscal policy was tightened, and the Central Bank of Azerbaijan (CBA) spent two-thirds of its reserves to maintain the de-facto fixed exchange rate against the US dollar. Nevertheless, in 2015, the national currency was devaluated twice and lost half of its value. A credit crunch in the financial sector and a banking crisis followed. As a result, both

²⁰ Central Bank of Azerbaijan.

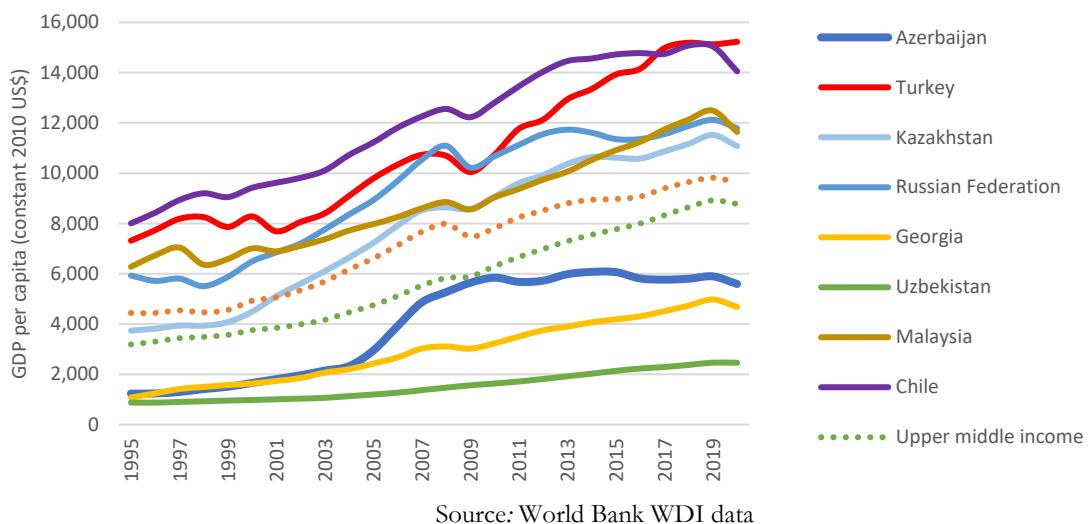
energy and non-energy economies contracted in 2016 – real GDP fell by 3.1 percent and non-oil/gas GDP by 4.4 percent (see Figure 1.1 and Figure 1.2).

The 2014 slump in oil prices erased a substantial share of the country's net export revenues, but it did not result in a significant change in its economic structure. While the mining sector fell to 26 percent of GDP in 2015, down from 34 percent in 2014, and services increased from 46 percent to 52 percent of GDP in the same period, this trend was quickly reversed the following year, as the terms of trade started to improve (see Figure 1.3).²¹ Indeed, Azerbaijan's export of services, such as travel and transportation, grew steadily until 2017 and have been declining after the 2016 crisis (Figure 1.5). Travel services was the largest category of services exports between 2012 and 2017 and its decline has been the largest driver behind the subsequent decline the export of services. Separately, public capital investment during this period was mainly directed to the construction of the Southern Gas Corridor (SGC) pipeline infrastructure between Azerbaijan and Southern Europe.

In 2017-2019, Azerbaijan's economy started to recover gradually, supported by favorable terms of trade and revival of the reform effort. Economic growth picked up but never reached the heights of the mid-2000s (see Figure 1.1). In 2018, the completion of the SGC opened another source of export revenue from natural gas. Macroeconomic conditions stabilized by 2017 and aided by increasing oil prices and higher hydrocarbons production, GDP growth improved and reached 2.5 percent in 2019, although it averaged only 0.4 percent during the period 2015-2019 (see Figure 1.1).²²

Stagnating economic growth since 2016 meant that Azerbaijan's development gains of the mid-2000s stalled and real incomes levelled (see Figure 1.6 and Figure 1.7). While other commodity-dependent economies started to diversify their assets, Azerbaijan lagged behind. This stagnation in growth prompted two rounds of fiscal stimulus: the first fiscal stimulus in 2018 was focused on public investment, and the second round in 2019 (estimated at 3 percent of GDP) targeted higher wages and pensions, personal income tax exemptions, and bailing out non-performing foreign-currency consumer loans.

Figure 1.6: Azerbaijan's real GDP per capita vs regional and aspirational peers,²³ 1995-2019

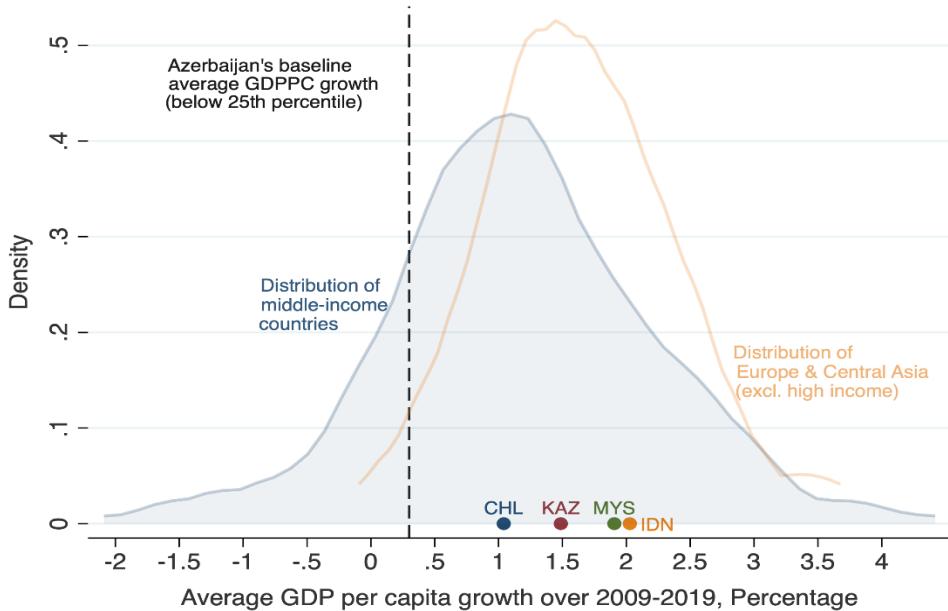


²¹ State Statistical Committee of Azerbaijan.

²² Ibid.

²³ Peers are selected based on various indicators, such as country size, demographic profile, economic structure, and reliance on hydrocarbon rents. Aspirational peers also reflect country-specific aspirations.

Figure 1.7: Azerbaijan's real GDP per capita growth vs regional and aspirational peers



Source: World Bank staff calculations based on WDI data

In 2020, a triple shock of the COVID-19 pandemic, a collapse in energy demand and prices, and resumption of the armed conflict with Armenia hit Azerbaijan's economy. The economy contracted by 4.2 percent in 2020. Three waves of COVID-19 induced lockdowns halted activity in nonhydrocarbon sectors, particularly travel and hospitality (previously promising diversification sectors), and domestic trade. The energy sector contracted by 6.3 percent, as adherence to the Organization of the Petroleum Exporting Countries+ (OPEC+) oil production quotas slashed oil output. Substantial reserve buffers and low public debt levels helped Azerbaijan weather the ensuing economic crisis, but the pandemic adversely impacted employment, wages, and poverty rates.

The economy started to recover in 2021, with non-energy sectors leading the rebound. After the lockdown was lifted in May 2021 and OPEC+ started gradually relaxing its oil-production quotas, a swift recovery of both energy and non-energy GDP pushed the overall economic growth rate to 5.6 percent in 2021, with output recovering to pre-COVID-19 levels by end-year. The non-oil/gas sector led the recovery, expanding by 7.2 percent. The annual GDP growth rate is forecast to moderate to an average of 2.4 percent during 2022-2024, close to its potential, as energy GDP stabilizes and the non-energy sectors face headwinds from low private investment levels, subdued agriculture yields (due to still stressed water supplies) and spillovers from Russia's invasion of Ukraine and associated sanctions on Russia. (World Bank, 2022).

Box 1.1. Azerbaijan is an established, but not a major, player in global oil markets

At the global level, Azerbaijan is a relatively small oil producer, accounting for around 0.8 percent of global production (Figure 1.8). Azerbaijan's oil production rose rapidly in the mid-2000s, more than tripling from 280 thousand bbl/day in 2000 to 920 thousand bbl/day in 2008. The country's share of global production reached a peak of 1.2 percent in 2009, but it has since gradually decreased as Azerbaijan's oil production has fallen. That is in contrast to Kazakhstan, which has seen a broadly flat share of global production since 2009, thanks to the discovery of the Kashagan oil field. Azerbaijan is a member of OPEC+ and therefore participates in the group's production cuts – its average daily crude oil production was about 609 thousand bbl/day in 2020, down from the average of 670 thousand bbl/day in 2019.

Azerbaijan accounts for 0.4 percent of global oil reserves and its share has gradually decreased over time, as its known reserve levels have remained unchanged at 7 billion bbl, while global reserves have risen (Figure 1.9). At current production rates, Azerbaijan has around 25 years of reserves remaining, which is toward the lower end relative to its peers (Figure 1.10).

Figure 1.8: Share of global oil production, selected countries

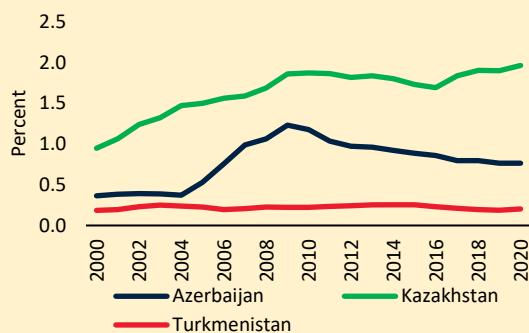


Figure 1.9: Share of global oil reserves, selected countries

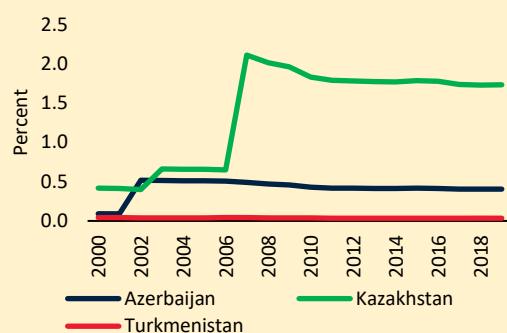
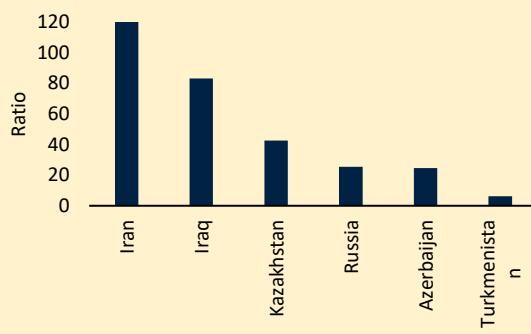


Figure 1.10: Oil reserves to production ratio, 2019



Source: BP Statistical Review, World Bank

Note: Figure 1.8 includes crude oil, condensates, and natural gas liquids. In Figure 1.10 ratio indicates number of years of reserves remaining at 2019 production level.

Azerbaijan's largest trading partner for oil is Italy, which accounts for more than a third of total oil exports and has been Azerbaijan's largest export destination for the last two decades (Figure 1.11). Israel and Germany have also been key destinations for Azerbaijan's oil exports, although their importance has declined over the past two decades, particularly Germany. In contrast, China and India have risen in importance, and in 2019, they were the third and fifth largest importers of Azerbaijan's oil. These trends reflect the broader story of oil demand growth in advanced and emerging economies—demand growth has been flat or negative in Italy, Israel, and Germany, while it has grown rapidly in India and China (Figure 1.12). These developments are likely to continue, with emerging market economies rising in importance.

Figure 1.11: Azerbaijan's top 5 oil export partners, 2019

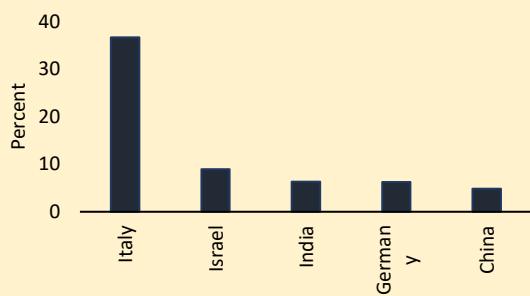
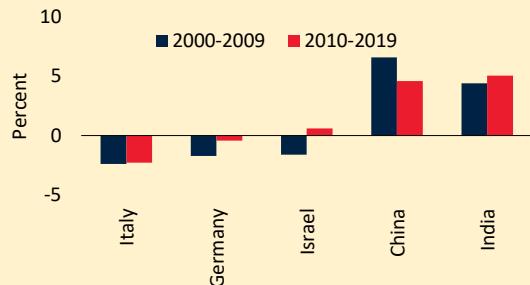


Figure 1.12: Oil demand growth in Azerbaijan's top 5 export partners



Source: BP Statistical Review, Observatory of Economic Complexity, UN Comtrade, World Bank

Box 1.2. Natural gas is becoming increasingly important for Azerbaijan

Natural gas has become increasingly important in Azerbaijan. Production has increased nearly fivefold over the past two decades, from around 5 billion cubic meters (bcm) in 2000 to 24 bcm in 2019. The rate of growth over the last decade has slowed over the past 10 years compared to the previous decade (Figure 1.14). However, output jumped sharply in 2019 by 28 percent. Azerbaijan currently consumes around half of the natural gas it produces, primarily for the generation of electricity, and to a lesser extent for heating, with the remainder being exported (Figure 1.15). This level of export is relatively low in comparison with other significant natural gas producers. Reducing domestic consumption could, however, increase the amount of natural gas available for export and could be achieved either through policies, such as improving energy efficiency, or by replacing natural gas with renewables in electricity generation. Azerbaijan's production-to-reserves ratio is also high, which indicates there is scope for increased production (Figure 1.16).

Azerbaijan's share of global production increased in the 2000s and has since remained fairly constant at around 0.6%, similar to that of Kazakhstan (Figure 1.13). The increase in natural gas production has been matched by an increase in exports, which have risen from around USD 0.4 billion in 2010 to USD 2.4 billion in 2019, and an increase in their share in total exports from 1.4 percent to 12 percent over the same period. Globally, Azerbaijan accounts for around 0.8 percent of all gas exports and 2.4 percent of gas traded by pipeline.

Figure 1.13: Share of global natural gas production



Figure 1.14: Natural gas production growth

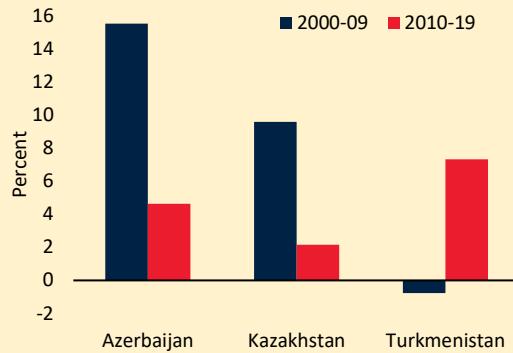


Figure 1.15: Consumption relative to production, 2019

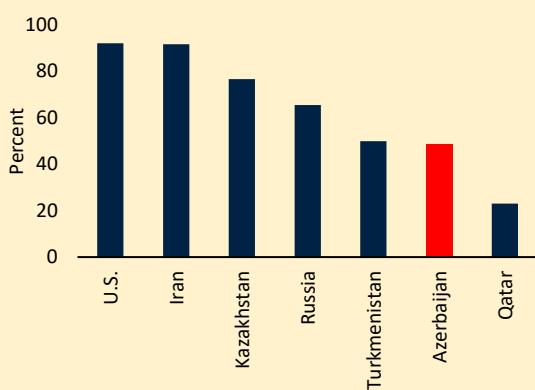
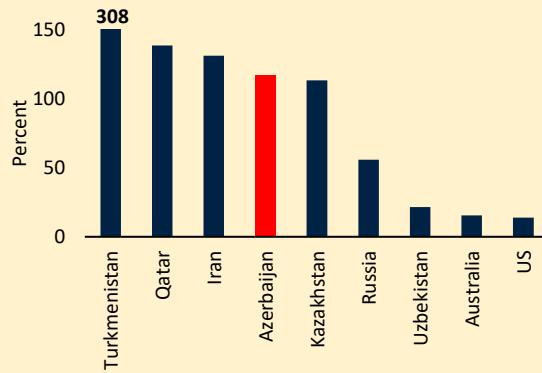


Figure 1.16: Ratio of current known level of reserves to current production



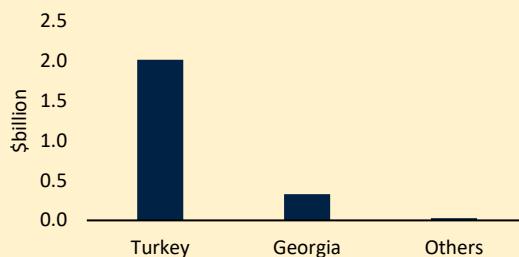
Source: BP Statistical Review

Note. Figure 1.15 Percent of production consumed domestically. Residual is either exported or stored.

Figure 1.16. A value of 100 indicates production could be maintained at current levels for 100 years. Reserves have historically tended to increase over time. Value for Turkmenistan is 308, y-axis has been reduced for visual reasons.

Azerbaijan currently exports all of its natural gas via pipeline, and as a result, its exports are highly concentrated geographically. In 2019, 78 percent of natural gas was exported to Turkey, while 21 percent went to Georgia (Figure 1.17). However, this geographic composition is set to change as a result of new pipelines. In December 2020, Azerbaijan exported natural gas to Italy for the first time via the existing Trans-Anatolian Pipeline (TAP) and the new Trans-Adriatic Pipeline, which connects Azerbaijan to Italy via Georgia, Turkey, and Greece. Azerbaijan is aiming to export around 10bcm to Europe, of which 8bcm will go to Italy. In 2019, Azerbaijan exported around 12bcm of natural gas globally. Italy is a very large market for natural gas, accounting for around 5 percent of global imports. Currently, Italy's natural gas imports are primarily supplied by Russia (39 percent), Algeria (29 percent), and Qatar (8 percent).

Figure 1.17: Azerbaijan's gas exports destination in 2019



Source: Observatory of Economic Complexity, World Bank

Note. "Others" includes Iran, Russia, Pakistan, Afghanistan, and France.

Growth has been driven by physical capital accumulation and oil and gas rents

This chapter uses the Solow-Swan model as a foundation for its growth accounting analysis (per Solow, 1956, and Swan, 1956). The methodology decomposes the growth rate of total output (GDP) into growth rates of factor inputs (capital, labor) and a residual (factor unexplained by observed increases in factor inputs)²⁴ (see Figure 1.18). Capital input consists of both public and private investment in fixed assets. Labor comprises both labor force size and its quality, which is enhanced by human capital indicators, such as years of schooling. The residual is taken to represent increase in productivity, known as Total Factor Productivity (TFP), which in turn is driven by a variety of factors, such as innovation, institutions, macroeconomic stability, and financial market development. However, it should be noted that, in a resource-rich country like Azerbaijan, TFP may also be capturing "resource rents"²⁵, rather than productivity gains in the economy²⁶.

²⁴ The model uses a standard Cobb-Douglas production function:

$$Y_t = A_t K_t^\alpha (h_t L_t)^{1-\alpha}$$

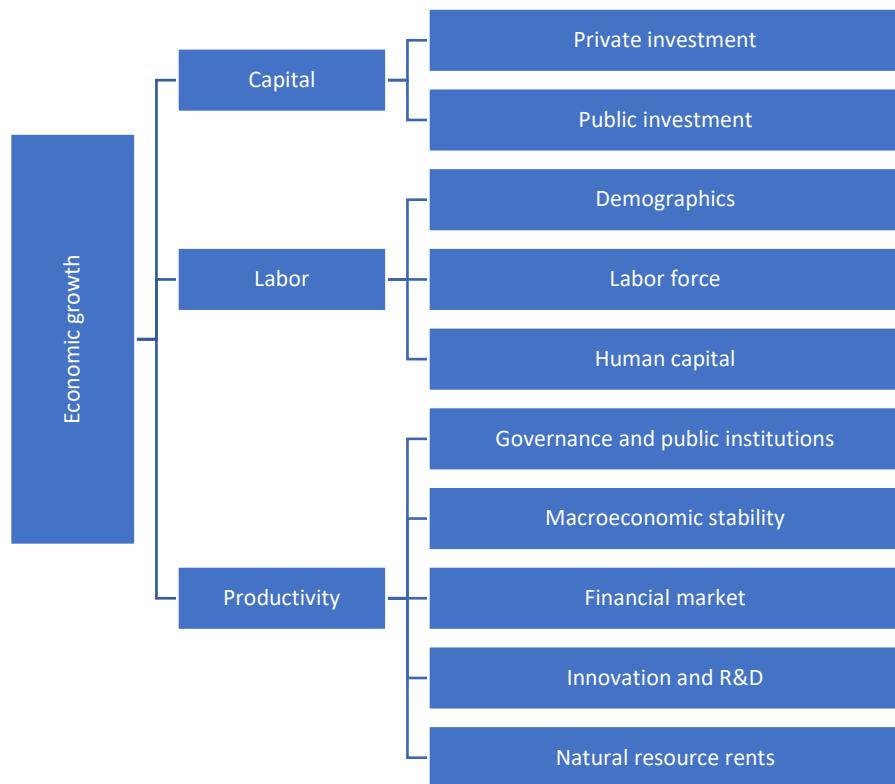
where Y is GDP in year t, A is Total Factor Productivity (TFP) in year t, K is capital in year t, h is human capital per worker in year t and L is the number of workers in year t (labor force), α is a share of capital in national income. H in its terms is a function of S, average years of schooling in year t, and φ , return on education:

$$h_t = \exp(\varphi S_t)$$

²⁵ Total natural resources rents are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents. The estimates of natural resources rents are calculated as the difference between the price of a commodity and the average cost of producing it. This is done by estimating the price of units of specific commodities and subtracting estimates of average unit costs of extraction or harvesting costs. These unit rents are then multiplied by the physical quantities countries extract or harvest to determine the rents for each commodity as a share of GDP (World Bank, World Development Indicators).

²⁶ There is growing evidence that resource rents not only influence economic growth but also have both positive and negative effects on productivity in general (Badeeb et al., 2017). On the one hand, export income from natural resources can enhance economic development by increasing available fiscal revenues that could translate in high government consumption and investment in public goods such as infrastructure (Sachs, 2007). On the other hand, the abundance of natural resource rents could become a

Figure 1.18: Economic growth analytic framework

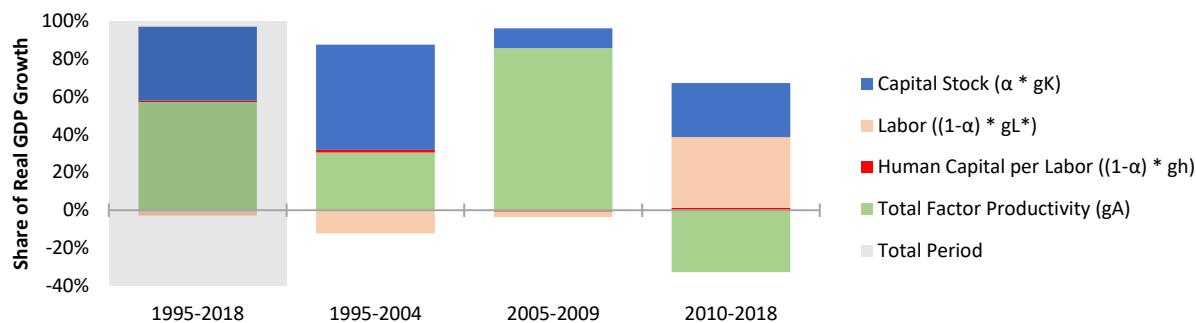


Source: World Bank.

Over the past twenty years, the drivers of growth changed significantly in Azerbaijan. Growth decomposition shows that, between 1995 and 2018, the country's economic development was primarily driven by physical capital accumulation and the expansion of the energy sector (or TFP). However, more detailed investigation of the three subperiods – a decade prior to the oil boom, the oil boom of the mid-2000s, and a decade after the global financial crisis – reveals the differences in the underlying contributing patterns of these factors (see Figure 1.19**Error! Reference source not found.**).

“curse” that negatively affects TFP and consequently, economic growth due to the “Dutch disease” that adversely affect non-resource sectors, volatility in commodity prices that translate in macroeconomic instability and uncertainty, economic mismanagement resulting in inefficiencies, rent seeking behaviors, corruption, and reduced institutional quality (see Box 1.4 for more details).

Figure 1.19: Azerbaijan growth attributable to TFP, labor, physical and human capital, 1995-2018



Source: Staff calculations based on World Bank and United Nations data, using human capital-adjusted Solow (1957) model

Prior to 2005, more than half of the GDP growth was attributed to the physical capital accumulation. This was primarily due to high investment in physical infrastructure for the post-war reconstruction in the late 1990s, exploration of hydrocarbon resources, and investments in transportation capacity in the early 2000s. Transition to a market economy also brought some efficiency gains in product, labor and capital markets²⁷, while FDI into the energy sector came with significant productivity improvement.

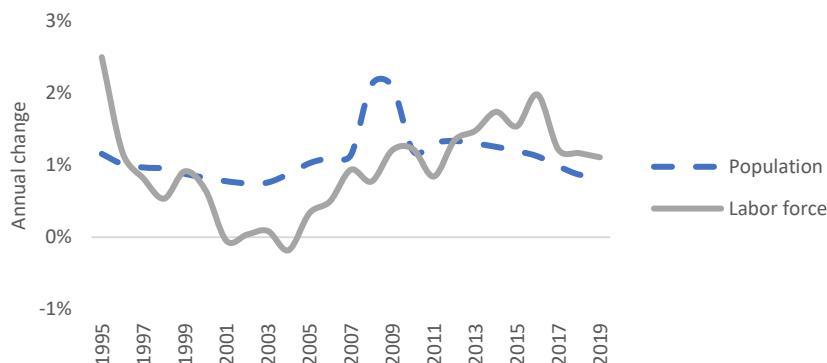
The oil boom period of 2005-2008 was characterized predominantly by the TFP gains. These gains, in turn, were fueled by within energy industry productivity gains (see Figure 1.23) and to a large extent by the oil rents that contributed to an average 40 percent of GDP during the period (World Bank), while the country continued to benefit from the favorable terms of trade and investment inflows in the energy sector²⁸. The labor, financial, and product market reforms stalled between 1995 and 2009²⁹. With increased foreign exchange revenues, the GoA expanded many social programs and raised standards of living (see more details in the previous section), which brought a subsequent “baby boom” (see Figure 1.20). However, the shift in economic structure toward the hydrocarbons sector did not result in major labor market changes. Labor force grew, but the bulk of workers remained in agriculture, which continued to account for about 38 percent of the total employment in 2009 (see Figure 1.21 and Figure 1.22). At the same time, labor force participation declined from 85.5 percent in 1995 to 69.9 percent in 2009, possibly indicating that the large social programs might have discouraged workers to seek employment. Azerbaijan’s labor force participation during that period fell below its regional peers such Kazakhstan and Georgia as well as below UMIC average.

²⁷ International Monetary Fund’s Structural Reform Index, 1995-2005

²⁸ It should be noted that, due to data constraints, TFP growth could not be disaggregated by oil/gas and non-oil/gas sectors to establish this conclusively.

²⁹ International Monetary Fund’s Structural Reform Index, 2005-2009.

Figure 1.20: Azerbaijan's demographic and labor force trends, 1995-2019



Source: Staff calculations based on World Bank World Development Indicator (WDI) and State Statistics Service of Azerbaijan data.

After the global financial crisis of 2007-2008, physical capital accumulation continued, as the country invested heavily in natural gas exploration and built new transport infrastructure.^{30,31} At the same time, since 2010 the contribution of TFP in Azerbaijan's growth declined significantly and turned negative beginning in 2015, driven by a series of factors, including the fall in oil rents after the oil price crash of 2014, the financial sector crisis, and resulting economic instability. Market and institutional reforms also remained stalled during the same period, pushing productivity further down. Moreover, productivity within industry turned negative since 2015, as the energy sector dragged down overall growth (see Figure 1.23 and Figure 1.24).

During the past decade, labor's contribution to growth increased, as the labor force growth accelerated. Moreover, after 2010, labor force participation started to increase and new labor force entrants were almost exclusively absorbed by the services sector. Yet the overall labor market structure did not change significantly, and agriculture was still a major employer in the country, with 36 percent of all workers employed in the sector. This also meant that, even as services employment rose, its relative TFP declined, as compared to the oil boom years. Additionally, informal employment (including self-employed and subsistence farming) remained widespread, accounting for about two-thirds of the total employed.³² It should be noted that, since 2018, a 30 percent increase has been noted in the number of formal employment contracts, which may reflect recent policy initiatives.³³ The urbanization rate also was relatively low, at 56 percent in 2019 (as compared to the UMIC average of 66 percent), and highly concentrated in and around the capital city of Baku.³⁴

³⁰ The capital-labor ratio more than doubled during 2010-2017 (PennTable, 2019).

³¹ Physical capital accumulation via high levels of investment (averaging 27 percent of GDP post-2000) was also supported by high savings (average gross national savings was 34 percent of GDP since 2000). Public and hydrocarbon sector investment was the bulk of total investment, while private investment in the non-hydrocarbon sector languished, accounting for only 4.5 percent of GDP in 2019.

³² Staff calculations based on the Ministry of Labor and Social Protection of Azerbaijan data. It should be noted that, for these calculations, to ensure consistency with other WB reports, only those employed working with an employment contract are considered formally employed. Self-employed and those employed in agriculture are considered informally employed. This may differ from the national definition.

³³ This includes the implementation of actions under the “Action Plan on Preventing Informal Employment in the Republic of Azerbaijan” approved with the Presidential Decree #3287 dated October 9, 2017

³⁴ World Bank WDI data.

Figure 1.21: Azerbaijan's employment by sector, year

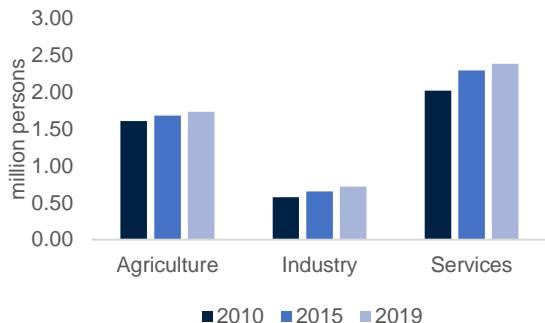
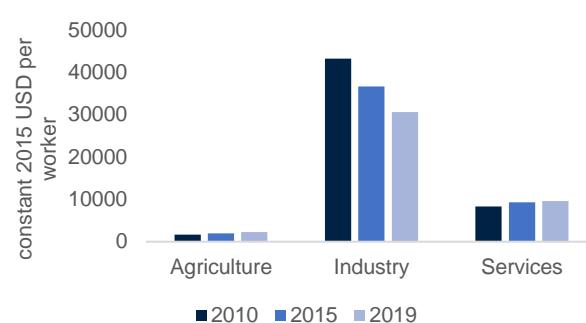
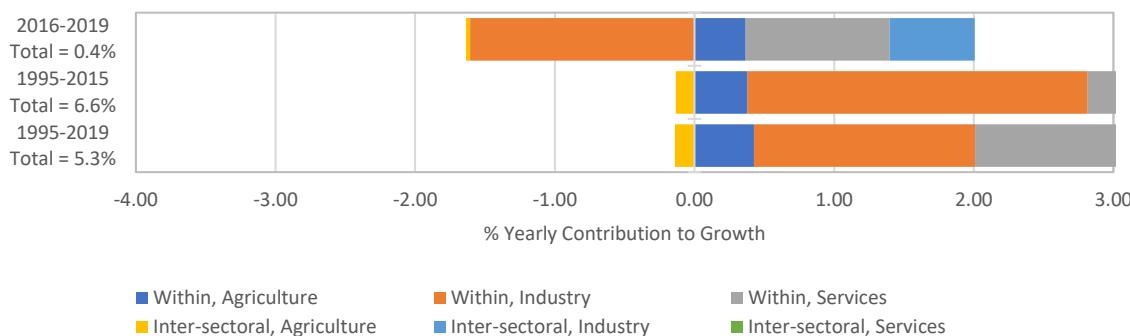


Figure 1.22: Azerbaijan's value-added per worker by sector, year



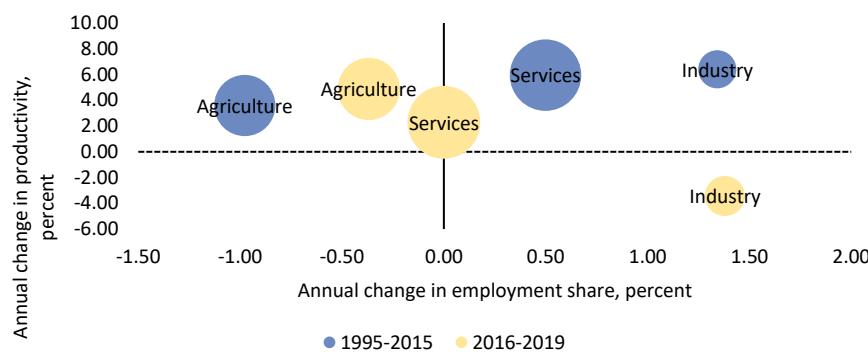
Source: Staff calculations based on World Bank CEM 2.0 tool; Macro Poverty Outlook (MPO) and WDI data

Figure 1.23: Azerbaijan productivity change decomposition, annual contribution to per capita value-added growth by major sector, 1995-2019



Source: Staff calculations based on World Bank CEM 2.0 tool; Macro Poverty Outlook (MPO) and WDI data

Figure 1.24: Correlation between changes in sectoral productivity and employment share, 1995-2019



Source: Staff calculations based on World Bank CEM 2.0 tool; MPO and WDI data

Note: Bubble size correspond to the sector total employment

The contribution of human capital accumulation to Azerbaijan's economic growth was close to zero over the last three decades. In fact, the country lags its regional peers in terms of human capital

accumulation, driven by underperformance in learning outcomes.³⁵ Azerbaijan's human capital accounted for only 23 percent of its wealth in 2018, as compared to 64 percent in high-income OECD countries and 50 percent in low-income countries (Lange et al., 2018, see more details in Chapter 5). Human capital constraints have also translated to the shortage of skilled labor faced by the private sector. This neglect of human capital as a critical growth factor presents a pressing challenge for the revival of the country's future growth, as discussed in the next section on potential future growth paths. The COVID-19 pandemic has likely aggravated the situation, further hurting human capital accumulation and labor productivity in the long run.

Azerbaijan's schooling rates are relatively high but have been stagnant for several decades. The average years of schooling have remained close to ten years since 1995. Moreover, the UN reports flat schooling completion rates by age cohorts in Azerbaijan. These data suggest that human capital growth was close to zero in the past two decades and may remain close to zero over the next decade.

On top of stagnating human capital, population growth is on a declining trajectory. Since the start of the "oil boom" in 2005, both population and labor force grew markedly. However, after the 2016 crisis, the trends reversed. Per UN's ILO forecast of demographic trends for Azerbaijan, its population growth will decline from 0.9 percent in 2019-20 to zero by 2050. The working-age population share (those aged 16 to 64) will also shrink from 70 percent of the total population in 2019-20 to 65 percent by 2050. Moreover, based on recent labor market trends, the labor force participation rate is likely to remain constant at 70 percent of the working-age population in the foreseeable future (World Bank WDI).

Section 2. Azerbaijan's integration in global economy

Empirical evidence highlights that no country has achieved sustained growth and significant poverty reduction without integrating into the global economy. No country with fewer than 10 million people has ever reached high-income status with levels of exports below 50 percent of GDP. Many Central European countries now have high-income economies in part because of their export performance; for example, Slovakia and the Czech Republic have doubled their exports from 40 to 80 percent of GDP since the mid-1990s and reached per-capita income levels that are three and four times, respectively, that of Azerbaijan. Countries as different as Panama, Ireland, Malaysia, and Singapore all have (non-resource) exports close to 100 percent of GDP.

This section highlights that while Azerbaijan is well integrated in global oil and gas markets, the same cannot be said for its non-oil/gas sectors. The lack of integration of the country's non-oil/gas sectors reflects overall weak competitiveness of the private sector (which is discussed in detail in Chapter 4), as well as the impact of trade policy, which is discussed briefly in this section. This section highlights that certain trade policy measures, such as reducing tariffs and WTO accession, could be beneficial for Azerbaijan to consider.

Azerbaijan's exports are dominated by the energy sector

Azerbaijan's merchandise export profile is heavily dominated by the energy sector, followed by agricultural exports and minerals. Table 1.1 provides a summary of the composition of Azerbaijan's export

³⁵ Source: "Azerbaijan Human Capital Index", World Bank, 2020. In 2020, Azerbaijan scored a 0.58 on the Human Capital Index (HCI), implying that a child born today in Azerbaijan is only 58 percent as productive when she grows up as she could be, if she enjoyed complete education and full health. This is lower than the average in Europe and Central Asia (ECA). The key driver is learning outcomes: factoring in what children learn, children only complete 8.3 years of schooling and score 416 on average in harmonized test scores, relative to a benchmark of 625 for advanced attainment and 300 for minimal attainment.

basket by reporting the value of exports of different sectors, their share, as well as revealed comparative advantage (RCA)³⁶ and normalized revealed comparative advantage (NRCA)³⁷ for three periods – 2001-2002, 2010-2011, and 2018-2019. In all three periods, energy and minerals accounted for more than 90 percent of exports. Vegetables were the second largest exports in the 2001-2002 and the 2018-2019 periods. Metals and jewels were the third largest export sector in 2018-2019. Notably, the only sector with revealed comparative advantage (RCA>0, NRCA>0) is energy and minerals. Yet, RCA for energy and minerals exports fell between 2001-2002 and 2018-2019. Only exports in two sectors, vegetables and metals &jewels, gained in RCA over time.

Table 1.1. Export volumes, shares, revealed comparative advantage (RCA), and normalized revealed comparative advantage (NRCA) at the sector level

HS2- Sectors	Export Values (in M. USD)			Export shares (in %)			RCA			NRCA		
	Ave. 2001-02	Ave. 2010-11	Ave. 2018-19	Ave. 2001-02	Ave. 2010-11	Ave. 2018-19	Ave. 2001-02	Ave. 2010-11	Ave. 2018-19	Ave. 2001-02	Ave. 2010-11	Ave. 2018-19
01-05 Animal	4.2	3.1	27.8	0.07	0.00	0.04	0.04	0.00	0.02	-0.93	-1.00	-0.95
06-15 Vegetables	80.7	609.9	1,350.3	1.43	0.69	2.15	0.55	0.22	0.68	-0.29	-0.63	-0.19
16-24 Foodstuffs	53.7	233.6	128.9	0.95	0.26	0.21	0.32	0.09	0.06	-0.51	-0.83	-0.88
25-27 Energy and Minerals	5,116.2	86,711.8	59,215.3	90.88	97.48	94.29	8.66	5.26	6.41	0.79	0.68	0.73
28-38 Chemicals	42.0	141.8	320.4	0.75	0.16	0.51	0.09	0.02	0.05	-0.84	-0.97	-0.90
39-40 Plastic, Rubber	35.1	174.2	267.2	0.62	0.20	0.43	0.15	0.04	0.10	-0.73	-0.92	-0.82
41-43 Leather, Skins	26.2	23.6	28.5	0.47	0.03	0.05	0.56	0.05	0.08	-0.28	-0.91	-0.85
44-49 Wood & Manuf.	8.6	69.3	10.1	0.15	0.08	0.02	0.04	0.03	0.01	-0.92	-0.94	-0.99
50-60 Textiles	73.8	58.5	266.1	1.31	0.07	0.42	0.57	0.05	0.34	-0.27	-0.91	-0.49
61-63 Apparel	13.1	64.7	64.7	0.23	0.07	0.10	0.07	0.03	0.04	-0.87	-0.94	-0.92
64-67 Footwear	0.1	3.4	2.3	0.00	0.00	0.00	0.00	0.01	0.00	-0.99	-0.99	-0.99
68-70 Stone Ceramic Glass	3.7	6.0	8.3	0.07	0.01	0.01	0.06	0.01	0.01	-0.88	-0.98	-0.97
71-83 Metals & Jewels	59.8	509.4	856.0	1.06	0.57	1.36	0.13	0.06	0.13	-0.77	-0.89	-0.76
84-85 Machinery	64.9	231.4	159.4	1.15	0.26	0.25	0.04	0.01	0.01	-0.92	-0.98	-0.98
86-89 Transport Equip	24.1	73.8	46.8	0.43	0.08	0.07	0.04	0.01	0.01	-0.93	-0.98	-0.98
90-97 Misc. Instruments	23.5	39.7	47.0	0.42	0.04	0.07	0.07	0.01	0.01	-0.87	-0.98	-0.98
TOTAL	5,629.7	88,954.0	62,799.0	100	100	100						

Source: Authors' calculations based on UN Comtrade data.

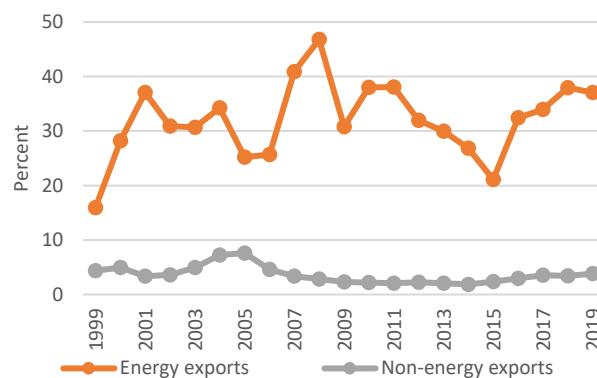
The value of Azerbaijan's energy product exports (HS27) increased from \$730.4 million in 1999 to \$17.8 billion 2019 and grew at a faster pace than non-energy product exports. Total exports accounted

³⁶ RCA is the ratio of sector k's share in country's exports to its share in world trade. An RCA greater than 1 in sector k means that the country has revealed comparative advantage in that sector.

³⁷ $NRCA_k = \frac{RCA_k - 1}{RCA_k + 1}$. A disadvantage of the RCA index is that it is asymmetric, i.e., unbounded for those sectors with a revealed comparative advantage, but it has a zero-lower bound for those sectors with a comparative disadvantage. Thus, we also report indicators of normalized revealed comparative advantage (NRCA), which are comprised between -1 and 1.

for 30-40 percent of Azerbaijan's GDP over this period, largely driven by its energy product exports (see Figure 1.25). The share of energy sector exports in Azerbaijan's total exports increased from 68.8 percent in 1999 to 89.5 percent in 2019. Crude oil dominated Azerbaijan's energy exports. The value of crude oil exports, as well as its share in Azerbaijan's total exports, has fluctuated over time, subject to the changes in global crude oil price. Changes in oil exports also match changes in oil prices from 2008 onwards, further evidence that changes in prices—and not in oil volumes—are driving export changes.

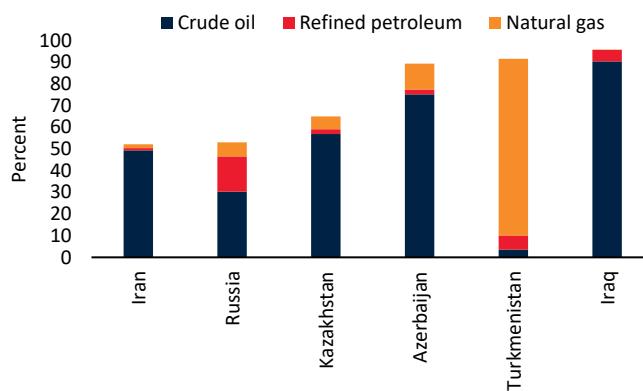
Figure 1.25: Exports/GDP, energy and non-energy products



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

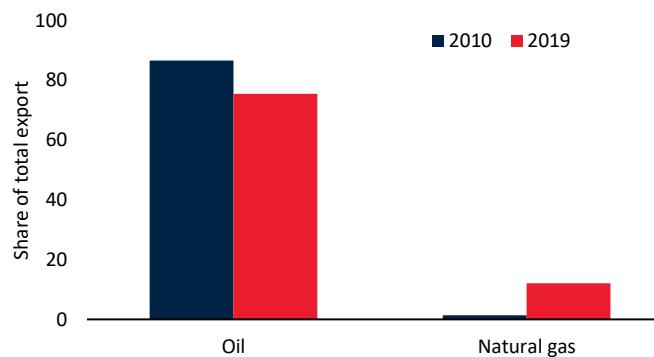
It should be noted that Azerbaijan's degree of reliance on oil and gas exports is similar to its peers. Hydrocarbons account for around 90 percent of Azerbaijan's total goods exports, with crude oil accounting for 75 percent and natural gas in exports rising from 1.4 percent in 2010 to 12 percent by 2019 (Figure 1.27Figure 1.26). This degree of reliance is broadly similar to its peers, although some are significantly more diversified (Figure 1.26).

Figure 1.26: Azerbaijan's oil and gas exports as a share of total exports compared to peers, 2019



Source: Observatory of Economic Complexity, UN Comtrade, World Bank

Figure 1.27: Azerbaijan's oil and gas exports share over time



Source: Observatory of Economic Complexity, World Bank
Note. Share of nominal export values

Compared with regional and aspirational peers, Azerbaijan's export basket remains less diversified along products, as measured by the Herfindahl–Hirschman Index (HHI), but more diversified in

destinations over time.³⁸ Given the dominance of energy exports in Azerbaijan's export basket, the HHI along products over time follows closely its energy exports. However, Azerbaijan's exports became more diversified in destinations over time. Given the dominance of energy exports, this pattern also reflects greater diversification in oil exports of trade partners, with the share of oil exports to the EU diminishing over time and other importing countries buying more oil from Azerbaijan. The HHI for Azerbaijan became slightly lower than the OECD average in a few years along the analyzed period.

At the same time Azerbaijan's trade intensity and its openness to trade declined in the early 2000s. This contrasts with its regional and aspirational peers. For example, Kazakhstan and Chile improved their export profile over the same period (see Figure 1.28 and Figure 1.29).

Figure 1.28 Trade Intensity Index, 2000 vs. 2018

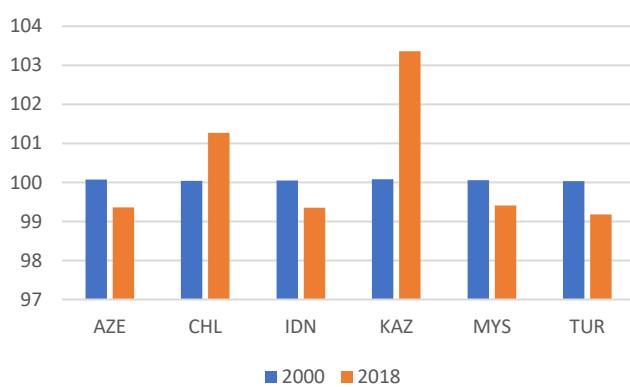
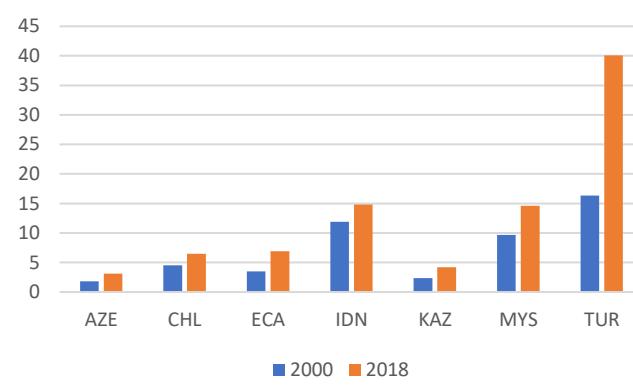


Figure 1.29 Index of Export Market Penetration, 2000 vs 2018



Source: Authors' calculations based on UN Comtrade data

Beyond energy exports, Azerbaijan shows relatively low survival rates of its exports. On average, the probability its export spells would survive beyond the first year is less than 0.5. The probability of export survival beyond the second year is even lower, at about 0.3. Survival rates are slightly different by type of products, with exports of primary products, such as agricultural products, having slightly higher survival rates. Survival is also different across export destinations. For example, the survival rates of exports to neighboring Georgia are higher than those to other countries, as the two countries have a bilateral free trade agreement. Export survival rates to the EU beyond the first year are ranked second but tend to have lower rank for subsequent years.

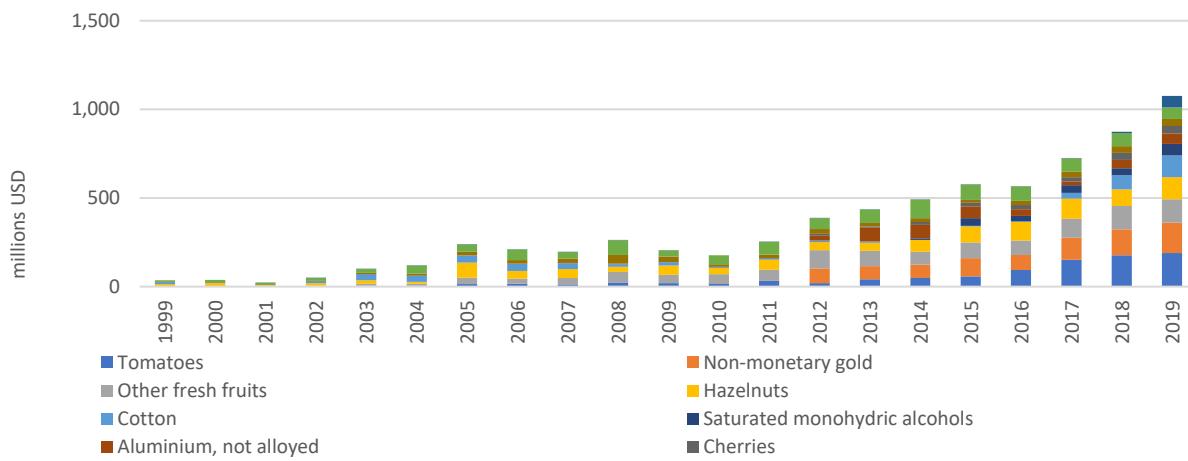
Non-energy exports have risen in value but remain low

The value of Azerbaijan's non-energy product exports (all excluding HS27) was up more than 900 percent, from USD 198.8 million in 1999 to USD 1.8 billion in 2019. This performance has primarily been driven by the rising exports of agricultural products such as tomatoes, fruits (e.g., persimmons, cherries, and apples), hazelnuts, cotton, as well as non-monetary gold. However, in relative terms, the share of non-energy sector exports in Azerbaijan's total exports declined from 31.2 percent in 1999 to 10.5 percent in 2019, and non-energy exports accounted for an average of 3 percent of Azerbaijan's GDP over the period, 1999-2019 (Figure 1.30).

³⁸The Hirschman-Herfindahl Index³⁸ (HHI) is the sum of the squared export shares by product. Thus: $0 < \text{HHI} < 1$. The higher the index, the more concentrated are exports.

In 2019, the top six non-energy exports by 2-digit HS included edible fruits and nuts, vegetables, plastics, precious metals, cotton, and aluminum. In 1999, three of these categories (cotton, aluminum, and edible fruits & nuts) made the top-five non-energy exports, although at a much lower value. In 2019, the top ten non-energy exports by 6-digit HS included tomatoes, non-monetary gold, other fresh fruits, hazelnuts, cotton, polypropylene, saturated monohydric alcohols, aluminum, cherries, and apples (see Figure 1.30). Together, they accounted for about 60 percent of Azerbaijan's non-energy exports in 2019.

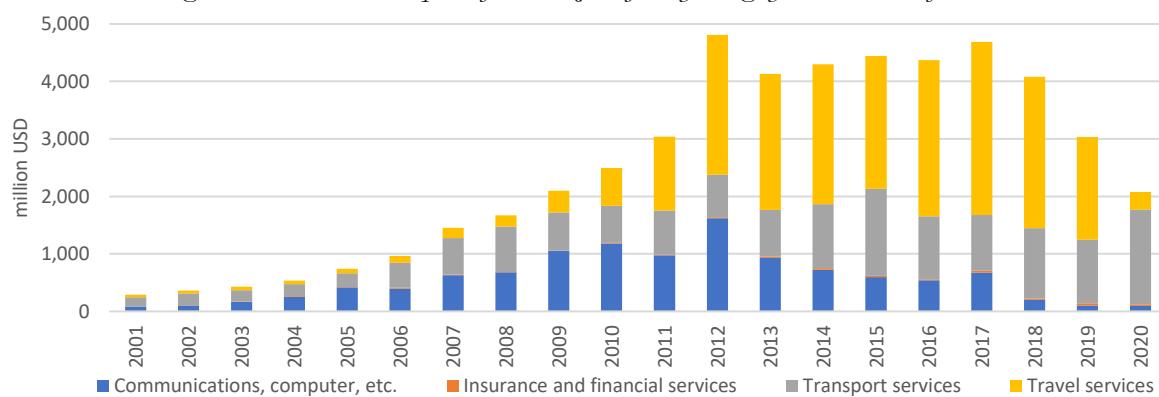
Figure 1.30: Azerbaijan top non-energy exports by 6-digit HS, 1999-2019³⁹



Source: Authors' calculations based on UN Comtrade data.

Azerbaijan's export of services, with travel and transportation services being the major categories, grew steadily until 2017 and have been declining since (Figure 1.31). Travel services was the largest category of services exports between 2012 and 2017 and its decline has been the largest driver behind the subsequent decline in the export of services. In 2019, Azerbaijan exported USD 3.76 billion worth of services. The top services exported by Azerbaijan were travel services (USD 1,791 million), transportation services (USD 1,107.9 million), computer and information services (USD 103.1 million) and insurance and financial services (USD 33.9 million). In 2020 the COVID-19 pandemic hit the travel services particularly hard.

Figure 1.31 : Services exports from Azerbaijan by category, in millions of USD



Source: Authors' calculations based on UN Comtrade data

³⁹ Azerbaijan did not report any non-monetary gold exports until 2016. However, mirror trade data indicated that its trading partners reported gold imports from Azerbaijan since 2012. Polypropylene includes 390110 and 390210.

Table 1.2. Compound annual growth rate of Azerbaijan's services exports by category

Product/Sector	2002-2010	2010-2019
Communications, computer, etc.	36.8%	-23.7%
Insurance and financial services	36.0%	12.6%
Transport services	14.9%	6.2%
Travel services	37.6%	11.8%
Total services exports	27.4%	4.7%

Source: Authors' calculations based on UN Comtrade data

Trade policy changes will be increasingly important for non-oil/gas exports

In terms of its trade policy framework, Azerbaijan is not a member of the World Trade Organization (WTO). The country has had observer status at the WTO since 1997 and began negotiations with WTO members on accession in 2004. However, progress on accession stalled following the adoption of import substitution as a policy goal. The potential benefits of the WTO accession could be far reaching, from opening access to new markets to efficiency gains in non-energy sectors (see Box 1.3 for more details).

Azerbaijan is a member of the Commonwealth of Independent States (CIS) and has a number of bilateral free trade agreements (FTAs) with regional economies. Additionally, Azerbaijan has signed bilateral FTAs with countries like Russia, Georgia, and Ukraine. Under these FTAs, goods can be imported from those countries free of customs duties, provided compliance with rules of origin.

EU-Azerbaijan trade relations are based on a Partnership and Cooperation Agreement that has been in force since 1999. The EU and Azerbaijan launched negotiations for a new comprehensive agreement in February 2017, with the aim of further expanding EU-Azerbaijan trade relations and supporting Azerbaijan's future WTO membership. The negotiations include talks to enhance EU-Azerbaijan trade cooperation. After seven rounds, the negotiations of the trade title of the new Agreement, including a chapter on trade and sustainable development, are advanced.

Turkey-Azerbaijan Preferential Trade Agreement (PTA) provides tariff reduction to a very limited number of products. Signed on February 25, 2020, the PTA entered into force in March 2021. The agreement covers the mutual reduction of customs duties on imports of a relatively small number of mostly agricultural and food products.⁴⁰ Turkey provides mostly duty-free market access to around 15 products produced in Azerbaijan, including some varieties of cheese, grapes, plums, palm, black tea, tomatoes, cucumbers, preparation of fruits, apple juice, and wine. In some cases, exports of these products are subject to an annual quota. In turn, Azerbaijan provides tariff-free market access to also about 15 Turkish products, including processed cheese, sunflower seeds, chewing gum, chocolate products, food preparations, biscuits, and tomatoes. All these exports are subject to yearly quotas. Beyond expanding market access to goods, a deeper PTA could cover other areas, e.g., promote investment, job-creation, growth, trade in services. An extended PTA could also cover other products that Azerbaijan is producing and/or exporting to other destinations, including manufacturing products. In addition, a deeper PTA could go beyond tariffs, to cover provisions related to services trade, investment, intellectual property rights and domestic regulation, which are not currently covered by the agreement.

⁴⁰ The full text of the agreement is available at the link: <http://www.e-qanun.az/framework/45319>

Azerbaijan's tariffs are higher than those of its peers. Azerbaijan's simple average MFN tariff was 8.7 percent, only lower than Turkey's average tariff of 11.1 percent. However, Turkey has concluded preferential trade agreements with more countries than Azerbaijan, including the customs union with the EU, which means that the average effective tariff applied on imports by Turkey is smaller than the one applied by Azerbaijan. Among peers, Georgia is the country that has liberalized trade the most among peer countries with an average tariff of 1.4 percent, 87.7 percent of tariff lines duty free (compared with only 33 percent in Azerbaijan), a small proportion of tariff lines with non-ad-valorem duties and duties higher than 15 percent.

Table 1.3. Summary of tariff statistics for selected countries

Country	Year of MFN applied tariff	MFN applied tariffs					
		Simple average	Duty-free	Non ad valorem duties	Duties > 15 %	Maximum duty	Coefficient of variation
Azerbaijan	2019	8.7	33.0	1.9	1.2	313	125
Georgia	2020	1.4	87.7	0.5	0.1	61	230
Kazakhstan	2019	6.1	17.5	8.1	0.9	291	112
Malaysia	2020	5.7	66.5	0.7	13.2	> 1000	249
Russian Federation	2020	6.6	15.7	9.3	1.7	100	115
Turkey	2019	11.1	23.5	4.4	14.4	225	207
Ukraine	2020	4.5	40.2	0.1	2.8	50	112

Source: WTO World tariff profiles 2021

Azerbaijan applies higher tariffs to agricultural products than non-agricultural products (Table 1.5). Azerbaijan applies 7.8 percent in non-agriculture imports, whereas tariffs on agriculture imports are 14.5 percent (almost twice the tariffs on non-agriculture products). One reason behind the relatively high tariffs on agricultural products is to promote domestic production through import substitution. In terms of duty ranges, only 12 percent of agricultural products and 36.4 percent of non-agriculture products can be imported duty-free (Table 1.4). The modal category of tariffs range between 10 and 15 percent comprising 71.8 percent of agricultural tariff lines and 42.4 percent of non-agricultural tariff lines. 6.2 percent of agricultural tariff lines have tariffs higher than 15%, whereas only 0.4 percent of non-agricultural ones are in this range.

Table 1.4. Summary of tariffs and imports

Summary		Total	Ag	Non-Ag
Simple average final bound				
Simple average MFN applied	2019	8.7	14.5	7.8
Trade weighted average	2019	9.2	11.1	8.9
Imports in billion US\$	2019	13.6	1.9	11.7

Source: WTO World tariff profiles 2021

Table 1.5. Tariffs and imports by tariff ranges

Frequency distribution	Duty-free	0 <= 5	5 <= 10	10 <= 15	15 <= 25	25 <= 50	50 <= 100	> 100	NAV in %
	Tariff lines and import values (in %)								
Agricultural products									
Final bound									
MFN applied	2019	12.0	9.7	0.4	71.8	1.0	2.4	2.2	7.7
Imports	2019	30.0	9.2	2.0	52.7	0.5	3.0	2.5	12.5
Non-agricultural products									
Final bound									
MFN applied	2019	36.4	20.7	0.1	42.2	0.1	0.1	0.0	0.9
Imports	2019	26.2	17.3	0.0	51.4	0.2	0.2	0.0	5.2

Source: WTO World tariff profiles 2021

Azerbaijan imposes different tariffs along product groups (Table 1.6), with beverages and tobacco having the highest average tariff (38.6 percent). Product groups with average tariffs higher than 14 percent include animal and dairy products, fruits and vegetables, coffee & tea, cotton, and clothing. Product categories with a maximum tariff higher than 100 percent are fruit & vegetables, cereals & preparations, beverages & tobacco, minerals & metals, and clothing.

Table 1.6. Tariffs and imports by product groups

Product groups	MFN applied duties			Imports	
	AVG	Duty-free	Max in %	Share	Duty-free in %
Animal products	15.0	10.5	67	1.2	3.6
Dairy products	15.0	0	15	1.0	0
Fruit, vegetables, plants	14.9	3.4	104	1.8	0.7
Coffee, tea	14.6	0	15	1.0	0
Cereals & preparations	13.8	17.7	132	4.5	62.8
Oilseeds, fats & oils	8.0	38.6	15	1.6	55.0
Sugars and confectionery	13.5	5.9	15	1.2	34.4
Beverages & tobacco	36.6	0.4	133	1.4	0.0
Cotton	15.0	0	15	0.0	0
Other agricultural products	9.9	15.6	15	0.3	4.8
Fish & fish products	7.2	19.6	15	0.2	9.9
Minerals & metals	8.7	27.7	191	29.7	10.9
Petroleum	11.6	22.8	15	4.3	50.1
Chemicals	3.3	72.6	15	10.1	55.4
Wood, paper, etc.	10.0	13.5	15	4.7	1.2
Textiles	12.4	8.2	313	1.7	5.6
Clothing	15.0	0	15	2.0	0
Leather, footwear, etc.	12.4	16.0	48	1.7	4.0
Non-electrical machinery	2.8	69.3	15	12.2	45.2
Electrical machinery	8.3	22.9	15	7.5	13.5
Transport equipment	4.1	52.6	15	8.8	41.7
Manufactures, n.e.s.	9.7	27.2	15	3.1	36.9

Source: WTO World tariff profiles 2021

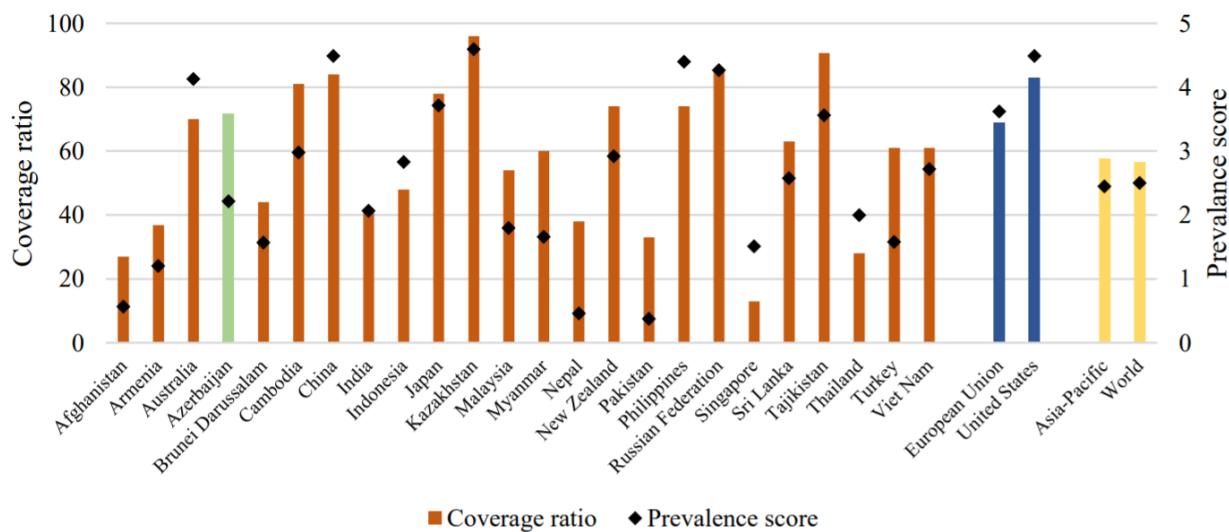
Tariff reductions should benefit Azerbaijan. In general, consumers would benefit from a reduction in tariffs, especially in agricultural products, as domestic prices will be reduced. Tariff reduction of intermediate products would also lower their cost and benefit downstream producers using them and could facilitate the expansion of manufacturing. For instance, Goldberg et al (2008) showed that one quarter of India's manufacturing output growth during the 1990s came in products that were not manufactured prior to tariff liberalization. These new goods were a direct consequence of cheaper and new imported intermediates in the economy. A good start would be to examine the rational of tariffs higher than 15% and analyze the effects of

tariff reductions, especially for products with the highest tariffs. As most tariffs are comprised between 10 and 15 percent (Table 1.5), these are the next target for reduction.

Non-tariff measures (NTMs) imposed by Azerbaijan are technical measures, specifically, sanitary and phytosanitary (SPS) measures, and technical barriers to trade (TBTs). The next most common type of NTMs are export-related measures, which themselves contain a wide range of technical regulations, including SPS and TBT measures. Comparatively to regional and global shares, SPS measures in Azerbaijan are significantly more prevalent at 70.2 percent versus 40.9 percent globally. At the same time, the share of TBT measures in Azerbaijan is 19.1 percent, which is lower than average share of TBTs globally (40.2 percent). The share of export measures in Azerbaijan (5.9 percent) is notably lower than globally (9.3 percent). The share of quantitative restrictions in Azerbaijan is higher than the average for the world (3.3 percent versus 1.9 percent), while the shares of the rest of the NTMs are comparatively lower.

For the intensity of NTMs, Azerbaijan has coverage ratio of 71.6 percent and prevalence score of 2.2⁴¹. Azerbaijan's coverage ratio is like such economies as Australia (70 percent), New Zealand (74 percent), Philippines (74 percent) and the European Union (69 percent), which is above regional and global averages of approximately 57 percent (Figure 1.32). The prevalence score of 2.2 for Azerbaijan is close to that of the regional and global averages of approximately 2.5 measures.

Figure 1.32: Coverage ratios and prevalence scores of non-tariff measures, 2020



Source: UNESCAP

Sector-wise, agricultural imports in Azerbaijan are generally more heavily regulated, with nearly 100% of imports subject to at least one NTM. This is higher than in Asia-Pacific and the world (83 percent and 85 percent, respectively) but similar to the levels in the European Union and the United States. At the same time, coverage ratios for manufacturing products and natural resources are lower in Azerbaijan comparatively to the coverage ratio of agricultural products, which also follows the overall regional and global levels. Azerbaijan, on average, imposes 8 distinct NTMs on agricultural products, 2 on manufacturing products and 1 on natural resources. These levels are similar to the regional and global averages.

⁴¹ A coverage ratio captures how much of an economy's trade are subject to NTMs. A prevalence score indicates how many distinct NTMs are applied to regulated products, on average. In general, less developed economies have lower coverage ratios and lower prevalence scores. (UNCTAD and World Bank, 2018)

An individual review of NTMs suspected of being non-tariff barriers (NTBs), such as non-automatic licenses, should be conducted and determine whether a potentially streamlined regulation can be more efficient, i.e., impose less costs on imports but still fulfill the objective it is intended to pursue. However, the regulatory improvement of existing NTMs should be thought of as only the first stage of a process of overall regulatory improvement covering the flow of new ones, to prevent having to start streamlining efforts all over again when poorly designed new measures keep on appearing. The government should put in place adequate structures to make streamlining NTMs a sustained effort. A more sustainable institutional setup would ensure continuity in the process of improving the trade competitiveness of firms as the business environment evolves and the stock of regulations grows. The process of regulatory improvement should be based on three pillars (Cadot et al., 2012) —dialogue, analysis, and broad participation—by instituting, for instance: (a) a body dedicated to public-private dialogue (for example, an NTM committee) serving as an entry point for the private sector to flag problems and contribute to the solution; (b) a technical team dedicated to carrying out substantial analysis (for example, a permanent secretariat for the NTM committee) with analytical capabilities akin to those of a productivity or competition commission, to lead the dialogue into policy action; and (c) outside expertise and collaboration by drawing into the review process line ministries involved in the issuance and enforcement of NTMs to ensure broad participation and ownership.

Box 1.3. Benefits of the WTO accession

The WTO has 164 members, with 22 other countries currently negotiating their accession. For many of these members, joining the GATT/WTO required important changes in their domestic and trade policy. Besides binding and reducing tariffs, WTO membership involves commitments related to non-tariff barriers and transparency. These benefits are even more important because – even with the explosion of regional trade agreements (RTAs) in recent years – 75% of world merchandise trade still takes place on a non-discriminatory most favored nation (MFN) basis.

The benefits of WTO membership include:

- most favored nation treatment, which means equal access for all companies of all WTO Members to the markets of all Members of the Organization
- national treatment that prohibits national producers from gaining advantages over importers
- reduction of trade barriers, primarily tariffs and quantitative restrictions, which provides for increased trade between Members
- predictability and transparency of international trade – WTO Members have bound their tariffs and cannot, except for good reason, introduce other import restrictions, such as bans or quotas
- increased competitiveness by eliminating unfair practices between trading partners aimed at stimulating trade, primarily export subsidies and dumping
- opportunity to defend trade interests at the WTO Dispute Settlement Body
- participation in the development of new rules and principles in the WTO
- transparent, predictable and attractive investment regime
- better sovereign credit ratings since WTO membership is a sign of the conformity of the national economic policy with international standards
- WTO membership can serve as "policy anchors" by acting as a mechanism to make credible commitments to policy reform which they might not otherwise make.

WTO accession can increase economic growth in a variety of ways. Trade openness achieved through the WTO can spur economic growth in developing countries by helping them to improve the efficiency of resource allocation, exploit comparative advantages, and foster growth among the most globally competitive sectors and domestic firms. Trade openness also allows for greater economies of scale, affects the return on investment (closed economies can face falling rates of return on investment), generates new sources of demand for other developing countries, and gives firms access to inputs which are unavailable domestically to help boost productivity. Accession can include trade reform that induces efficiency in the use and allocation of resources and fosters long-run growth. Accession can also be part of a series of policies that create more efficient and competitive markets and more transparent and predictable policy making (Winters, 2002).

WTO accession can boost growth in the years after accession, leaving a positive long-term impact on the size of the country's economy. Tang and Wei (2009) use an econometric model covering 135 countries to conclude that accession to the WTO tends to raise a developing country's income and increase its growth rate by about two percentage points for approximately five years if the country was subject to rigorous accession procedures. Although the increase in growth rate fades after about five years, the developing economy is permanently about 20% larger because of WTO accession. In an earlier study of 112 economies from 1960 to 1998, Li and Wu (2004) find that WTO accession increases the GDP growth rate by 1.6 percentage points in high income countries.

WTO membership can improve the business environment and encourage inward FDI. Scholars have found evidence that WTO membership decreases trade volatility, contributes to economic growth in countries with weak governance, encourages foreign direct investment, and can impact corruption and governance. Evidence suggests WTO membership makes international trade policies and transactions more predictable, attracting greater trade and foreign direct investment. Tang and Wei (2009) find that WTO membership contributed more strongly to economic growth in developing countries with weak governance. Mansfield and Reinhardt (2008) model trade volatility in five different ways, and in all their models WTO membership decreases trade volatility while increasing exports. Flach and Cao (2015) find that GATT/WTO membership reduces price volatility for both importers and exporters. Their results also suggest that the effect is stronger for countries (both importers and exporters) that increase their number of trade partners over time and for countries that adopted more rigorous accession commitments. Büthe and Milner (2014) show that WTO membership could lead to significant inward FDI flows. They suggest that this relationship, likely due to the WTO's deeper commitments and dispute

settlement mechanism, may be a reason why developing countries choose to join the WTO. Shah (2017) finds that WTO membership significantly increased the amount of FDI into East Asian and Pacific developing countries between 1988 and 2015.

Section 3. Azerbaijan's asset portfolio

Azerbaijan remains resource dependent, with limited diversification of assets

Resource-dependent countries often face a choice about how to diversify their economies away from natural resources.⁴² Diversification can be performed in different ways. One option is to focus on diversifying the country's product base and exports, which may be challenging for resource dependent economies. Historically, diversification among oil-exporting countries is weak: between the 1990s and the mid-2010s, only 8 of 50 oil-rich countries ended the period more diverse—in export diversification terms—than they began it (Ross, 2019). This is perhaps unsurprising, given the extensive literature on the challenges of Dutch disease created by an appreciating real exchange rate, which makes traded sectors less competitive in the face of resource booms (See Chapter 2 for further discussion on Dutch Disease). Rather than targeting export diversification, diversification of assets or wealth may prove more feasible for resource-rich countries.

International and regional experience highlights the importance of diversifying a country's asset base to sustain growth in the long run. Tangible (natural and produced) and intangible (human and governance) assets (see Box 1.4 for defining assets and how asset measures complement GDP) are a key enabler of sustained long-run growth, and, with higher economic development, countries tend to have a relatively more balanced mix of natural and produced capital and human and institutional capital in their overall asset portfolio.⁴³ Diversified assets are also associated with higher labor productivity and lower output volatility, which are both key for sustained growth.

⁴² The discussion on diversification draws on the “Changing Wealth of Nations”, World Bank (2021).

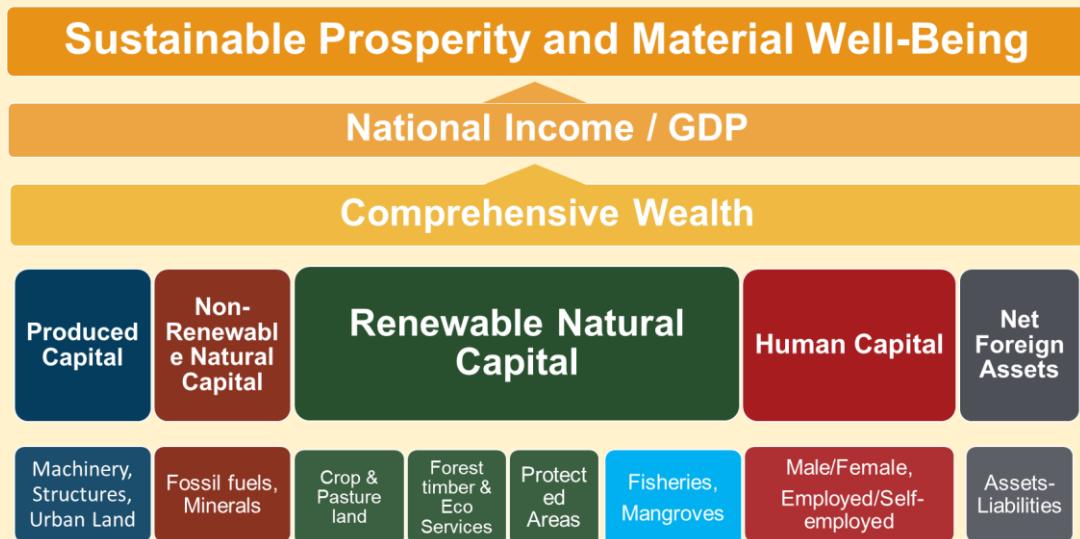
⁴³ “Diversified Development: Making the most of resources in Eurasia”, World Bank (2012).

Box 1.4. Measuring the Wealth of Nations

A country's wealth is measured across five core asset classes (see Figure 1.33): (i) produced capital (machinery, buildings, equipment, intellectual property, mineral exploration, and residential and nonresidential urban land); (ii) nonrenewable natural capital (fossil fuels and minerals); (iii) renewable natural capital (agricultural land, forests, protected areas, mangroves, and marine fisheries); (iv) human capital (value of skills, experience, and effort by the working population over their lifetime); (v) net foreign assets (sum of a country's external assets and liabilities).

Changes in the asset mix indicate the prospects of achieving developmental goals in the long run and complement the GDP measure. In a sense, assets accounting is a country's balance sheet which complements its income statement (i.e., GDP). As economic growth can be achieved through depletion of non-renewable resources, sustainability of such growth path could not be analyzed by looking at past GDP growth alone. Asset accounting and monitoring the change in country's asset value and composition provides a way to identify underlying drivers of growth from the wealth management point of view and evaluate sustainability of the existing growth path in future.

Figure 1.33: Structure of wealth accounts



Source: World Bank. 2021. The Changing Wealth of Nations 2021: Managing Assets for the Future. Washington, DC: World Bank.

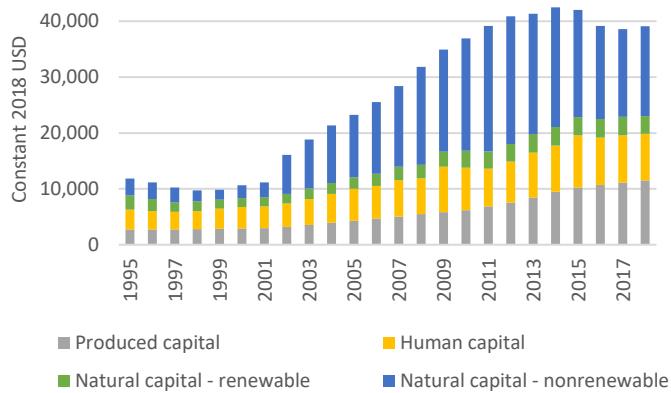
Azerbaijan's underlying asset base is not diversified. The country's asset mix is dominated by nonrenewable natural capital, with its share remaining above 50 percent in 2018, although that share declined marginally since its peak in 2011. Produced capital increased significantly over the past two decades, in line with high levels of investment in energy and other infrastructure, with the share of produced capital in total wealth almost doubling in the 2010s. Worryingly, human capital accumulation has been weak, with per capita human capita stagnant over the past two decades at levels well below peer countries.

Azerbaijan's per capita wealth grew more than four-fold between 2000 and 2014 but has declined since 2015 (see Figure 1.34). This impressive wealth growth was primarily driven by the exploration and depletion of nonrenewable natural capital, and oil reserves. Another major contributor was the growth of the produced capital. In fact, expansion of the produced capital coincided with the oil boom years and reflects the physical capital accumulation trends discussed in the preceding section. After the 2014 collapse in oil prices, the value of natural nonrenewable capital started to decline. At the same time, the produced capital

accumulation continued, as the government invested heavily in infrastructure projects, including natural gas pipelines.

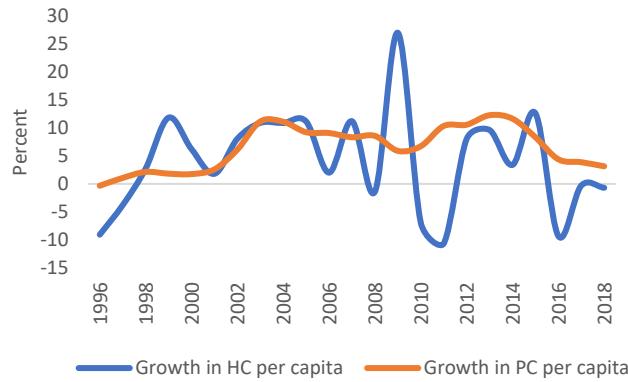
Non-renewable natural capital represents the largest share of natural capital. More than half of the country's assets, 53 percent, is concentrated in its natural capital, of which fossil fuels account for over 80 percent (see Table 1.7 and Table 1.8 below). Even though the share of natural capital somewhat declined from its peak of 68 percent in 2011, it is still much greater than that of its regional and aspirational peers. For instance, natural assets represent, on average, about only 8 percent of wealth in UMICs and 18 percent in ECA (excluding high income). This dependence on oil and natural gas could pose serious risks to Azerbaijan's future wealth formation. Not only will these assets be depleted eventually, but also the ongoing global transition away from fossil fuels may significantly reduce the economic benefits that Azerbaijan can expect to reap from its hydrocarbon assets. Consequently, the value of the subsoil energy wealth may decline precipitously in the coming decades.

Figure 1.34 : Azerbaijan's per capita wealth, 1995-2018



Source: World Bank CWON data

Figure 1.35 : Azerbaijan's per capita human wealth and produced capital growth, 1995-2018



Source: Staff calculations based on World Bank CWON data

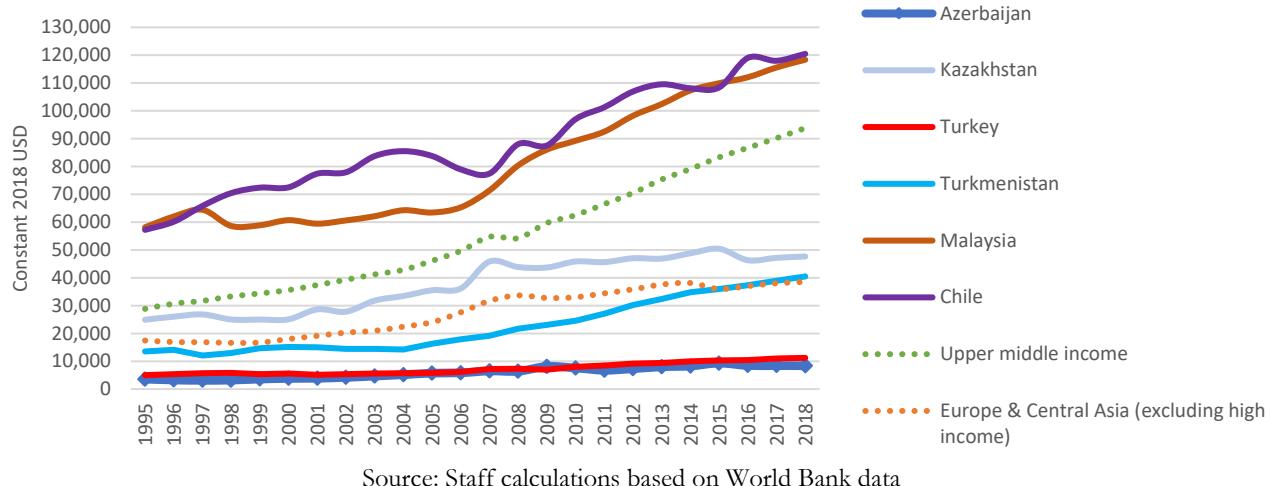
Cropland, followed by pastureland, is the country's largest renewable natural capital asset. Since the late 1990s, Azerbaijan's renewable natural capital increased by about 25 percent, as compared to a five-fold increase in its nonrenewable natural capital for the same period. But even as cropland increased in terms of the number of hectares, in per capita terms, it started to decline starting in 2013. This is partially explained by the fact that the growth in per unit cropland rent did not fully compensate for the rapid population growth

that has occurred since the mid-2000s. Investment in sustainable agriculture might be one way to diversify Azerbaijan's asset mix.

Azerbaijan's per capita produced capital has tripled since the late 1990s. The country invested in its infrastructure and physical capital accumulation for decades, echoing the growth trends described in the preceding section: initial investment in physical capital for the post-war reconstruction in the late 1990s, exploration of hydrocarbon resources and investment in energy infrastructure in the early and mid-2000s, and investment in transportation capacity since the mid-2010s. Moreover, as the importance of non-renewable natural resources (hydrocarbons) started to decline after 2015, the share of produced capital in total assets almost doubled from 18 percent in 2010 to 32 percent in 2018. This trend underscores the fact that, similar to many other countries in the ECA region (excluding high income), investment in produced capital was prioritized over human capital accumulation for decades.

Human capital accounted for less than a quarter of the country's wealth in 2018, as compared to 40 percent in 2000. Even as Azerbaijan's total human capital more than doubled from 2000 to 2018 (partly reflecting population growth over the period), it has been declining since 2015 (see Figure 1.35). Human capital accounted for only 23 percent of its overall asset portfolio in 2018, as compared to 40 percent in 2000. Azerbaijan's share of human capital also lags significantly behind that of its regional and aspirational comparators (except for Turkey, which has a similar human capital share). For instance, its human capital share is about a third of that in UMICs and less than half of that in ECA (excluding high income). It also a fraction of that in its key aspirational peer, Malaysia (see Figure 1.36Error! Reference source not found. and Table 1.8). This trend underscores the observation that Azerbaijan persistently underinvested in its human capital, which would become a substantial headwind for growth in the coming decades (see more details in the following section on potential future growth paths).

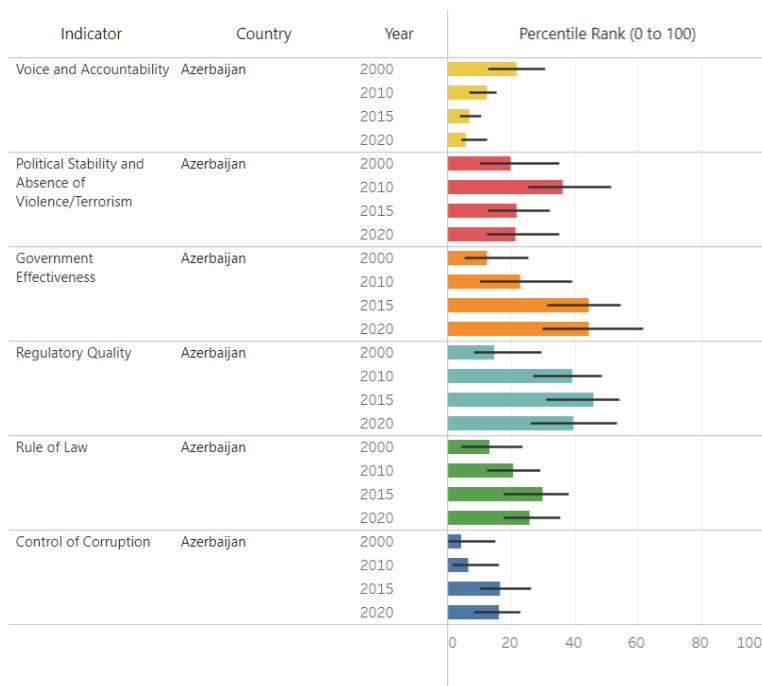
Figure 1.36 : Azerbaijan's per capita human capital wealth vs regional and aspirational peers,⁴⁴ 1995-2018



Source: Staff calculations based on World Bank data

⁴⁴ Peers are selected based on various indicators, such as country size, demographic profile, economic structure, and reliance on hydrocarbon rents. Aspirational peers also reflect country-specific aspirations.

Figure 1.37: Azerbaijan's governance indicators, 2000-2020



Source: Worldwide Governance Indicators

Note: The chart shows the percentile rank of Azerbaijan on each governance indicator. Percentile rank indicates the percentage of countries worldwide that rate below the selected country. Higher values indicate better governance ratings. Percentile ranks have been adjusted to account for changes over time in the set of countries covered by the governance indicators. This statistically likely range of the governance indicator is shown as a thin black line. For instance, a bar of length 75% has the following interpretation: an estimated 75% of the countries rate worse and an estimated 25% of the countries rate better than the country of choice selected country. The thin black lines indicate the corresponding 90 percent confidence interval.

Although due to measurement challenges social capital, e.g., in the form of institutions, is not part of the existing wealth accounting methodology, it serves as a glue that makes any socio-economic system function and prosper (Grootaert, 1998). Because social capital reflects the relationships between individuals, businesses, and government institutions, as well as social networks and trust, it reflects transaction costs and efficient allocation in all markets (products, labor, and capita; Dasgupta, 2005, 2011). Hence, when social capital is low, resources are used inefficiently.⁴⁵

Social capital accumulation, in the form of governance, remains a challenge for Azerbaijan. In the 2020 World Governance Indicators (WGI), the country was ranked in the 16th percentile on control of corruption and the 6th percentile on voice and accountability, while performing somewhat better on regulatory quality, 40th percentile, and government effectiveness, 45th percentile (see Figure 1.37 for more details).

Azerbaijan is also facing challenges to long run development posed by resource dependence. This is discussed in depth in Box 1.5. In Azerbaijan, resource dependence has been manifested in the following challenges:

- Oil and gas price volatility has translated into volatility in economic activity with “boom” and “bust” episodes, driven by pro-cyclical fiscal policy, being detrimental for private investment and has adversely affected long-run growth (see more detailed analysis of fiscal policy in Chapter 2).

⁴⁵ For deeper discussion on the concept of social capital and its measurement challenges see Chapter 15 in World Bank. 2021. The Changing Wealth of Nations 2021: Managing Assets for the Future. Washington, DC: World Bank.

- As discussed earlier in the chapter, Azerbaijan's human capital accumulation has been lagging its peers and has been impeded by low investment in human capital. More discussion on the topic is presented in Chapter 5, which shows that human capital accumulation is a serious impediment to lifting Azerbaijan's long-run growth.
- Azerbaijan's economy has showed signs of Dutch disease during the oil boom period, but structural bottlenecks are more likely responsible for holding back non-oil/gas exports and growth of tradable sectors. This is discussed in greater depth in Chapter 2.
- A causal relationship between Azerbaijan's resource revenue and institutional quality is difficult to establish empirically. Besides confronting profound methodological challenges, this would require detailed country's institutional assessment which is beyond the scope of this report. Chapter 4 discusses specific institutional bottlenecks in governance and institutions in the context of private sector development while Chapter 3 investigates such challenges in the context of state-owned enterprises.

Box 1.5. What is the 'resource curse'?

For many countries around the globe resource wealth is often a curse rather than a blessing. The literature studying the relationship between resource wealth and economic performance of the countries is often centered around the hypothesis of whether resource wealth is a "blessing" or a "curse". Resource rents could be a "blessing" since they provide the country with the necessary resources to support long-term development by investing in physical and human capital. However, studies find that this is not the case among the majority of the resource rich countries. In many cases there is a negative relationship between resource wealth and economic performance (see Sachs and Warner (1999, 2001), Sala-i-Martin and Subramanian (2003)), which is often referred to as a "resource curse".

Moreover, there are several established key channels of "resource curse" (Frankel, 2012):

- **Volatility:** Commodity prices are highly volatile, and if appropriate macroeconomic policies are not employed then this volatility can translate into economic activity leading to a "boom" and "bust" episodes.
- **Institutional decay:** This can manifest itself in several ways including rent-seeking behavior, corruption, unenforceable property rights and lack of voice and accountability.
- **Low human capital accumulation:** Research shows that non-resource countries have usually higher level of human capital, if compared to resource-rich economies. Human capital is strongly correlated to income level (World Bank, 2021a). However, in resource-rich countries, except for Middle East and North Africa region, it is, on average, lower across the income range, and more unequal.
- **"Dutch Disease":** This hypothesis states that one of the unintended side effects of having large resource inflow is that it could lead to a reallocation of economic activity from tradable sectors (e.g., manufacturing) to non-tradable sectors. This is undesirable because manufacturing sector has a greater externality for long-term growth and "de-industrialization" can permanently reduce productive capacity of the economy, which would be hard to reinstall later. The mechanism by which resource revenues could lead to adverse economic outcomes in terms of reallocation of resources could be described as follows (see Frankel, 2012, for more details):
 1. Large real appreciation of currency (either due to nominal exchange rate when FX rate is flexible or due to inflation when the exchange rate is fixed)
 2. Increase in spending (mainly by government, in response to increased resource revenues)
 3. Increase in prices of non-traded goods relative to traded goods
 4. Shift of labor and capital out of non-export-commodity-traded goods (to service sectors)

Looking ahead, it is important to reorient Azerbaijan's economic model from physical assets-intensive growth to intangible assets-led growth. The assessment of Azerbaijan's asset base highlights its reliance on non-renewable resources and on produced capital, with significant gaps in human capital (resulting in low labor productivity) and other intangible assets such as institutional capital. The following section presents the analysis that shows, while the current asset structure has propelled growth since the late 1990s, the limits of such growth model, which will be felt in the future as oil production declines and returns on

produced capital diminish. Human capital, coupled with higher productivity, enabled by institutions that support the development of a vibrant private sector, will be critical to reviving and sustaining growth in the future.

Table 1.7. Azerbaijan's per capita wealth vs regional and aspirational peers, 2018

Per Capita, constant 2018 USD	Azerbaijan	Kazakhstan	Turkmenistan	Turkey	Malaysia	Chile	Upper middle income	Europe & Central Asia (low and middle income)
Total wealth	36,315	109,074	102,707	43,071	167,365	191,983	141,682	103,772
Produced capital	11,475	32,785	33,795	31,360	32,314	54,329	36,606	48,116
Human capital	8,367	47,630	40,473	11,212	118,362	120,469	93,794	38,540
Natural capital	19,278	32,776	28,628	5,228	17,332	20,938	11,185	18,358
Renewable natural resources	3,157	4,704	5,806	4,949	10,198	9,650	6,040	7,021
Forests, timber	19	9	0	146	4,826	2,156	446	459
Forests, ecosystem services	377	396	1,432	682	795	2,015	950	1,861
Mangroves	0	0	0	0	57	0	97	0
Fisheries	0	0	0	5	92	145	21	10
Protected areas	353	117	180	16	1,231	862	671	1,107
Cropland	1,335	1,732	464	2,649	3,141	3,587	2,876	2,158
Pastureland	1,072	2,450	3,729	1,451	56	885	980	1,426
Sub-soil assets	16,121	28,073	22,822	279	7,134	11,288	5,145	11,337
Oil	12,849	20,244	2,618	70	2,498	73	3,212	6,594
Natural gas	3,185	1,901	20,205	3	4,417	53	782	3,333
Coal	0	1,665	0	58	35	56	613	531
Metals and minerals	87	4,262	0	147	185	11,106	537	878
Net foreign assets	-2,805	-4,117	-189	-4,729	-643	-3,753	97	-1,241

Source: World Bank. 2021. The Changing Wealth of Nations 2021: Managing Assets for the Future. Washington, DC: World Bank.

Table 1.8. Azerbaijan's share of total wealth vs regional and aspirational peers, 2018

Share of total wealth	Azerbaijan	Kazakhstan	Turkmenistan	Turkey	Malaysia	Chile	Upper middle income	Europe & Central Asia (low and middle income)
Total wealth	100%	100%	100%	100%	100%	100%	100%	100%
Produced capital	32%	30%	33%	73%	19%	28%	26%	46%
Human capital	23%	44%	39%	26%	71%	63%	66%	37%
Natural capital	53%	30%	28%	12%	10%	11%	8%	18%
Renewable natural resources	9%	4%	6%	11%	6%	5%	4%	7%
Sub-soil assets	44%	26%	22%	1%	4%	6%	4%	11%
Net foreign assets	-8%	-4%	0%	-11%	0%	-2%	0%	-1%

Source: World Bank. 2021. The Changing Wealth of Nations 2021: Managing Assets for the Future. Washington, DC: World Bank.

Section 4. Long-run growth prospects

This section applies the World Bank’s Long-Term Growth Model (LTGM) to assess Azerbaijan’s economic growth over the next 30 years.⁴⁶ The LTGM takes assumptions on growth fundamentals—the drivers of growth—such as investment and productivity, to generate trajectories for economic growth. The first simulation implies a “business-as-usual” or a baseline scenario, where the growth drivers are assumed to follow their historical or recent trends. The second simulation generates growth projections, assuming that socioeconomic reforms boost each growth driver to levels observed in top-performing peer countries. Finally, the section discusses important headwinds to the baseline growth in Azerbaijan.

Because Azerbaijan is a natural resource-rich country, with oil and natural gas industries accounting for about 40 percent of its GDP,⁴⁷ the Natural Resource (NR) Extension of the LTGM is used for the analysis. The NR extension allows a disaggregation of the economy into energy (oil and gas) and non-energy sectors. Growth in the non-energy sector depends on the “standard” drivers, such as total factor productivity (TFP), human capital, investment, and demographics. On the other hand, production in the energy sector depends crucially on proven reserves of oil and natural gas, and on the profile of reserves extraction, in addition to the standard inputs.⁴⁸ Annex 2. Long-Term Growth Model (LTGM) provides a detailed description of the model and its calibration to Azerbaijan.

Several scenarios of Azerbaijan’s potential economic growth over the next three decades are analyzed. The baseline simulation projects that annual GDP growth would decelerate from around 1.5 percent in the mid-2020s to zero in the longer term. Consequently, GDP per capita would remain below USD 7,000 by 2050, limiting social and economic development in Azerbaijan. In response to this challenging outlook, several reforms to accelerate economic growth are evaluated. The performed simulations show that, first, the economic slowdown is driven by structural conditions, such as adverse demographic trends and declining oil reserves. These headwinds are hard to change with policy, so economic reforms to improve other fundamentals are needed to revive growth. Second, compared with its peers, Azerbaijan is lagging mainly in productivity and private investment, suggesting some potential for growth driven by the private sector. An ambitious reforms package focusing on these fundamentals could boost long-term annual GDP growth by around 1.7 percentage points. In this case, GDP per capita would surpass USD 10,000 by 2050.

Growth is projected to stagnate in the long run

A key assumption of the baseline simulation is that recent trends in the growth drivers, as outlined in preceding section, will continue until 2050. These trends are: (a) Azerbaijan has about eight years of oil reserves⁴⁹ and many decades of natural gas reserves; (b) historically high investment in physical capital is

⁴⁶ The LTGM and its extensions are a suite of Excel-based tools built to analyze future long-term growth scenarios, building on the Solow-Swan Growth Model (1956). The tools are designed to be simple, transparent, and to have low data requirements. For more information, visit the Long-Term Growth Model website: www.worldbank.org/LTGM, and see Appendix 2 for more information on the model’s technical details.

⁴⁷ State Statistics Service of Azerbaijan.

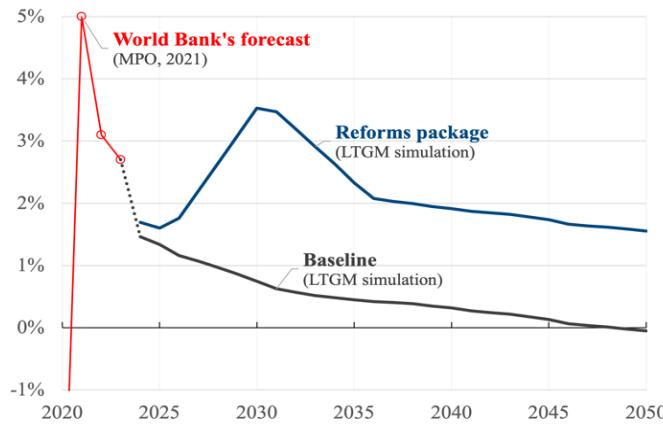
⁴⁸ For example, to produce petroleum, a country needs technology, physical capital, and reserves of crude oil. As reserves become increasingly scarce via extraction, more capital and technology are required to produce a unit of petroleum, since firms are forced to drill further underground, or in less accessible locations.

⁴⁹ BP-Energy reports that Azerbaijan has estimated reserves of 7 billion barrels of oil and 45 billion MMBtu of natural gas. Under current levels of oil production of about 700 thousand barrels per day—and assuming no further discoveries, Azerbaijan would run out of oil in about eight years.

expected to decline in the future;⁵⁰ (c) population growth is declining sharply and the population is ageing rapidly; (d) human capital growth would remain close to zero until 2035 and increase to 0.2 percent when today's children will join the workforce (WB HCI, 2020); and (e) non-energy sector productivity, as measured by TFP, set to 0.5 percent until 2050 to match the median growth rate of upper-middle-income countries over the past two decades.⁵¹ It is important to note that the baseline simulation assumes no policy changes in the future that would alter existing economic fundamentals. Hence, any positive policy change would shift the baseline growth path.

The business-as-usual scenario shows a slow and declining growth rate. Under the baseline growth path, Azerbaijan's GDP growth would slow from 1.5 percent in 2024 to zero by 2050 (see Figure 1.38), with an average growth of only 0.5 percent over 2024-2050.⁵² The projection is even less encouraging in per capita terms. GDP per capita growth is projected to start just below 1 percent and approach zero by the mid-2030s. As a result, GDP per capita would increase from USD 5,900 in 2020 to USD 6,500 in 2050, a cumulative growth of only 11% over 30 years (See Table 1.9 for details).⁵³

Figure 1.38: Azerbaijan's projected annual GDP growth rate, 2020-2050



Source: World Bank's staff estimates based on the LTGM.

The overall growth rate masks substantial heterogeneity across sectors. While the baseline projection displays declining growth rates in both energy and non-energy sectors, the severity of the slowdown is much sharper in the energy sector. Non-energy GDP is projected to grow at 1.6 percent, on average, until 2050, declining from 2 percent in the 2020s to 1.3 percent in the 2040s. On the other hand, the energy sector is projected to decline at 2.3 percent, on average, over the same period, falling from nearly zero growth in the 2020s to -3.5 percent in the 2040s, and due to the sector's significant role in the economy, consequently,

⁵⁰ In the medium-term, public investment is expected to remain at 8 percent of GDP due to COVID-19 related fiscal spending and post-war reconstruction efforts. But then it would decline gradually to 6 percent of GDP by 2030 and remain at that level until 2050 (see IMF Article IV). Baseline private investment is assumed to be constant at 15 percent of GDP from 2020 to 2050. This rate is similar to its historical average, after excluding the period of exceptionally large investments in energy infrastructure during 1995-2005.

⁵¹ Azerbaijan's productivity, as measured by TFP, has been extremely volatile. Due to the lack of TFP data, the Penn World Table does not report TFP for Azerbaijan. Moreover, an inference of TFP trends using Azerbaijan's historical macroeconomic data is also challenging due to the country's extremely volatile business cycle (see more details in preceding section on past growth drivers). Thus, the baseline simulation relies on the TFP measures of the country's peers, i.e., countries with a similar socio-economic structure and income level. The annual growth rate of non-energy TFP is set to 0.5 percent until 2050 to match the median growth rate of upper-middle-income countries over the past two decades (see Appendix 1, Figure 1A).

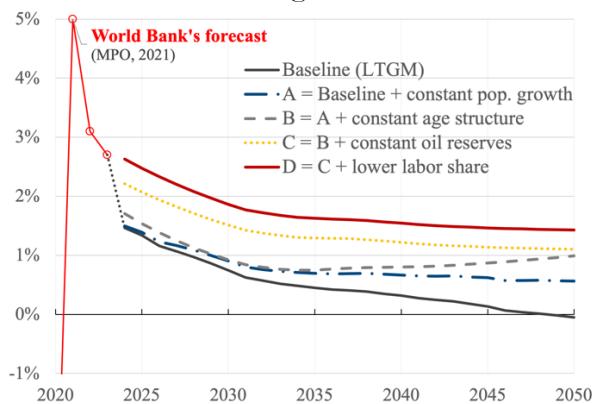
⁵² The LTGM simulation runs at an annual frequency from 2024 to 2050. The previous period, 2021-2024, is excluded from the simulation because the LTGM is not suited to account for the short-term volatility induced by the COVID-19 pandemic. Instead, the World Bank's official forecast is used as a reference for 2021-2024 (see World Bank Macro-Poverty Outlook, October 2021).

⁵³ All monetary values in this chapter are expressed in constant U.S. Dollars of 2010.

dragging the overall GDP growth down.

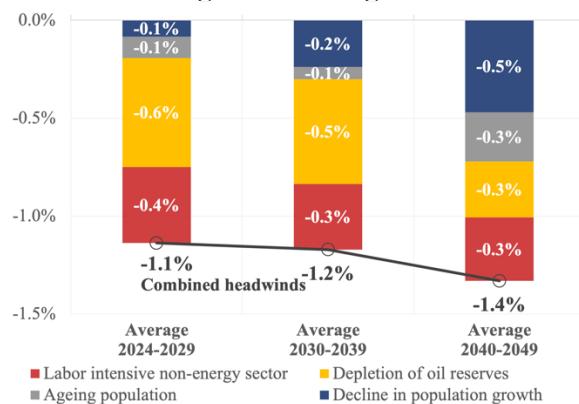
Azerbaijan's slow baseline growth prospects are related to several structural conditions (headwinds) that are difficult to change with policy reforms. These include: (a) declining population growth, (b) an aging population, (c) depletion of oil and natural gas reserves, and (d) a labor-intensive non-energy sector. In addition to the baseline, a series of counterfactual growth simulations were performed, neutralizing the headwinds one by one (see Figure 1.39 and Figure 1.40). For example, simulation A shows estimated GDP growth if the population growth was held constant at the 2020 level (keeping all other baseline assumptions unchanged). Simulation B repeats simulation A but also keeps constant the population's age structure, and so on. When all headwinds are neutralized, the long-term annual GDP growth increases by 1.5 percentage points. The headwinds are in fact anticipated to worsen over time—partially accounting for the baseline slowdown—and change their composition, with demographics becoming very harmful in the long-term.

Figure 1.39: Growth headwinds in Azerbaijan, GDP annual growth rate



Source: World Bank's staff estimates based on LTGM simulations.

Figure 1.40: Contribution of each headwind to baseline GDP growth, annual growth rate



Source: World Bank's staff estimates based on LTGM simulations.

A key headwind is a slump in oil production. Oil sector output is projected to fall significantly, with production from existing fields expected to decline as fields mature, and investment in new production will be needed to offset this. In 2019, Rystad Energy estimated that planned exploration projects in the Azeri section of the Caspian Sea had the potential to increase Azerbaijan's recoverable reserves by 4.4 billion bbl over the next decade (Rystad Energy 2019). However, the COVID-19 pandemic has caused delays to existing projects, as well as a sharp decline in oil investment, which will likely negatively affect this expectation. In addition, the expectation of weaker oil demand growth resulting from the global energy transition poses a major structural headwind. While investment in new oil projects will still be needed globally to replace natural declines of existing wells, any future developments would likely incorporate lower assumptions for oil prices and assume a gradual decline in oil demand in the longer run. In 2050, the oil sector is projected to account for only 10 percent of Azerbaijan's total GDP, down from 29.5 percent in 2020.

The production of gas would sustain a small but positive growth until 2050. In contrast to other fossil fuels, demand for natural gas is expected to continue to grow (IEA 2020). The opening up of new markets as a result of the Trans Adriatic Pipeline (TAP) increases and diversifies the potential market for Azerbaijan's gas exports, as well as its customer base, and there is the potential for further extensions of the pipeline into the West Balkans. In addition, while natural gas demand is not expected to grow as quickly in Europe as in other regions, such as Asia, Europe's imports of natural gas may still increase as a result of declining domestic production. Over the past decade, European natural gas production has declined by around 4% per year on average, due to declining production from mature fields.

One potential risk to the gas sector in Azerbaijan comes from the liquified natural gas (LNG) sector. As global LNG capacity continues to increase, Azerbaijan natural gas exports will increasingly compete with LNG, and greater competition may lead to lower prices than otherwise. As an example, in 2020, Turkey increased its purchases of lower-cost LNG on the spot market by 50 percent, which came at the expense of piped imports from Russia and Iran (IEA 2021).

Growth can be boosted by improving productivity and building human capital.

Even though ‘business-as-usual’ GDP growth in Azerbaijan is slowing due to structural headwinds, an ambitious reforms package can revive growth. Under the baseline simulation, economic growth in Azerbaijan would stagnate in the long term, and this slowdown is due to structural headwinds that are difficult to change with policy. Hence, economic reforms to improve other fundamentals are needed to revive growth.

This section analyzes how Azerbaijan could increase its growth potential with reforms to boost each growth driver, one-by-one and altogether. Azerbaijan is lagging behind peers in TFP and human growth, as well as private investment, suggesting some room for growth driven by the private sector. Reforms to private investment can lead to substantial growth in the medium term, but without complementary reforms, growth would taper off over time. Reforms that increase schooling can also contribute to growth, mostly after 2030, but also must be complemented by improvements to education quality. The reforms with the highest potential are those that accelerate productivity growth in the non-energy sector. But only a combined reforms package could boost Azerbaijan’s long-term annual economic growth above 1.5 percent (see Figure 1.42).

Simulated reform scenarios provide conservative estimates of potential growth because they do not consider any positive general equilibrium effects of the various reforms reinforcing each other. Moreover, if reforms are accompanied by a structural transformation, the economic growth would be higher and could be more sustainable over time. For example, a simulation where Azerbaijan has an accelerated non-energy TFP growth, coupled with a rapid human capital growth, shows that it could achieve annual GDP growth rate of about 5 percent in 2030s (and almost 7 percent non-energy GDP growth in 2030).

The target for each growth driver is based on regional or income peers. As such, the effect of each reform on growth depends on: (i) how sensitive growth in Azerbaijan is to the specific growth driver, and (ii) how far Azerbaijan lags behind peer countries. Specifically, the considered reforms are: (a) non-energy sector TFP growth, (b) human capital growth, (c) private investment, (d) public investment, and (e) female labor force participation (see Table 1.9).

Table 1.9. Overview of growth drivers under baseline and reform scenarios

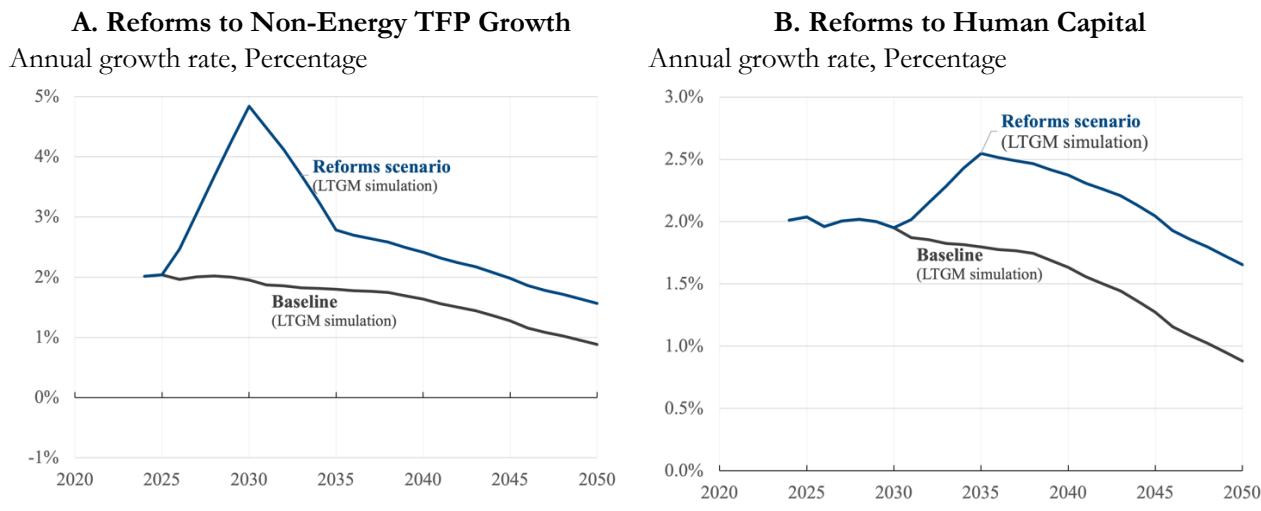
(1) Growth driver	(2) Baseline scenario	(3) Reform scenario
A. Non-energy TFP (growth rate)	0.5% until 2050	Boom in 2025-2035 / 1% in 2035-2050
B. Human capital (growth rate)	≈0% until 2050	0→ 1% (phase-in 2030-35)
C. Private investment (% of GDP)	15% until 2050	15→ 20% (phase-in 2025-2030)
D. Public investment (% of GDP)	8% → 6% (phase-in 2020-30)	8% until 2030 / 8%→ 6% (phase-in 2030-35)
E. Female labor force participation	70% until 2050	70→75% (phase-in 2020-35)

Source: World Bank’s staff estimates based on the LTGM.

Reforms to non-energy TFP—such as improvements in innovation, market efficiency, infrastructure, and institutions—would boost overall GDP growth by about +0.9 percentage points annually until 2050. The simulated reform scenario assumes the GoA implements far-reaching reforms by 2030, which would lead to a ‘boom’ in non-energy productivity growth, reaching the ECA’s 90th percentile of TFP growth in 2000-2019 of 3 percent. After the boom, non-energy TFP growth would converge to 1 percent, the ECA

average in 2000-2019. A one-percentage point increase in TFP growth boosts non-energy GDP by exactly one percentage point. The effect on overall growth is smaller but increases over time, as the non-energy sector expands. In addition, a higher non-energy TFP triggers some indirect effects, such as more and better investments, providing a further boost to the economy. As a result, the reform would boost overall GDP growth by 1.1 percentage points in the 2030s (during the TFP boom), declining to 0.8 in the 2040s. At the same time the boost is higher in the non-energy GDP growth, which would reach 4.8 percent in 2030 (see Figure 1.41.A).

Figure 1.41: Non-energy GDP (LTGM-NR simulation)



Source: World Bank's staff estimates based on the LTGM.

An educational reform that increases the quality and quantity of schooling would boost overall GDP growth by about +0.4 percentage points until 2050. Azerbaijan can enhance human capital growth through reforms that increase the average years of schooling (see World Bank 2019). However, a comparison with peers suggests that there is limited room for increasing the level of schooling, first, because Azerbaijan is already among the countries with the highest average years of schooling, and secondly, it is hard to rapidly increase schooling off a high base. Countries with similar levels of schooling have average human capital growth rates of between 0 and 1 percent over the next 20 years. In this case, the scenario assumes that a major educational reform (focused on both quality and quantity) enacted today would reach its full impact by 2035, raising annual human capital growth to 1 percent until 2050. In the model, a one percentage point increase in human capital growth increases the quality of the work force, boosting non-energy GDP growth by +0.7 percentage points (via the labor intensity in the production function). Similar to TFP, the overall impact of human capital increases over time as the non-energy sector expands. As a result, such an educational reform could boost total GDP growth by +0.3 percentage points in the 2030s, rising to +0.6 percentage points in the 2040s (see Figure 1B). The effect is also larger in the non-energy economy where the reform could boost annual growth by +0.5 percentage point in the 2030s and by +0.8 percentage points in 2040s (see Figure 1.41.B).

Economic reforms that strengthen the business environment and encourage entrepreneurship would increase private investment in Azerbaijan and boost overall annual GDP growth by about +0.3 percentage points until 2050. Historically, Azerbaijan reports moderate rates of private investment compared to its income peers. In UMICs, private investment ranges from 10 to 35 percent of GDP, with several countries reporting rates above 20 percent of GDP. The simulated scenario assumes that Azerbaijan would implement reforms to improve market efficiency and competition, boosting private investment to 20 percent of GDP by 2030. These reforms would have a strong impact on growth in the early years, generating

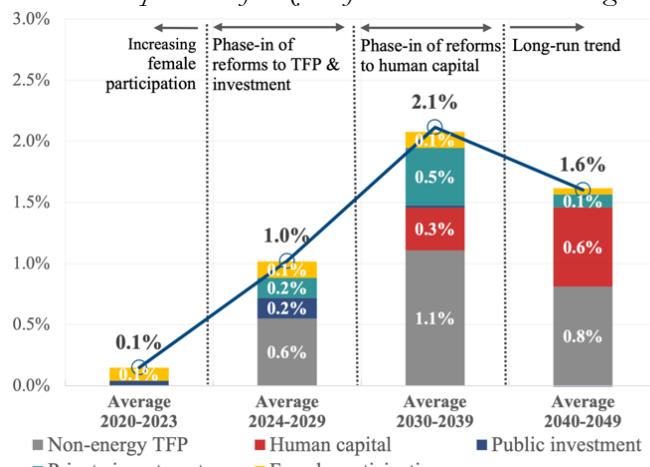
an extra +0.5 percentage points of GDP growth in the 2030s. However, in the absence of complementary reforms to boost productivity, the return on private investment would fall substantially over time. As a result, the extra growth would decline to +0.1 in the 2040s. This slowdown highlights that investment alone does not yield sustainable long-term growth.

A growth strategy of increased public investment would yield a small economic gain. The simulated public investment path is assumed to be growth-supporting till 2030 (given the necessary increased fiscal spending on reforms) but would start to wane slowly between 2030-2035. Increasing public investment to 8 percent of GDP until 2030 would generate only a small boost to GDP growth in the medium term (+0.2 percentage points in the 2020s) and nearly zero extra growth in the longer term. A combination of factors explains this small impact. First, international experience suggests that it is hard to maintain high levels of public investment for several decades. Second, similar to private investment, the return on public investment falls over time without complementary reforms.

Even though there is room for an increase in the female labor force participation rate (FLFP), its projected impact on growth would be limited. In the past decade, Azerbaijan's FLFP declined from 80 to 70 percent of the working-age female population. The simulated scenario supposes that the GoA would introduce a labor market reform that boosts FLFP back to 75 percent by 2035, similar to the country's male labor force participation rate. The increase in FLFP would expand the workforce, boosting annual growth by +0.1 percentage points until 2050.

A reforms package that simultaneously targets all growth drivers would boost annual GDP growth by the average 1.7 percentage points until 2050. An ambitious reforms package that combines all reforms to boost individual growth drivers (a)-(e) would have a large impact on Azerbaijan's long-term growth. The extra growth generated by the reforms package would peak in the 2030s at 2.1 percentage points—when most reforms mature and TFP growth is booming, but then converge to 1.6 in the longer term (see Figure 1.42 and Table 1.10). The analysis also shows that reforms to private investment generate substantial extra growth in the medium-term—about +0.5 in the 2030s. But in the long term, incremental growth is mostly driven by reforms to non-energy TFP and human capital.

Figure 1.42: Reforms Scenario: Decomposition of Azerbaijan's incremental GDP growth driven by reforms (A)-(E)



Source: World Bank's staff estimates based on the LTGM.

Table 1.10. Summary of simulations for Azerbaijan

	Average growth rate, Percentage			
	2024-50	2024-29	2030s	2040s
I. Headline GDP				
Baseline	0.5	1.1	0.5	0.1
Incremental growth from reforms (one-by-one), ppt:				
A. Non-energy TFP growth	0.9	0.6	1.1	0.8
B. Human capital growth	0.4	0.0	0.3	0.6
C. Private investment	0.3	0.2	0.5	0.1
D. Public investment	0.0	0.2	0.0	-0.1
E. Female participation	0.1	0.1	0.1	0.1
Combined reforms package	1.7	1.0	2.1	1.6
II. Non-energy GDP				
Baseline	1.6	2.0	1.8	1.3
Incremental growth from reforms (one-by-one), ppt:				
A. Non-energy TFP growth	1.1	0.9	1.5	0.7
B. Human capital growth	0.5	0.0	0.5	0.8
C. Private investment	0.2	0.1	0.3	0.2
D. Public investment	0.0	0.1	0.0	0.0
E. Female participation	0.1	0.2	0.2	0.0
Combined reforms package	1.9	1.4	2.6	1.7
III. Energy GDP (Oil +Gas)				
Baseline	-2.3	-0.2	-2.2	-3.5
Incremental growth from reforms (one-by-one), ppt:				
A. Non-energy TFP growth	-0.1	-0.1	-0.3	0.1
B. Human capital growth	-0.1	0.0	-0.1	-0.1
C. Private investment	0.4	0.2	0.9	0.1
D. Public investment	0.0	0.3	0.1	-0.2
E. Female participation	0.0	0.0	0.0	0.0
Combined reforms package	0.3	0.4	0.5	-0.1

Source: World Bank's staff estimates based on the LTGM.

The engine of extra growth generated by the reforms package is the non-energy sector. The reforms package would boost non-energy GDP growth by nearly 2 percentage points until 2050. On the other hand, the reforms package would not prevent the contraction in the energy sector in the long term (see Table 1.10). There are two main reasons for that. First, the reforms package would not address declining oil and natural gas reserves, which is the main drag on growth in the energy sector. Second, the reforms package increases the productivity of the non-energy sector relative to the energy sector. This productivity gap drives the extra investment toward non-energy activities, further reducing the impact of the reforms on the energy sector.

Under the reforms package, GDP per capita is projected to increase from USD 5,880 in 2020 to USD 10,213 in 2050. This represents a cumulative growth of 74 percent, vis-à-vis the baseline scenario's 11 percent. While energy GDP per capita would fall sharply even under the reforms package, non-energy GDP per capita would increase from USD 3,499 to USD 8,912 from 2020 to 2050 (a 155 percent rise) (see Table 1.11).

Table 1.11. Summary of simulated GDP per capita

	A. Real 2010 U.S. Dollars			B. Index (2020 = 100)		
	2020	2030	2050	2020	2030	2050
I. GDP per capita						
Baseline	5,880	6,359	6,530	100	108	111
Reform package (A-E)		6,970	10,213		119	174
II. Non-energy GDP per capita						
Baseline	3,499	4,067	5,318	100	116	152
Reform package (A-E)		4,597	8,912		131	255
III. Energy GDP per capita						
Baseline	2,381	2,291	1,212	100	96	51
Reform package (A-E)		2,373	1,301		100	55
IV. Oil GDP per capita						
Baseline	1,940	1,774	692	100	91	36
Reform package (A-E)		1,834	708		94	36
V. Natural gas GDP per capita						
Baseline	441	517	520	100	117	118
Reform package (A-E)		540	592		122	134

Source: World Bank's staff estimates based on the LTGM.

Reducing volatility and sustaining a steady pace of growth will be critical

Economic reforms must be consistent with sustainable long-term growth and not overheat the economy. A fast-growing economy is desirable so long as the growth rate is sustainable. However, economic policies in developing economies too often overheat the economy with excessive expansion of credit and public expenditure. The problem with overheating is that it tends to result in deep and prolonged recessions, hurting long-term development. Moreover, the literature suggests that economies become developed by sustaining moderate rates of growth over several decades, rather than experiencing recurring boom-and-bust cycles (Jones and Olken 2008). For example, the United States became developed by maintaining two percent per capita growth over more than one hundred years (Jones 2016). Another remarkable example is Korea, which was able to maintain high growth rates for more than 60 years (Jeong 2017).

Even with Korean growth fundamentals, Azerbaijan would not reach its level of development by 2050 due to demographic headwinds, declining energy sector, and lower marginal return on investment. A hypothetical scenario where Azerbaijan could apply fundamentals of Korean growth reforms since 1980s, such as Korea's TFP and private investment growth as well as rapid human capital growth (from its low baseline), shows that Azerbaijan could achieve several years of annual GDP growth rate of 4.9 percent in 2030s (and 6.8 percent non-energy GDP growth in 2030), primarily driven by extraordinary high TFP growth of 3 percent in 2030s. However, Azerbaijan would not be able to sustain such high growth and it would decline in the long run, to about 2.8 percent in 2040s. The reason behind such underperformance lies, first, in unfavorable demographic trends, in contrast to steadily growing Korean working age population during the period, and second, in Azerbaijan's economic structure where energy sector is shrinking over time and additional private investment in non-energy sector do not bring as much extra growth due to falling marginal returns, in contrast to Korea's case.

Global experience highlights that sustaining long-term growth is challenging. Almost every country has experienced periods of miracle growth, but not all were able to sustain growth in the long term. The literature suggests that countries with successful growth experiences tend to share some key characteristics (see Berg et al. 2021). The first characteristic is macroeconomic stability, which can be achieved through appropriate monetary and fiscal policy. Second, these countries have strong political and economic institutions, such as democracy, property rights, social insurance, and regulatory quality. It is well known that these institutions lead to higher investment in physical and human capital, as well as the adoption of new

technologies. Third, trade liberalization is also associated with sustained growth, especially when combined with large influxes of foreign direct investment and a sophisticated export composition. Finally, and perhaps more surprisingly, recent studies have found that more equal societies tend to sustain growth for longer spans of time.

Section 5. Azerbaijan needs to prepare for the energy transition

The challenges posed by dependence on oil and gas are likely to be exacerbated in the future with the global energy transition. The energy transition refers to the shift from a predominately fossil-fuel driven economy to one powered largely by renewable energy. Box 1.6 provides a detailed description of the global drivers, potential scenarios and opportunities arising from the transition. Fossil fuel-rich countries, like Azerbaijan, face the risk of assets being stranded at the end of the fossil era and unanticipated changes to the timing and intensity of global climate policy (Van der Ploeg and Rezai, 2020). How Azerbaijan navigates the global energy transition could determine how the value of nonrenewable natural capital evolves into the future and how the country's overall wealth is maintained.

This section briefly highlights Azerbaijan's current vulnerability to the energy transition and some potential opportunities in renewable energy. The section does not go in depth into the policy choices and trade-offs that Azerbaijan will need to make to navigate the transition. This will be covered in subsequent World Bank reports on green growth in Azerbaijan.

Box 1.6. Global energy transition

The energy transition refers to the shift from a predominately fossil-fuel driven economy to one powered largely by renewable energy. Such a shift is essential to sharply reduce carbon emissions in order to address global warming and contain Earth temperature rise to below 2 degrees, and ideally below 1.5 degrees. The energy transition will have significant implications for the demand for different commodities, such as a reduction in demand for fossil fuels, particularly coal, and an increase in demand for the metals and minerals required for renewable energy generation, as well as for cleaner sources of energy like natural gas and hydropower. For Azerbaijan, the energy transition represents a significant headwind, given its economic dependence on oil exports, and also presents opportunities. Azerbaijan's domestic energy mix will also be affected by the energy transition, especially if the cost of renewable energy technologies continues to fall.

The energy transition is firmly underway and has been gaining momentum, with a rapidly growing share of renewables in energy, particularly in electricity generation (Figure 1.43). However, renewables are starting from a relatively low base and, despite rapid growth over the past decade, there is still much further to go. While the share of renewables has been increasing, demand for energy has also been growing, particularly in emerging market and developing economies (EMDEs). As such, while the share of coal in total energy consumption has fallen, the quantity of coal used has remained relatively constant over the last decade (Figure 1.44).

Figure 1.43. Share of renewables in global demand

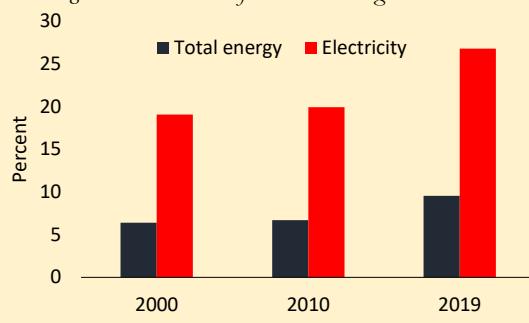
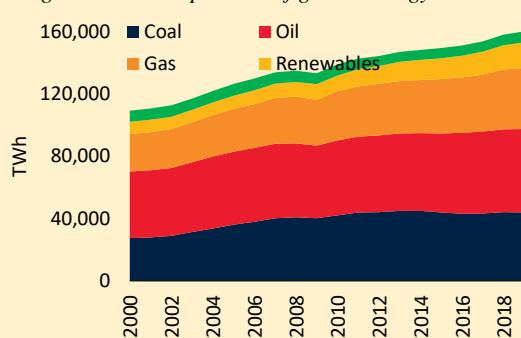


Figure 1.44. Composition of global energy demand



Source: BP Statistical Review, World Bank

Note: In Figure 1.44 renewables includes hydro-electric, solar, wind, geothermal, biomass, wave and tidal

What is driving the energy transition?

Supportive government policies. Government policies are a potent tool in driving the energy transition. Almost all countries have signed the Paris Agreement, and over 100 countries have either set or are considering net-zero targets, although timelines differ significantly (Soest, den Elzen, and van Vuuren 2021). Subsidies for renewable energy sources and associated technologies, carbon taxes and trading schemes can reduce the use of fossil fuels and increase the relative competitiveness of renewable sources of energy. The energy transition has also been assisted by the growth of green investment, which is a component of the environmental, social, and corporate governance (ESG) investor movement.

Declining cost of renewables. Besides policies, a key factor driving the current and expected increase in investment in renewables has been the sharp decline in the price of renewables, as result of improving technology, better manufacturing processes, and public subsidies. For example, the price of utility-scale solar energy fell by 80 percent between 2010 and 2019, while the price of onshore wind power also declined over this period by nearly 40 percent (IRENA 2020; Figure 1.49).⁵⁴ As a result, solar and wind energy are now the lowest cost source of new electricity in many parts of the world, including China, India, and the United States (IEA 2020). Installed capacity is expected to grow rapidly over the next five years, and costs are expected to continue to decline with technological improvements, increasing their competitiveness against traditional fossil fuels even more.

Decreasing cost of electricity storage. There has also been a significant reduction in the cost of electricity storage, such as lithium-ion batteries (Figure 1.50). A key driver of this has been the electric vehicle industry. As storage costs continue to decrease and battery ranges improve, the EV vehicle market is expected to expand. Indeed, in 2020, global EV sales rose nearly 20 percent, while sales of traditional cars actually declined. Decreasing costs of energy storage will be critical in facilitating the growth of renewables.

What will the energy transition look like?

While there are differing views about the speed at which the energy transition will occur, there is greater consensus regarding the order in which it will occur. Demand for coal is expected to see the fastest decline, partly as a result of its higher pollution and carbon emissions, and partly because renewable energy is increasingly a cheaper source of new electricity (Figure 1.49).

Persistent need for crude oil in several industries. In ‘business-as-usual’ scenarios, demand for crude oil is expected to remain near current levels for several years, until increasing adoption of electric vehicles reduces demand for diesel and gasoline (Figure 1.45). Crude oil will still be required for the petrochemicals industry, which currently accounts for between a quarter and a third of total oil demand, as well as for aviation and marine transportation, which account for 8 and 7 percent of total oil demand, respectively. Replacing oil in long-distance transport is much more difficult than for shorter journeys, due to battery constraints.

Growing demand for natural gas. In contrast to oil and coal (Figure 1.46), demand for natural gas is likely to increase in the short-term and potentially in the medium-term, with growth focused in EMDEs, notably Asia (Figure 1.47). Natural gas is a much cleaner method of producing electricity, generating roughly half the carbon emissions of coal, and it also produces less particulate matter.⁵⁵ Natural gas is also likely to play a role as a transition fuel, i.e., to help bridge the transition to a zero-carbon economy.

Policy can play a significant role in driving the shift. While the shifts between different types of energy will be heavily driven by technology and cost, legislation will also play a key role. For example, the cost of carbon under the EU Emissions Trading System increased sharply in 2020, which made coal less competitive and encouraged a switch to renewables, as well as to natural gas. If a carbon tax were implemented at the global level, it would similarly cause the cost of fossil fuel to rise, making it less competitive against renewable sources of energy.

Figure 1.45. Oil consumption scenario forecasts

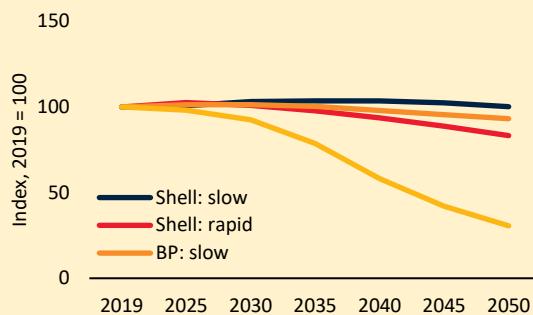
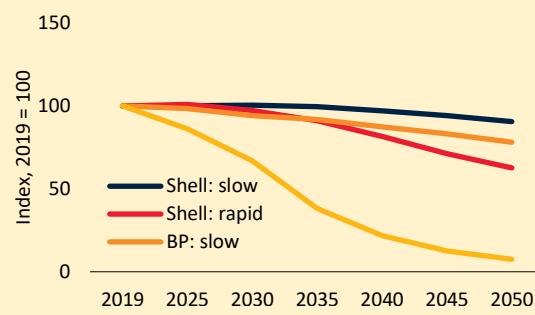


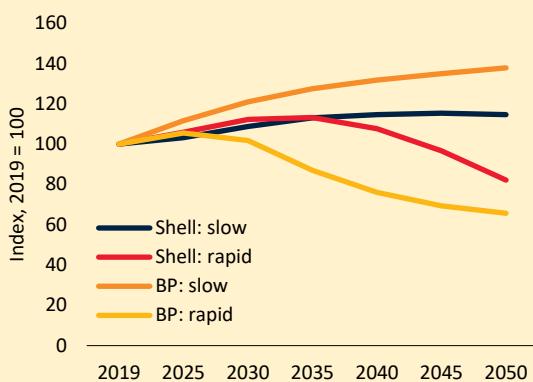
Figure 1.46. Coal consumption scenario forecasts



⁵⁴ Utility-scale solar projects are large installations of solar panels, on several acres of land (e.g., on farmland). Compared to utility-scale solar panels, residential rooftop solar panels are higher in cost due to their small size, but they have also decreased in cost in the past decade by estimated between 47% and 80%, depending on the market.

⁵⁵ Since 2010, switching from coal to gas in power plants has saved around 500 million tons of CO₂ from being emitted, with around half coming from the United States (IEA 2019a).

Figure 1.47. Natural gas consumption scenario forecasts



Source: BP; Shell, World Bank

Note: Shows BP's scenario estimates for future global oil and coal demand from the Energy Outlook 2020 report, and Shell's "Energy Transformation Scenarios". For BP, "slow" refers to their "business-as-usual" scenario, while "rapid" refers to their "zero-carbon" scenario. For Shell, "slow" refers to their "Islands" scenario and rapid refers to their "Sky 1.5" scenario.

Figure 1.48. Share of electricity in total energy scenario forecasts

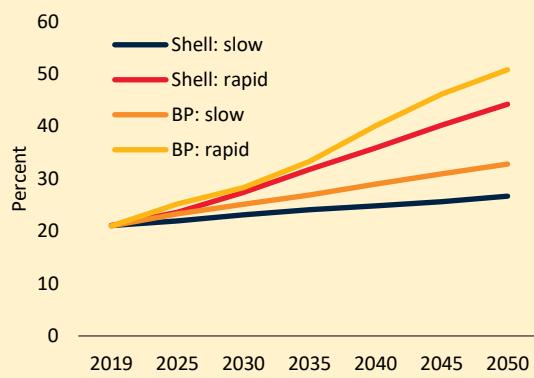
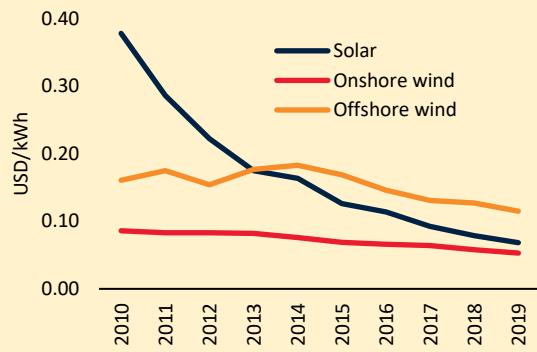


Figure 1.49. Installed renewable energy costs



Source: BloombergNEF, IRENA, World Bank

Note: Installed cost of utility-scale photovoltaic solar power, measured as dollars per kilowatt hour of generation capacity. Consumer cost for lithium-ion cells, measured as dollar cost per kilowatt hour of storage.

Figure 1.50. Lithium-ion battery pack costs



Over the past few decades, Azerbaijan has experienced both high population growth and rapid economic development that have also brought about environmental and sustainability challenges. Azerbaijan's population grew from less than 8 million in the mid-1990s to over 10 million in 2020 (WDI). Even as population growth is expected to slow down in the future, the population is estimated to reach about 11 million by 2050 (*Figure 1.51*), with the majority being of working age (*Figure 1.52*). With a rapidly increasing population, the country started to experience intensifying pressure on its natural resources, such as scarce water supplies and destruction of the ecosystems along the Caspian Sea coast and Caucasus mountains. Moreover, rapid urbanization of Baku metro area and rising mobility around it resulted in increased levels of air and water pollution in the region, as well as challenges with regard to waste management and greenhouse gas (GHG) emissions.⁵⁶

⁵⁶ Wendling, Z.A., Emerson, J.W., de Sherbinin, A., Esty, D.C., et al. (2020). 2020 Environmental Performance Index. New Haven, CT: Yale Center for Environmental Law & Policy. epi.yale.edu

Figure 1.51: Total population, 1950-2100

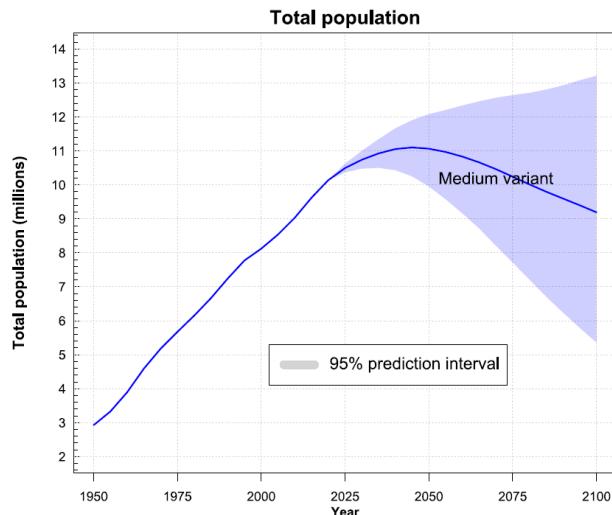
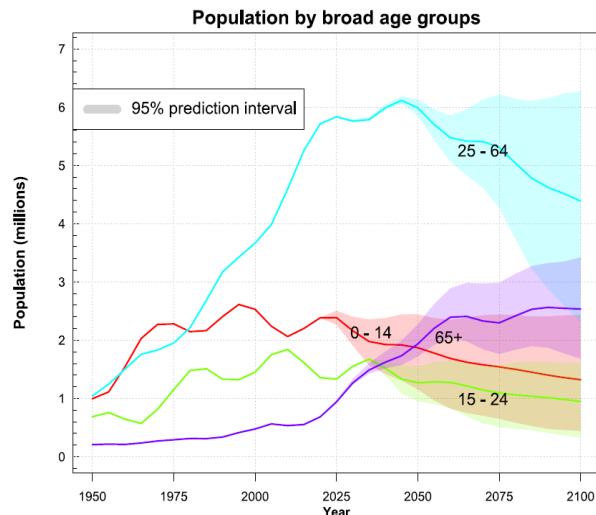


Figure 1.52: Total population, by age, 1950-2100



Source: United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects 2019, Volume II: Demographic Profiles

Due to its abundance of low-cost hydrocarbons, Azerbaijan's domestic energy consumption tends to be significantly more fossil fuel dependent than other countries (Figure 1.53). Fossil fuels account for 97.5 percent of Azerbaijan's domestic energy consumption, with around two-thirds from natural gas and one-third from oil, while renewables account for just 2.5 percent. Kazakhstan, Turkmenistan, and Uzbekistan are similarly dependent on fossil fuels, although coal is a larger component of domestic energy consumption in Kazakhstan. Russia and particularly Ukraine have a higher share of renewables, but also because nuclear power accounts for a large share of total energy consumption. In the European Union, fossil fuels account for around three-quarters of energy consumption, with renewables accounting for 15 percent and nuclear 11 percent.

Figure 1.53: Composition of energy demand, 2019

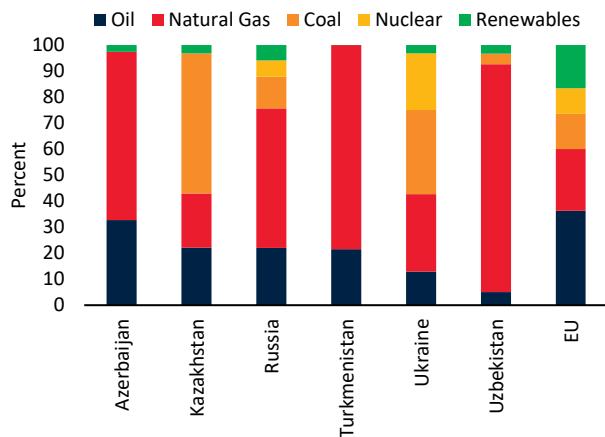
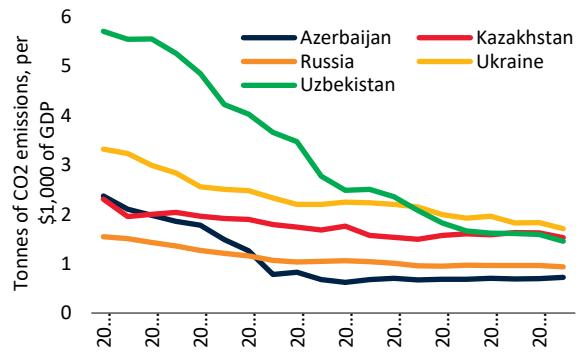


Figure 1.54: CO2 intensity of GDP



Source: BP Statistical Review, OurWorldinData, World Bank

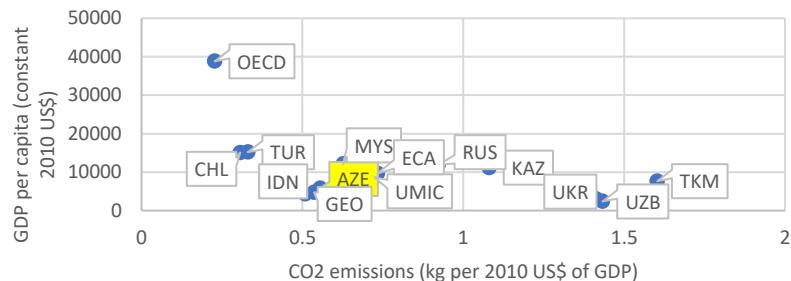
Note: Renewables includes hydro-electric, solar, wind, geothermal, biomass, wave and tidal

Azerbaijan has a relatively high carbon emission intensity, as compared to its aspirational peers, and a relatively low carbon emission intensity, as compared to its regional and structural peers (Figure

1.54 and Figure 1.55). After declining sharply in the 2000s, its CO₂ intensity (the amount of CO₂ emitted per unit of GDP) has remained relatively constant over the past 10 years. However, this low level of intensity partly reflects the economic makeup of the Azerbaijan economy and its very low levels of domestic energy consumption per capita compared to its peers. In 2019, per capita energy consumption in Azerbaijan was 65 gigajoules, compared to 167 gigajoules in Kazakhstan and 204 gigajoules in Russia. At the same time, most of Azerbaijan's carbon emissions occur in its hydrocarbon industry, which is more export-oriented than in regional and structural peers.

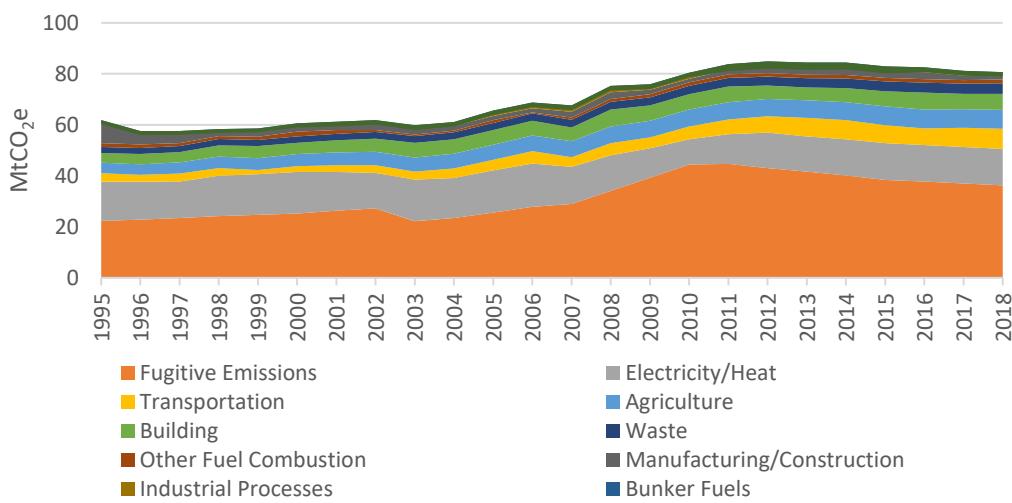
Fugitive emissions represent the largest share of the country's CO₂ emissions, even as they have been declining since 2011 (Figure 1.56). Azerbaijan's economic dependency on oil and gas industries translate into the fact that fugitive emissions are the largest source of carbon emissions, although their share declined from peak of 57 percent in 2010 to 46 percent in 2018. At the same time, emissions from the transportation and agricultural sectors and from buildings and waste have been steadily growing for the past decade. Azerbaijan has committed to reduce its emissions by 35 percent by 2030 and 40 percent by 2050 against the base year (1990).

Figure 1.55: Azerbaijan's carbon dioxide (CO₂) emissions per unit of GDP and GDP per capita vs comparators, 2018



Source: World Bank WDI

Figure 1.56: Azerbaijan's carbon dioxide (CO₂) emissions by sector and sub-sector, 1995-2018



Source: Climate Watch Historical GHG Emissions. 2021. Washington, DC: World Resources Institute.

Azerbaijan's relatively high carbon emissions increases its vulnerability to the global low-carbon transition (Figure 1.57). Countries that heavily rely on fossil fuels for their external revenues (marked in red) are the most vulnerable to the low-carbon transition. Besides Azerbaijan, they include such hydrocarbon-

dependent countries like Libya and Nigeria. At the same time, some fossil fuels-dependent countries, like Norway and Australia, are well-prepared for the transition to the low-carbon economy due to their asset diversification and relatively high economic flexibility. Azerbaijan scores relatively low on a number of resilience indicators due to its weak economic complexity, shallow financial market, and low human and institutional capital.⁵⁷

Figure 1.57: Azerbaijan's preparedness for a low-carbon transition vs other countries



Source: Peszko et al., 2020.

The prospect of a long-term decline in oil demand intensifies the need for diversification for Azerbaijan. Oil exporters are typically not very diversified, relying to a greater extent on oil than exporters of other commodities do on their respective commodities (World Bank 2021). While the energy transition presents a significant headwind for Azerbaijan, there are also several ways in which it also presents potential opportunities for Azerbaijan. Azerbaijan has already taken steps to take advantage of some of these, including measures to improve energy efficiency and the promotion of renewable sources of energy (IRENA 2019a). However, there is more that remains to be explored.

Azerbaijan has significant wind and solar potential (IRENA 2019a). According to the Ministry of Energy, Azerbaijan has technical solar potential of around 23,000MW, 3,000MW of wind potential, and more than 500MW of hydropower potential, although the amount that is currently economically viable at current prices is smaller (Ministry of Energy 2020). For comparison, Azerbaijan's current electricity capacity is about 7,500MW, the majority of which is powered by natural gas. Reducing domestic consumption of natural gas would enable Azerbaijan to increase natural gas exports. Additionally, the ongoing reduction in the cost of

⁵⁷ Peszko, Grzegorz; van der Mensbrugge, Dominique; Golub, Alexander; Ward, John; Zenghelis, Dimitri; Marijs, Cor; Schopp, Anne; Rogers, John A.; Midgley, Amelia. 2020. Diversification and Cooperation in a Decarbonizing World: Climate Strategies for Fossil Fuel-Dependent Countries. Climate Change and Development. Washington, DC: World Bank.

wind and solar technologies makes investment in renewables attractive, especially compared to those in the oil and gas industry. Increased electricity generation from renewables would offer the potential to increase exports of zero-carbon electricity, which may command a price premium if carbon-pricing becomes more widespread. Furthermore, renewable energy can be used to produce green hydrogen, another potential opportunity for Azerbaijan.

Natural gas emits roughly half of the CO₂ emissions of coal, thus has better prospects than other fossil fuels. As a result, its demand is likely to remain near current levels or even increase in the future, with demand from Asia in particular expected to rise. Azerbaijan has extensive natural gas reserves of 2.4 trillion cubic meters (around 1.4 percent of global reserves), and its reserves-to-production ratio is among the highest in the world, indicating the potential for increased production (BP 2020). As such, the industry represents a more durable source of economic activity and revenue for Azerbaijan than oil, although gas revenues are much smaller than those from oil. In addition, it also may facilitate the development of a hydrogen industry in Azerbaijan.

Section 6. How can Azerbaijan revive and sustain growth over the long run?

The previous sections highlight some key features of Azerbaijan's growth performance over the last two decades:

- Growth has been high but volatile and linked to oil and gas production and prices. Growth momentum has slowed significantly since the economic recession in 2016, pointing to an urgent need to revive and sustain growth.
- Azerbaijan's underlying asset base – the key driver of long-run prosperity – has remained undiversified, even relative to other resource-rich peers. The share of non-renewable natural resources in wealth remains high and, while produced capital increased significantly in concert with infrastructure investments, human capital accumulation has been weak.

The chapter further highlights that Azerbaijan's economy is at risk of stagnating in the face of structural headwinds, but growth can be revived by improving productivity in the non-oil/gas sector and building human capital The Long-Term Growth Model (LTGM) exercise highlights that, faced with demographic and oil and gas production headwinds, Azerbaijan's growth will only average around 0.5 percent over 2024-2050. Reform simulations using the LTGM show that, with ambitious reforms, it is possible for Azerbaijan to boost average growth by 1.7 percentage points from 2024-2050. This would have a significant impact on GDP per capita, which could reach USD 10,250 in 2050, leaving the average Azerbaijani 40 percent richer as compared to the baseline. The key driver of growth is improvements in productivity (TFP) in the non-energy sector and building human capital. Increased investments and improved efficiency would also aid in boosting growth, though to a lesser extent.

The global energy transition to low carbon development further underscores the need for a new growth model, as it threatens to devalue the country's non-renewable and produced capital. In this context, Azerbaijan needs to urgently reassess its asset structure and re-orient toward building its human- and knowledge-based assets and pursuing opportunities in renewable sectors.

Finally, the chapter highlights that long-run growth needs to be sustained at a steady pace and not derailed by volatility. Azerbaijan's past growth performance, and experience in other resource-rich countries, illustrate the challenges posed by 'boom-bust' cycles, and the prolonged recessions that often

proceed. Maintaining macroeconomic and financial stability will thus remain critical to Azerbaijan's long-run growth prospects.

Azerbaijan needs reforms across four pillars to sustain long-run growth and respond to the challenges posed by energy transition: improving economic management (Pillar 1); enhancing productivity in non-energy sectors (Pillar 2); asset diversification through investing in human and institutional capital (Pillar 3); and preparing for the energy transition (Pillar 4). Reforms under Pillar 1-3 are investigated in detail in the rest of the report, while Pillar 4 will be explored in depth in subsequent World Bank publications on green growth for Azerbaijan.

Pillar 1: Improving economic management

Azerbaijan's economy is vulnerable to volatility due to its overreliance on hydrocarbon resources as a major growth factor. At the same time, energy is the only sector integrated into the global economy. Coupled with macroeconomic policies of de facto fixed exchange rates, excessive credit growth during the oil boom, and pro-cyclical fiscal policies, the volatility from energy price fluctuations has translated to a poorly managed macroeconomic stability.

Policy recommendations (see detailed recommendations in *Chapter 2*):⁵⁸

1. Improve coordination within and between macro-fiscal, monetary, and sectoral policies, and develop wide-ranging growth strategy (short-term).
2. Develop comprehensive medium-term fiscal framework based on medium-term budget planning and prioritization and improve oversight and accountability (medium-term).
3. Gradually transition from de facto fixed exchange rate to inflation-targeting monetary policy, which would help improve trade competitiveness of non-oil/gas sectors (long-term).

Azerbaijan's financial system remains fragile and highly sensitive to external shocks. The sector's recovery from the 2016 crisis has been sluggish and uneven. In addition, Azerbaijan's banking sector has one of the highest dollarization rates among its regional peers (about 60 percent), weak economic governance, high non-performing loans (NPLs), combined with low capitalization and weak profitability.

Policy recommendations:

1. Enhance financial sector resilience and build capacity for growth (short-term)
2. Upgrade legal, regulatory, and supervisory frameworks (short- to medium-term)
3. Reduce dollarization in the sector (medium-term)
4. Promote financial sector deepening and diversification (medium-term)

Pillar 2: Enhance productivity in non-energy sectors

Reforms that would boost productivity in the non-energy sectors are estimated to have the biggest impact on the country's growth in the long run. These reforms focus on reorganizing state-owned enterprises (SOEs), which play a key role in Azerbaijan's economy, and on improving the business environment for the private sector.

SOE performance significantly impacts the state budget and corresponding service delivery to citizens. Azerbaijan's SOE portfolio comprises of approximately 5,000 SOEs operating across multiple sectors of the economy, including sectors that in developed economies would typically be dominated by private

⁵⁸ Policy recommendations for each challenge are listed according to their implementation time horizon, rather than by priority.

participation, such as general manufacturing, construction, telecom, and agriculture. SOEs also receive significant subsidies from the budget, while only marginally contributing to the budget revenues.

Policy recommendations (see detailed recommendations in *Chapter 3*):

1. Strategically map the entire SOE universe to segment it into categories for either: continued ownership by the government for strategic or other reasons; divestiture; reorganization into government agencies; or closure. (short-term)
2. Strengthen SOEs' corporate governance practices, financial reporting, accountability, and transparency practices (short- to medium-term).
3. Design and implement a system for calculating the costs that generate quasi-fiscal deficits at SOEs, estimate these costs and design a framework for transparently compensating SOEs for eligible costs from the budget (medium-term)

The non-energy private sector is dominated by activities that are of low complexity in services and agriculture, are domestically oriented, and constrained in access to both labor and capital inputs.⁵⁹ Private investment is low and lags behind regional and UMIC averages.

Policy recommendations (see detailed recommendations in *Chapter 4*):

1. Improve business environment and tackle competition issues (short- to medium-term)
2. Improve legal and judicial institutions and processes, particularly those related to property rights and dispute resolution (medium-term)
3. Increase value-added in agriculture and private farming, while ensuring food security (short- and medium-term)
4. Modernize labor policies to incentivize firms' hiring of formal workers (short- to medium-term)
5. Determine key drivers of informality, and design policies (e.g., tax and regulatory) to reduce shadow economy (medium-term)

Pillar 3: Asset diversification through investing in human and institutional capital.

Productivity growth slowed significantly in the past decade and human capital accumulation significantly lags regional and aspirational peers. The country's workforce is insufficiently prepared for the changing labor force requirements. Beyond these challenges, Azerbaijan faces demographic headwinds in the future.

Policy recommendations (see detailed recommendations in *Chapter 5*):

1. Permit more academic and financial autonomy to universities, enable universities to raise funds and conduct independent research and development (short- and medium-term)
2. Strengthen public-private partnerships in skills development (short- and medium-term)
3. Reform the educational system at all levels so that it is accessible across regions and of high quality, i.e., teaches the skills demanded of the future workforce (medium- to long-term)

The government has a prevailing role as the economy's biggest employer and investor,⁶⁰ even as governance institutions remain weak. Public investment has been the main growth driver in Azerbaijan's non-hydrocarbon economy for over a decade and plays a significantly larger role in the economy overall than in regional peers.

⁵⁹ World Bank Enterprise Survey, 2019.

⁶⁰ Azerbaijan's government accounted for about 48 percent of total investment and 56 percent of all formal employment in 2019. Source: Azerbaijan: Moving Toward More Diversified, Resilient and Inclusive Development, Asian Development Bank, 2020.

Policy recommendations:

1. Strengthen public institutions, transparency, accountability, and capacity in policy decision-making, and facilitate predictability of policy making (short- to medium-term)
2. Deliver high-quality public services and infrastructure to facilitate growth (medium- to long-term)
3. Enhance returns from public investment by reforming public investment management and focusing on upstream activities, such as improved appraisal, prioritization, and selection of projects, and enhanced link to budgeting through the MTEF process. (medium- to long-term)

Pillar 4: Prepare economy for the energy transition

As a hydrocarbons-dependent economy, Azerbaijan faces significant challenges associated with a gradual decline in hydrocarbons demand and an increased global effort on decarbonization. Diversification of the energy mix and strengthening the efficiency of the energy sector is needed to steer the economy toward better resilience to outside energy price shocks, as well as to prepare it for the global transition away from hydrocarbons. While this energy transition presents a significant headwind to Azerbaijan, there are ways in which it offers potential economic opportunities. These opportunities are explored in detail in the forthcoming World Bank Country Environmental Assessment for Azerbaijan.

Chapter 2

Improving economic management for resilient growth

This chapter focuses on the key challenges that will need to be managed by policymakers designing macroeconomic policy in Azerbaijan (Section 1); how well fiscal, monetary, and financial policies have performed in the past in responding to similar challenges (Section 2); and provides policy recommendations to improve performance in terms of safeguarding stability in the future (Section 3).

Key challenges for macroeconomic policy

Economic management in resource rich countries is complicated due to the nature of resource rents. High dependence on resources complicates macroeconomic management as these resource rents: (i) are volatile and uncertain; (ii) exhaustible, which leads to a trade-off between spending and saving; and (iii) largely originate from abroad which impacts the exchange rate and thus relative prices (Ossowski and Halland, 2016).

In Azerbaijan, this challenge is manifest in medium to long-term challenges for economic management:

- **Challenge 1. Continued oil price volatility in the short-term and structurally lower oil price in the long-term period.** The post-COVID rebound and the uncertainty posed by the conflict in Ukraine in early 2022 may translate into a higher volatility in oil prices in the short to medium-term. In the long run, major shifts in global oil demand, particularly through a push for energy transition, and greater supply from US shale as a swing producer⁶¹, point to structurally lower oil prices. There has also been a structural shift in demand toward non-OECD countries, while OECD demand has gradually declined. Structurally lower oil prices in the long-term horizon pose serious challenges for future growth prospects and macroeconomic management in Azerbaijan.
- **Challenge 2. Declining oil production** is a major headwind for fiscal sustainability. As noted in Chapter 1, oil production in Azerbaijan from existing production sites has already peaked in 2010 but due to exceptionally higher oil prices during 2011-14, oil revenue inflows remained elevated for an extended period. However, the oil price collapse in 2014 slashed oil revenues substantially, prompting a sharp fiscal adjustment. Expected deceleration in oil production in the next ten years will further aggravate the situation. Oil production from the major oil field (ACG) is expected to decline by 27 percent by 2030, which will substantially lower the revenue inflow to SOFAZ. It is estimated that, at an oil price of USD 50 per barrel, SOFAZ oil and gas revenues will not be sufficient to finance the transfer to the budget at 2020 levels by 2030. This may force a difficult trade-off between painful fiscal adjustment or further drawing down on SOFAZ assets.
- **Challenge 3. Low growth of the non-oil sector poses challenges for reducing the dependence on oil revenues.** Increasing non-oil revenue collection is of primary importance when it comes to reducing the non-oil fiscal deficit. Authorities made significant progress in terms of improving revenue administration which resulted in higher tax collection in the past couple of years, despite the COVID-19 crisis. However, future non-oil revenue flows will critically depend on non-oil sector growth, which has been languishing since 2015. As noted in Chapter 1 and Chapter 4, growth in the non-oil sector is held back by several structural weaknesses, such as large share of government enterprises, challenging competition environment, domination of low complexity and domestically oriented sectors, regulatory uncertainty, and access to finance. Maintaining fiscal sustainability in the long term will depend on the success of structural reforms designed to accelerate non-oil sector growth.

⁶¹ Shale oil projects differ from conventional projects in that they have a shorter life cycle (2.5-3 years from the start of development to full extraction) and relatively low capital costs. As a result, oil supply from these sources tends to be significantly more elastic to price changes than from conventional sources, even in the short term.

A robust macroeconomic framework – with an appropriate mix of fiscal, monetary and financial sector policies – is critical for Azerbaijan to maintain overall stability and strengthen resilience, while managing these challenges. This chapter will focus on (i) assessing the performance of the current set of policies, in dealing with similar challenges in the past; (ii) identifying critical gaps and (iii) finally, proposing policy actions to strengthen economic resilience going forward.

Finally, it should be noted that the ultimate source of resilience in resource rich countries is to create a larger and more diverse economy, which is covered in depth in other chapters in the CEM.

Section 1. Diagnosis of the current macroeconomic management framework

This section will examine, in turn, the past performance of fiscal policy, monetary and exchange rate policy, financial policy and the coordination of these policies, in terms of responding to the key challenges highlighted in the previous section. As part of the assessment, the section will identify critical gaps in policies and their implementation, with recommendations to address these gaps highlighted in Section 3.

Assessment of fiscal policies

This section will assess the current fiscal framework in Azerbaijan to answer the following questions:

- a. **Macro-fiscal stability:** How have fiscal policies dealt with volatility of resource revenues, and to what degree has fiscal policy transmitted the volatility of oil prices to the economy?
- b. **Long-term fiscal sustainability:** Has fiscal policy helped secure inter-generational equity by saving oil revenues at appropriate levels and by managing these savings well?
- c. **Growth-enhancing public spending:** To what extent does fiscal spending support long-term growth?

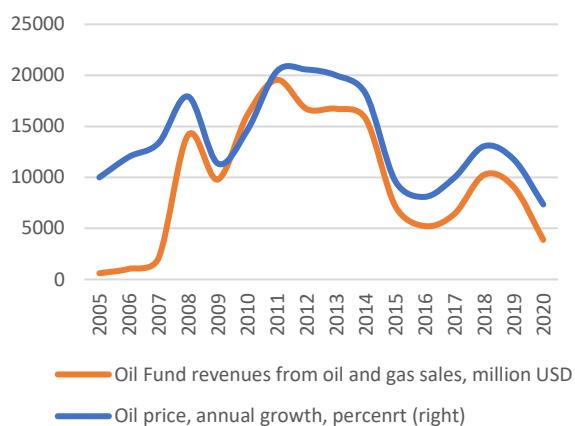
Macro-fiscal stability

A key goal for fiscal policy in a resource dependent setting is to manage volatility of resource revenues, such that frequent changes in the resource price is not reflected in sharp changes in the budget, which, in turn, contributes to volatility in economic output. This section highlights that, fiscal policy in Azerbaijan has only been moderately successful in achieving the goal of counter-cyclical in the last two decades. Pro-cyclicality has been especially evident in the sharp decline in spending following the recession in 2014. However, Azerbaijan has made policy changes recently, such as the introduction of a new fiscal rule in 2019, which can help in better achieving the goal of countercyclicality.

The price for crude oil, the main export product of Azerbaijan, has become significantly volatile in the past two decades. Crude oil exports accounted for more than 80 percent of Azerbaijan's exports on average in the past two decades. This makes the economy more exposed to the developments in the global oil markets as compared to peers like Kazakhstan and Russia, where crude accounts for 60 percent and 29 percent of total exports respectively. Global oil markets have undergone major shifts over the past two decades, with sharp fluctuations in prices between highs of more than \$100/bbl and lows of less than \$20/bbl. The oil market has undergone four distinct phase shifts over the past 20 years: the rise in demand among emerging market and developing economies (EMDEs); the changing role of OPEC (and more recently, OPEC+) in restricting oil production and propping up prices; the rapid rise of U.S. shale production, and, more recently, the impact of COVID-19 on oil demand.

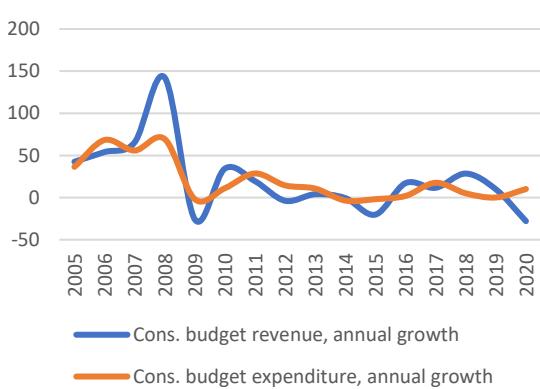
Fiscal policy in Azerbaijan has followed the oil revenue cycle. In the past two decades, Azerbaijan's oil revenue inflows have been quite volatile, first due to volatile oil prices and secondly due to volatility in oil production after oil production peaked in 2010 (Figure 2.1). Azerbaijan saw a surge in oil and gas revenues during 2005-2010, as rapid increase in oil production coincided with the commodity super cycle. Azerbaijan government established a State Oil Fund (SOFAZ) in 2001 to accumulate the resource revenues but no binding rule was instated regulating the usage of the SOFAZ funds. This allowed the authorities to tap SOFAZ resources in a discretionary manner, which resulted in a pro-cyclical fiscal policy path. Fiscal spending followed the revenue pattern: during a period of high revenues, fiscal spending surged, while decline in oil revenues such as in 2009 and 2015-16 was coupled with a cut in fiscal spending (Figure 2.2).

Figure 2.1 Oil price and SOFAZ revenues



Source: SOFAZ and World Bank

Figure 2.2. Consolidate budget revenue and expenditure growth



Source: Ministry of Finance

The degree of fiscal policy procyclicality in Azerbaijan appears to be at the median when compared to resource-rich countries -- worse than Norway and better than Kazakhstan. One of the methods for determining the degree of the fiscal policy pro-cyclicality is to define the degree of procyclicality as the *marginal propensity to spend* (MPS) an extra dollar of government revenues, driven by oil price movements (an approach from Mendes and Pennings, 2020). Figure 2.4 highlights the relationship between changes in predicted commodity revenues and expenditure for Azerbaijan. The slope of the line is the measure of procyclicality (the MPS). The line has a positive slope, indicating that fiscal policy is procyclical. More specifically, the estimated MPS for Azerbaijan is 0.4, indicating that, on average, a USD 1 increase in cyclical commodity revenues leads to 40 cents of extra spending. While positive, the line slope is less than the 45-degree diagonal (a balanced budget rule, MPS=1), indicating that a sizeable fraction of extra revenues is saved. Azerbaijan's estimated degree of fiscal procyclicality is in between that of Norway and Kazakhstan respectively. In Norway, spending is neutral to the movements in the oil price while in Kazakhstan, for each extra dollar of commodity revenues, 0.63 cents are spent, which is more procyclical than in Azerbaijan.

Figure 2.3. Expenditure and commodity revenues in Azerbaijan

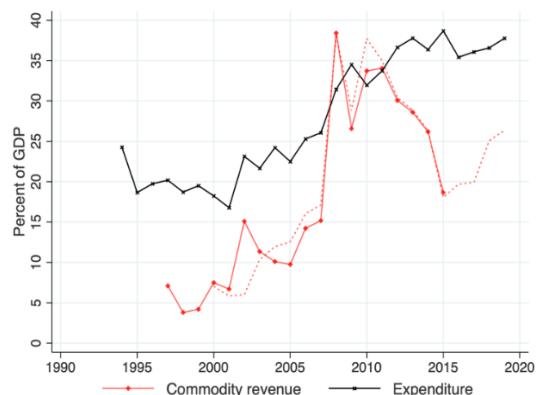
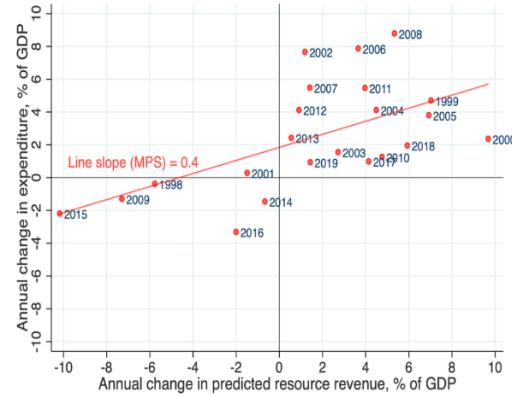


Figure 2.4. Cyclicality of expenditure in Azerbaijan, 1998-2019



Source: World Bank staff estimation World Bank CMO. Data on Real GDP and Gen. Govt. expenditure (Figure 2.4 & Equation (2)) are from the IMF-WEO database.

Procyclical fiscal policy has transmitted oil revenue volatility to the economy leading to boom-bust episodes. High volatility of fiscal spending compounded by the high dependence of the economy on fiscal spending have aggravated business cycles. Non-oil economy recorded high growth during the high spending period (2005-2014) but plunged into a recession after a deep cut in fiscal spending after the plunge in oil prices in late 2014. Such volatility in the economy is detrimental for private investment and harms the long-term development prospects of Azerbaijan.

Azerbaijan introduced a fiscal rule in 2019 in order de-link fiscal spending from the oil revenue cycle. The government introduced a fiscal rule in 2019, which is an expenditure rule limiting real public spending growth to 3 percent of the previous year's approved spending. In addition, the rule requires the next fiscal year's projected non-oil primary balance, as a percent of non-oil GDP, to be no worse than that of the current fiscal year. Targets for non-oil fiscal balance are set annually by the President. Countercyclicality is achieved through a mechanism that smooths the amount of oil and gas revenues to be spent during the fiscal year. Due to the implementation of fiscal rule, despite still high oil prices at USD 64, consolidated budget spending barely grew in 2019. This allowed Azerbaijan to reduce the non-oil fiscal deficit⁶² by 5 percentage points to 31.6 percent of non-oil GDP. Fiscal breakeven price also declined from USD 56.5 in 2018 to USD 45.1 in 2019.

However, with the COVID crisis, the fiscal rule has been suspended as fiscal stimulus was needed to support vulnerable firms and households. As oil prices plummeted in the first quarter of 2020, the Government triggered the escape clause of the fiscal rule, which allows for suspension when the revenue outturn is lower than a certain threshold. The government's COVID-19 response resulted in a 10 percent increase in consolidated budget spending and together with the contraction in GDP, widened the non-oil fiscal deficit to 37 percent of the non-oil GDP. The fiscal breakeven price jumped to USD 65 per barrel in 2020, which is almost USD 20 per barrel more than in 2019.

⁶² Non-oil fiscal balance to Non-oil GDP is calculated as the difference between consolidate budget non-oil revenues and consolidate budget spending divided by the non-oil sector GDP at factor prices.

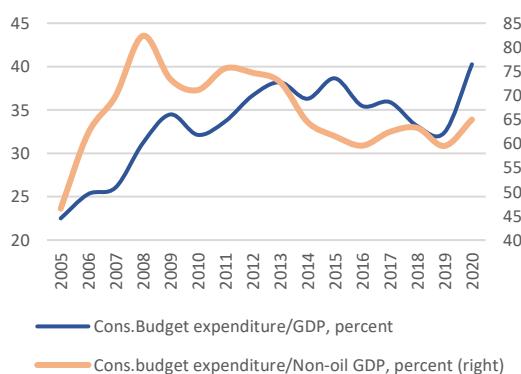
Long-term fiscal sustainability

Oil revenues are exhaustible, and thus, need to be managed with a view to ensure inter-generational equity, such that future generations can also benefit from the resource windfall. To achieve this, fiscal policy needs to address two questions: How much to save from oil revenues? How to manage these savings well?

How much oil revenue has been saved?

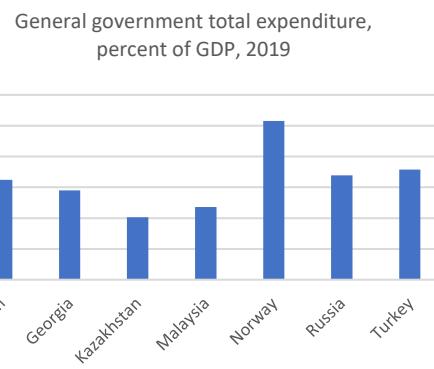
Savings out of oil revenues has declined over time raising inter-generational equity concerns. Given their exhaustible nature, oil revenues need to be spent and saved balancing current needs with the needs of future generations. In Azerbaijan, the balance has been tilted toward current spending, which has risen sharply (Figure 2.5) with oil price increases, and has declined since 2014 reflecting the price slump, but is still comparable to its peers (Figure 2.6). In the absence of withdrawal rules, transfers from SOFAZ have financed much of the spending: accounting for more than half of the budget revenues during 2010-2014 with peak level recorded in 2013 at 58 percent.

Figure 2.5. Consolidate budget as a percent of total and non-oil GDP



Source: Ministry of Finance, Statistics Committee

Figure 2.6. Level of fiscal spending in peer countries



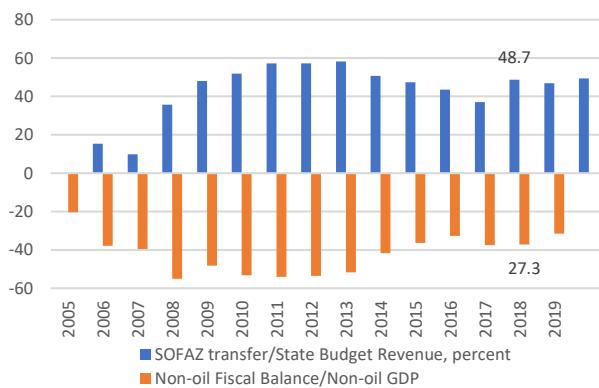
Source: IMF, WEO database, Spring 2021

This is reflected in the declining saving rate of SOFAZ⁶³ which more than halved from 51.2 percent in 2010 to 20.5 percent in 2014. Sharp decline in oil prices led to a first drawdown on SOFAZ assets in 2015. Subsequent fiscal tightening allowed an increase in the saving rate to 39 percent in 2019. Overall, during the period of 2005-2020, SOFAZ was able to save 27.5 percent of the total inflows. In absolute terms, SOFAZ received USD 165 billion during 2001-2020, of which USD 119 billion was spent by 2020.

Higher spending is also not sustainable in the long run, as reflected in the significant widening of the non-oil fiscal deficit. The non-oil fiscal deficit soared during the high spending period, reaching 52 percent of non-oil GDP at its peak in 2013. Adjustment of the fiscal stance to a structurally low oil prices after 2014 and implementation of the fiscal rule has helped reduce the non-oil fiscal deficit to 32 percent of non-oil GDP in 2019. However, this level of non-oil fiscal deficit is still large and could pose challenges to fiscal sustainability in the long term.

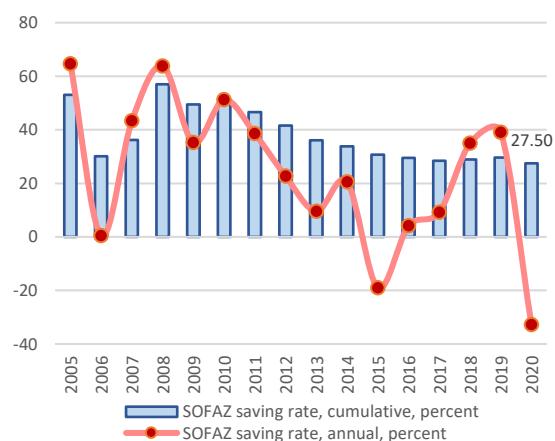
⁶³ Annual Saving rate of SOFAZ = (Annual SOFAZ revenue - Annual SOFAZ spending) / Annual Revenue

Figure 2.7. Dependence on oil revenues and non-oil fiscal balance



Source: SOFAZ, Ministry of Finance, World Bank staff estimates

Figure 2.8. Saving rates out of SOFAZ revenues



Source: SOFAZ, World Bank staff estimates

Higher deficits will eventually translate to public debt, which remains low, but with some emerging risks arising from contingent liabilities. In the view of the large fiscal surpluses driven by transfers from SOFAZ, direct public sector borrowing has remained low. In 2019, direct public debt of Azerbaijan was low at 19 percent of GDP, of which 93 percent was in foreign currency. In terms of maturity, public debt stock is dominated by long term debt (with maturity more than 5 years) which accounts for 88 percent of total debt. Interest payments constitute only 3 percent of state budget spending. Publicly guaranteed debt has risen rapidly in the past five years due to financing of strategic energy projects and the clean-up of state-owned banks. As a result, publicly guaranteed debt exceeds direct public debt and amounted to 29 percent of GDP in 2019. Emerging contingent liabilities, such as arising from SOEs (as discussed in Chapter 3), also need to be carefully monitored and managed going forward.⁶⁴

Have the saved resource revenues been managed well?

In Azerbaijan, resource revenues are collected by two government agencies. The State Tax service under the Ministry of Economy is responsible for collecting taxes from the companies operating in the petroleum sector. Most revenues are however collected and managed by the State Oil Fund of the Republic of Azerbaijan (SOFAZ). This includes bonuses and fees paid by the companies and revenues from the sale of state's share of production in PSA agreements. Whereas all revenues collected by SOFAZ are managed in accordance with laws, decrees and policy guidelines, withdrawals take place to finance public spending through the state budget and to priority projects and programs that SOFAZ are implementing.

SOFAZ governance structure

The mission of the State Oil Fund of the Republic of Azerbaijan (SOFAZ) is to transform depletable hydrocarbon reserves into financial assets generating perpetual income for current and future generations. The main goal is to accumulate and efficiently manage oil revenues.

⁶⁴ A lack of publicly available data prevents an in-depth analysis of the key sources and extent of existing contingent liabilities.

Box 2.1. SOFAZ in the 2021 Resource Governance Index

Azerbaijan scores 56 of 100 points in NRGI's Resource Governance Index (RGI) in 2021, up by 9 points since 2017. There is notable variation across the components of the index: while Azerbaijan's rank on the "value realization" component fell, the country's ranking on the "revenue management" component improved markedly and the ranking on the "enabling environment" remained stable at low levels.

The "value realization" component measures the quality of governance regarding allocating extraction rights, exploration, production, environment protection, revenue collection and state-owned enterprises; the "revenue management" component measures quality of national budgeting, subnational resource revenue sharing and sovereign wealth funds; and "enabling environment" measures the general quality of governance in the country.

The improvement in the component on revenue management component is significant, at nearly 35 points since the last assessment, and was driven by improved budgeting practices and strengthened governance of SOFAZ. In particular, the national budgeting subcomponent improved by 37 points since 2017, reflecting increased disclosure of assumptions on the future path of oil revenues and government expenditures. SOFAZ's score in the RGI assessment received 86 points of 100, placing it in the "good" performance band. This significant increase in the score was driven by the introduction of fiscal rule in 2019, which sets a limit to the withdrawal of funds from SOFAZ. There was also a noteworthy improvement in SOFAZ's reporting.

Despite the improvements, the NRGI assessment points to major gaps in resource governance in Azerbaijan. These gaps include lack of rules and disclosures; major gaps in laws and disclosures of environmental and social impact assessments; and mediocre performance of SOCAR, the state-owned oil producer, which scored in the lower end of the "satisfactory" performance band.

Source: Resource Governance Index 2021, National Resource Governance Institute

SOFAZ, established by a Presidential Decree in 1999, has three key objectives:

- Preserving macroeconomic stability, ensuring fiscal-tax discipline, decreasing dependence on oil revenues and stimulating development of the non-oil sector
- Ensuring inter-generational equality with regard to the country's oil wealth and accumulating and preserving oil revenues for future generations
- Financing major national scale projects to support socio-economic progress

SOFAZ has a three-tier governance structure, with the President of the Republic being a supreme governing and reporting authority for the Fund. The Executive Director, appointed and dismissed by the President, manages the activities of SOFAZ. SOFAZ implements its budget in accordance with the Fund's annual budget and manages its assets in accordance with the investment guidelines. Budgets and investment guidelines are adopted by the President. SOFAZ's activities are overseen by a Supervisory Board which is headed by the Prime Minister and consists of the Vice-Speaker of Parliament, Minister of Finance, Minister of Economy, Governor of the Central Bank, Advisor to the President of the Republic of Azerbaijan on Economy and Innovative Development Policy and Advisor to the President of the Republic of Azerbaijan on Economic Policy and Industry.

Well managed sovereign wealth funds could have significant positive impact on economic resilience and inter-generational equity. Sovereign wealth Funds (SWFs) that accumulate natural resource revenues

are playing an increasing role as institutional investors globally in the last two decades. Well managed SWFs also play significant role in terms of facilitating fiscal stabilization and saving resources for long-term purposes.

A set of principles for SWF governance has been put in place by the international forum of SWFs and SOFAZ has been broadly in compliance with these principles. In 2008, a group of 23 leading state-owned international investors from around the world established the International Working Group of Sovereign Wealth Funds, following discussions with global groups such as the G20, International Monetary Fund and the US Department of the Treasury. The Working Group created a set of Generally Accepted Principles and Practices, known as the Santiago Principles, for sovereign wealth funds' institutional governance and risk-management frameworks. Later this working group was named as the International Forum of SWFs and SOFAZ become one of its founding members. In 2010, SOFAZ was one of the first SWFs to disclose its Santiago principle self-assessment and it continues with this practice.

SOFAZ has been among the best performers in terms of compliance with SWF good governance standards, which has been acknowledged at the international level. For instance, the 2015 SWF scoreboard developed by the Peterson Institute for International Economics, which measures the transparency and accountability of SWFs, gave SOFAZ 92 points out 100 which places it in the fourth place globally among non-pension SWFs (Stone and Truman, 2016). Santiago Compliance index, measuring the SWFs performance against Santiago principles, compiled by GeoEconomica found SOFAZ broadly compliant with the principles awarding a B+ score in 2014.

Best international practice suggests a clear division of responsibility between the owner of the SWF (the government) and its operational manager. The government is normally responsible for the state budget process and for developing and adopting economic policies. This includes preparing revenue forecasts. As the owner of the SWF, the government is also responsible for adopting policies related to the management of the SWF, including investment policies. The responsibility of the operational manager is normally limited to carry out the operational management of the SWF upon directions by the government.

In the Azerbaijan framework, the division of the role and responsibilities of the government and of SOFAZ needs to be clarified. SOFAZ seems to play a more prominent role in the process up to adoption of economic policies, relative to common international practice, and is an integral part of the annual budget process. For example, SOFAZ produces petroleum revenue forecasts, which are typically the responsibility of government central finance agencies. Moreover, SOFAZ is also responsible for direct funding of selected national priority projects and programs. Although the number of such projects has declined significantly over time, best practice suggests that such projects and programs are approved through the government's budget process and carried out by relevant ministries, government agencies or state enterprises. Azerbaijan could consider a clearer cut off between the government and the SOFAZ, for example by introducing a management mandate where the scope of SOFAZ is directed toward foreign investment management only; and could also consider reforms to make the Supervisory Board more independent of the government by electing external experts. This could help in formalizing the decision-making process, so that all policy decisions are made through changes to the management mandate and the adopted investment strategy.

SOFAZ investment policy

Best international practice suggests that the investment policy should be consistent with the SWF's objectives and adopted risk profile for the portfolio. The SWF's investment decisions should aim to maximize risk-adjusted financial returns in a manner consistent with its investment policy. Also, the investment policy must correspond with the overall objectives of the SWF, i.e. the need for liquidity and the objective of pursuing long-term return. In most cases, SWFs are invested in accordance with pre-determined benchmarks. The investment policy may also include specific risk measures, e.g., to what extent the portfolio

can deviate from the pre-determined benchmark with the aim of achieving additional return (active management). A key principle in portfolio management is diversification, i.e., investing in a range of assets or asset classes with different risks, returns and correlations in order to minimize non-systematic risk. A well-diversified portfolio is associated with lower overall risks than a portfolio with few, but larger investments, at a given specific expected return.

SOFAZ's investment portfolio is managed in accordance with the “Rules on managing the foreign currency assets of SOFAZ” (“Investment Guidelines”) and the Investment Policy approved by Presidential Decrees on an annual basis. The Investment policy defines the objectives, forecasted size, currency composition, strategic asset allocation, benchmarks and risk limits for SOFAZ's investment portfolio.

SOFAZ' investment policy objective is to maximize returns while minimizing the probability of substantial losses. According to SOFAZ' 2019 Annual Report, fixed income instruments account for 68.7 percent and equities for 14.1 percent of the portfolio. Real estate and gold are the other two asset classes in which SOFAZ can invest. Fixed income instruments are associated with lower risks, i.e., less volatility in short-term return, but come also with lower expected return. SOFAZ' portfolio generated an annualized return of 1.79 percent over the last 10 years. Although annualized return over the last three years is 2.49 percent, it is still modest compared to long-term expected return on equities. The fixed income and money market instruments and the equity part of the portfolio are invested in accordance with international benchmarks.⁶⁵

Table 2.12. Investment strategy 2019-selected SWFs

Name of SWF	Fixed income	Equities	Other asset classes (real estate, gold etc.)
SOFAZ	68.7%	14.1%	17.2%
Timor-Leste Petroleum Fund	58.74%	37.47%	3.79%
Norway's GPGF	24.7%	72.8%	2.5%
Ghana Heritage Fund	100%	0%	0%

Growth-enhancing public spending

Oil and gas revenues provide a unique opportunity to support long-run economic growth through investments in physical and human capital, as highlighted in Chapter 1. This section highlights that on aggregate, public spending in Azerbaijan has supported growth in the past, mainly through the building of physical capital. In contrast, public spending devoted to increasing human capital has been limited. Looking ahead, sustaining long-run growth, as highlighted in the growth scenarios elaborated in Chapter 1, requires a renewed focus on investing in human capital and on boosting the returns from public investment in physical capital by enhancing its efficiency and effectiveness. *However, it should be noted that, due to important constraints in data availability on public investments, the efficiency and effectiveness of these public investments could not be evaluated in this section.*

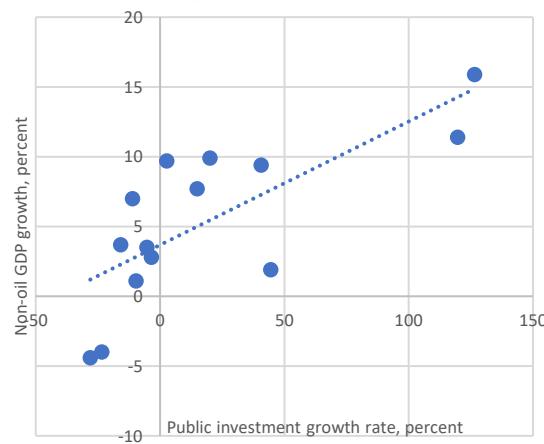
Increased public spending has been a major driver of the growth in non-oil sector especially via public investment. Higher spending was a major driver of the non-oil sector, which expanded by an average rate of 9.6 percent during the high spending period of 2005-2014. Consolidated budget spending steeply rose from 46 percent of non-oil GDP and settled around 70 percent by 2014 and moderated to 60 percent in 2019. Public investment was the major driver behind high non-oil sector growth during the oil boom period, which can be seen in the Figure 2.9. Regression analysis highlights that a 1 percent increase in non-oil sector investment translated into a 0.2 percent growth in the non-oil sector. It is not surprising that, fiscal tightening

⁶⁵The benchmark for the debt obligations and money market instruments sub-portfolio is “ICE BofA Fixed Income Indices” for corresponding currencies and the benchmark for the equity sub-portfolio is “MSCI Stock Market Indexes”.

through curtailing public investment after oil price collapse in 2014 contributed to a substantial slowdown in the non-oil sector.

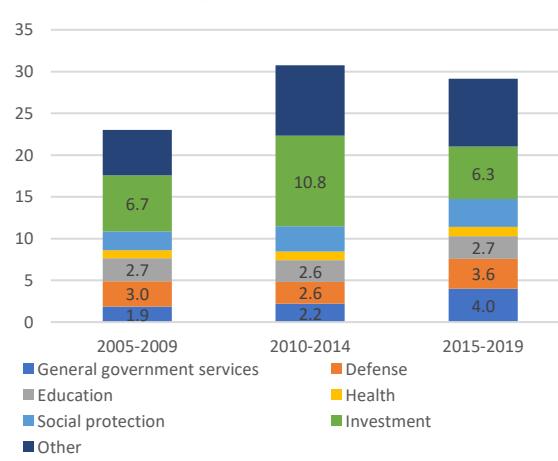
Public spending has been focused on building physical capital, with limited investment in human capital (Figure 2.10). Large infrastructure gaps prior to the oil boom period compelled the government to invest heavily in public infrastructure. This resulted in a high level (7-11 percent of GDP) of public investments during the oil boom period. This was largely done at the expense of the spending on human capital, which languished at low levels in the same period. Education spending has been stable at around 2.7 percent of GDP, which is significantly lower than ECA and UMIC averages at 4.2 percent of GDP. Health spending has been particularly low, at 0.7 percent of GDP, which is substantially lower than levels in UMICs (3.2 percent of GDP) and in the ECA region (6.7 percent of GDP).

Figure 2.9. Relationship between non-oil sector growth and public investment



Source: World Bank staff estimates, Statistics Committee

Figure 2.10. Composition of the state budget expenditure, percent of GDP



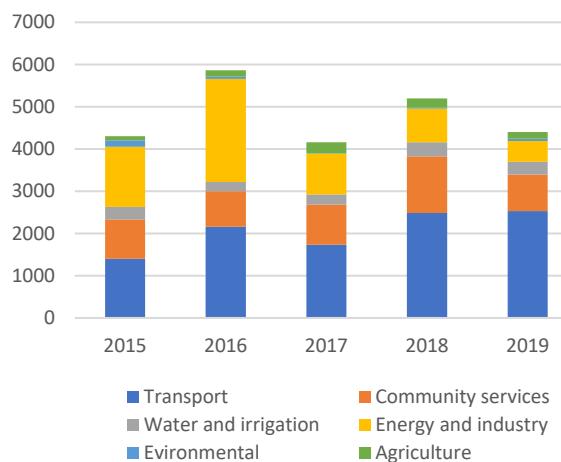
Source: Ministry of Finance, Statistics Committee

The public investment budget was mostly allocated to public infrastructure projects (Figure 2.11). Rebuilding infrastructure was the top priority for the Government after 2005, which is reflected in high share of allocations to public infrastructure projects. Around 80 percent of the public investment budget was allocated to the public infrastructure projects such as transport, energy and community amenities. Investments in social infrastructure (schools, hospitals, cultural and sports facilities) accounted for the rest, with a bigger increase in this area starting in 2017. The largest share of infrastructure investment was allocated to the transport sector, accounting for 45 percent of total public investments between 2005-2019, based on the Government's plans to strengthen connectivity, including by building major highways connecting Azerbaijan to neighboring countries, as well as investments in seaports and airports. Other major beneficiaries were community services (including water supply, rebuilding of the urban infrastructure), water, irrigation and energy.

The fall in oil prices after 2014 prompted the government to curtail the public investment budget. Oil prices plummeted in late-2014 and have yet to recover to pre-2014 levels. A “new normal” of oil prices prompted the Government to adjust the fiscal stance and fiscal tightening was largely executed by cutting public investment. Due to pre-committed large projects (European Games in 2015 and Southern Gas Corridor project in 2016), public investment remained high during 2015-16. During 2017-2020, public investment decreased to an average of 7.6 percent of GDP down from average 12.8 percent of GDP during 2013-2016 (Figure 2.12). Despite this downward trend, public investment is still high compared to peers --

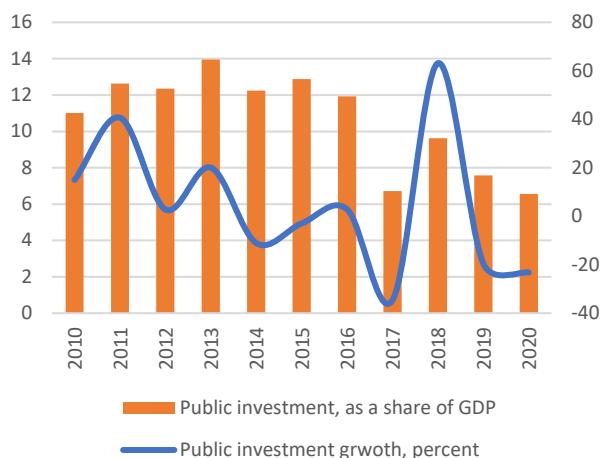
for example, in Russia, public investment was 4.1 percent of GDP and around 3 percent of GDP in Kazakhstan in 2017.

Figure 2.11. Composition of the infrastructure investment



Source: Chamber of Accounts

Figure 2.12. Public investment dynamics during last decade



Source: Chamber of Accounts

Assessment of monetary and exchange rate policies

Relying on the exchange rate as the nominal anchor has posed multiple challenges for monetary policy effectiveness. A major downside of the exchange rate as a nominal anchor is the limitations it has posed for the monetary policy to manage business cycles. In the case of Azerbaijan, this has manifest in translation of fiscal policy shocks to the economy, aggravating business cycles. This exchange rate policy has also contributed to persistently high level of dollarization, which has further limited the effectiveness of the monetary policy.

The monetary and exchange rate framework has relied on the exchange rate as a nominal anchor, which has created challenges in managing oil price movements. The first challenge is that pro-cyclical fiscal policy has bred exchange rate expectations that are closely linked to the oil price movements. This has made the exchange rate vulnerable to downward movements in oil prices triggering depreciation expectations. The vulnerability of the exchange rate peg was reflected in the sharp devaluation following the decline in oil prices after 2014. Secondly, as a de-facto fixed exchange rate peg does not respond to domestic and external shocks, timely and sufficient sterilization becomes critical. However, this has not taken place, which has prompted large liquidity swings and unanchored expectations. For instance, during the oil boom period of 2006-2008, broad money expanded by 114 percent and when oil prices dropped sharply in 2015, broad money halved. During the oil boom period, the de-facto exchange rate peg led to a surge in local currency liquidity amid fiscal expansion while, after fall in oil prices, liquidity dried up substantially.

This is reflected in periods of high inflation during the oil boom and in the aftermath of exchange rate devaluation. Inflation surged during 2005-2008 (Figure 2.13), driven by mounting aggregate demand pressures fueled by the massive fiscal expansion. Double digit inflation was recorded during 2007 and 2008 with inflation peaking at annual rate of 20.8 percent in 2008. Inflation moderated after 2011, as fiscal expansion moderated, and economic growth slowed markedly. Another inflation surge followed the devaluation of the manat in 2015, driven by exchange rate pass through. The imported component of the consumer price basket is estimated to be 34 percent and, while the exchange rate pass-through is significant,

it is estimated to dissipate rapidly (IMF, 2016). Inflation rose again to double digit levels in 2016-2017, prompting significant monetary tightening by the CBA through a hike in the interest rate by to 15 percent from 3 percent and significant expansion of its liquidity absorption operations employing deposit auctions and CBA notes. Tight liquidity conditions coupled with stable exchange rate amid firming oil prices slowed inflation markedly and, during 2017-18, inflation settled in the range of 2-3 percent.

Box 2.2. CBA's policy actions in modernizing the monetary policy framework in recent years

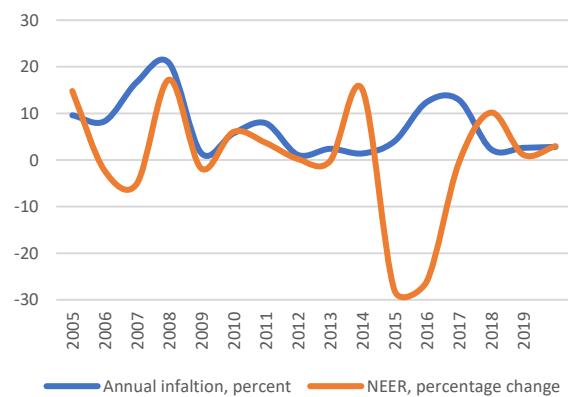
CBA has recently made significant progress in improving monetary policy communication. CBA started to announce inflation targets since 2019, a step that can positively impact formation of inflation expectations. Inflation target for 2019-2021 was announced at $4\pm 2\%$. But in late 2021 and 2022 inflation picked up significantly beyond the target interval, driven by external shocks and government decisions to increase tariffs for regulated goods. CBA is publishing the meeting schedule for the Monetary Policy Committee followed by a press conference on monetary policy, which is held four times a year. CBA also publishes an analytical brief after its monetary policy decisions, explaining the underlying rationale for the decision, including an updated inflation forecast. In addition, a Monetary Policy Review is published four times a year, reporting on main economic developments and monetary and exchange rate policies. The CBA has adopted a new medium-term communication strategy and has strengthened its presence in social media.

CBA uses various monetary policy tools for implementation of the interest rate corridor. Based on a concept of the interest rate corridor, the CBA achieves its goals through liquidity transfer and absorption tools. The parameters of the interest rate corridor are regularly adjusted considering the actual and projected dynamics of inflation as well as the risk balance. In recent years, CBA notes covering various terms, widely used to sterilize liquidity, have provided significant support to the development of other segments of financial markets. Short-term notes issued by the CBA can be used as collateral in the REPO market, but it has yet to show an impact on of REPO and reverse-REPO operations.

Together with structural challenges of the financial system (Figure 2.14), the lack of efficacy of the nominal anchor has pushed the country toward dollarization, in turn, reducing the effectiveness of the monetary policy. Dollarization rose sharply in 2015 as deposit holders switched to foreign currency to hold savings. Recovery in oil prices, a stable manat and low interest rates on FX deposits has since led to a decline in FX deposit holdings afterwards but its level is still high at 56 percent of the total deposit portfolio as of 2020. In addition, the financial system is shallow with banking sector assets accounting for 44 percent of GDP in 2020. Commercial banks still hold large reserves at CBA and invest substantially in low yield CBA deposits and notes, pointing to difficulties in the allocation of funds to the real sector. All these structural problems limit the effectiveness of the monetary transmission.

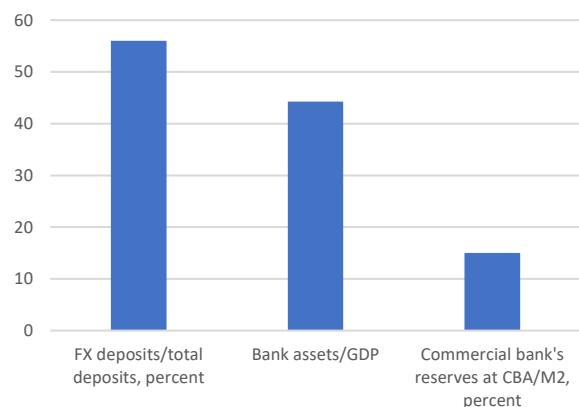
The real exchange rate in Azerbaijan also appreciated sharply for much of the oil boom years, creating challenges for the competitiveness of other tradable sectors. This is the ‘Dutch Disease’ hypothesis, which is discussed in greater depth in Box 2.3. However, even as Azerbaijan has shown signs of Dutch disease, structural bottlenecks are likely to have played a more pronounced role in terms of holding back non-oil exports and tradable sector growth. The fact that Azerbaijan economy was dominated by non-tradable activities and was mostly inward-oriented prior to the oil boom points to deeper structural issues that impede the development of tradable sectors. This is further reinforced by the fact that substantial change in relative prices in 2015 did not result in a large adjustment in the structure of the economy and non-oil exports.

Figure 2.13. Inflation and nominal effective exchange rate



Source: Central Bank of Azerbaijan

Figure 2.14. Structural properties of the banking system



Source: Central Bank of Azerbaijan

Box 2.3. Does Azerbaijan economy show signs of “Dutch disease”?

“Dutch disease” hypothesis refers to the reallocation of economic activity from economic activity from tradable sectors (e.g., manufacturing) to non-tradable sectors, following an appreciation of the currency due to a large inflow of resource related revenues. This is undesirable as tradeable sectors, particularly manufacturing, have a greater capacity to support long-run growth and “de-industrialization” can permanently reduce productive capacity of the economy. Frankel (2012) describes the process of transmission of resource revenues to adverse outcomes as following:

- Large real appreciation of currency, either through nominal exchange rate appreciation if exchange rate is flexible or inflation if the exchange rate is fixed.
- Increase in spending, mainly by government, in response to increased resource revenues.
- An increase in price of non-traded goods relative to traded goods.
- Shift of labor and capital out of non-export-commodity-traded goods toward non-tradeable, largely service, sectors.

Azerbaijan has experienced a significant real appreciation of currency during the oil boom years. Significant amount of oil revenues started to flow in 2005, which was accompanied by a surge in fiscal spending. The large inflow of FX denominated revenues prompted nominal appreciation, while large spending pushed up inflation. Both factors contributed to a 73 percent appreciation of the real effective exchange rate (REER) from 2005 to 2014.

Figure 2.15. Decomposition of REER annual growth, percent

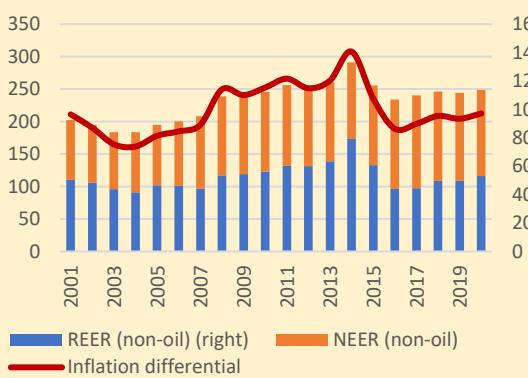
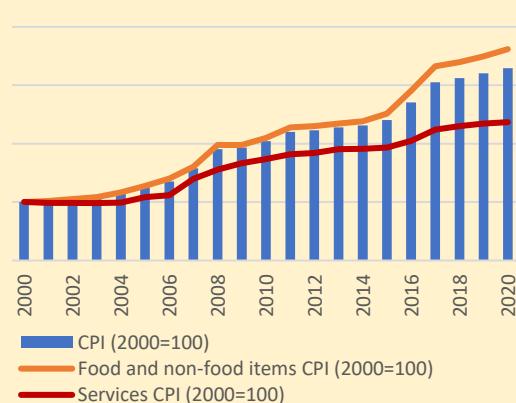


Figure 2.16. Decomposition of inflation



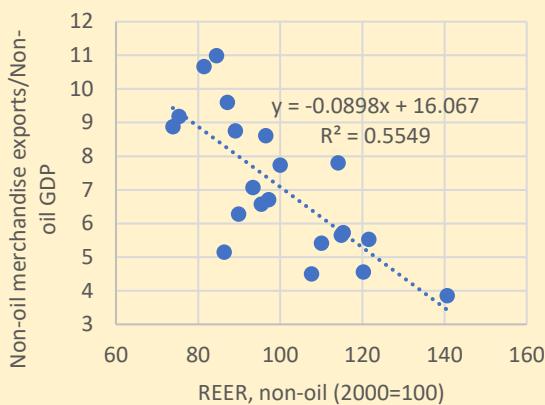
Source: Central Bank of Azerbaijan

Source: Statistics Committee

Prices of services went up substantially but lagged tradable good prices. Large REER appreciation pushed prices for services by 75 percent during 2005-2014. However, prices for tradable goods (including food and non-food prices) more than doubled during this period. Higher prices for tradable goods could be explained by high share of imported goods and a change in consumer behavior as personal incomes saw a rapid rise.

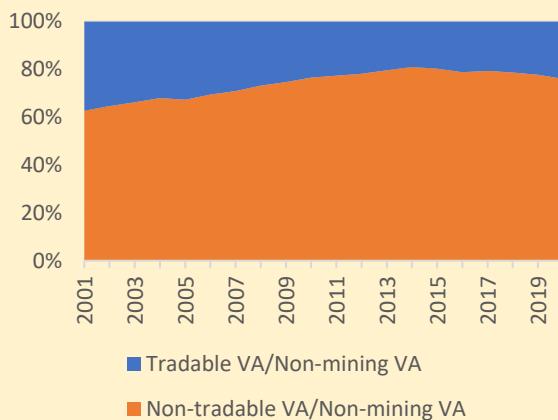
The impact of real appreciation on non-oil sector exports was mixed. During the period of REER appreciation (2005-2014), the non -oil merchandise exports increased 2.3-fold in nominal terms. At the same time, the export content of non-oil sector, measured by the ratio of non-oil merchandise exports to non-oil GDP, declined from 10.7 percent in 2005 to 3.9 percent in 2014. This suggests that the negative impact of real appreciation on outward orientation of non-oil sector was felt. However, low levels of non-oil sector exports prior to 2005 suggests that price competitiveness is not the dominant factor in terms of holding back non-oil exports and other structural factors may also be at play.

Figure 2.17. REER and non-oil exports



Source: Central Bank of Azerbaijan

Figure 2.18. Composition of Non-mining sector



Source: Statistics Committee

The structure of the economy skewed toward non-tradable activities during the period of REER appreciation. Starting from 2005, the non-tradable sector started to expand in terms of its share in non-mining value added, from 67.4 percent in 2005 to 81.1 percent in 2014. Despite this shift in economic structure, labor barely moved out of the tradable sectors. In 2005, the tradable sectors (excluding mining sector) employed 45 percent of total employed people. This fell to 43 percent in 2014, only a 2 pp decline.

A sharp drop in oil prices in late 2014 and the subsequent currency depreciation reversed some of the above-mentioned trends, but the impact has been moderate. The devaluation of manat in 2015 in response to plunge in oil prices, corrected much of the REER appreciation experienced during the oil boom. By 2016, the REER was little above its 2005 level. The REER has since appreciated slightly, driven by higher inflation and depreciation in major trading partners, and, by 2020, the level was 19 percent higher than in 2005. The depreciation of real exchange rate has supported the growth of non-oil exports and pushed the economic structure toward tradable sectors. Between 2015 and 2020, non-oil merchandise export increased by 18 percent in value, and the share of the tradable sector in non-mining value added increased by 4.2 percentage points to 23.2 percent. The impact on the labor structure was largely muted.

Assessment of financial sector policies

The financial sector's structural vulnerabilities have impeded its development and financial intermediation. Financial sector vulnerabilities came to the fore during the crisis in 2015 necessitating painful adjustments and creating legacy problems such as NPLs that continue to impact financial sector stability. The crisis has highlighted structural weaknesses such as lack of competition, a large role of the state, lack of viable business models and gaps in financial regulation. Authorities have taken steps since 2015 to address the structural weaknesses and vulnerabilities of the system, which have translated into recent growth in banking lending. However, more needs to be done in terms of strengthening financial intermediation such that the financial sector can support growth through increased lending while maintaining stability.

The financial sector expanded rapidly during the oil boom period even as gaps in financial regulation bred vulnerabilities in the system. The oil boom in 2004-2010 attracted substantial FDI and fueled public spending in the physical and social infrastructure of the country.⁶⁶ Azerbaijan also saw a decade of a rapid

⁶⁶ The 1994's Contract of the Century enabled the construction of the Baku-Tbilisi-Ceylan (BTC) crude oil pipeline which connected the Azeri-Chirag-Gunashli (ACG) oil field in the Caspian Sea to the Mediterranean Sea. The BTC was completed in 2005 and the

credit growth: between 2004 and 2014, total credit increased three-fold to 30.5 percent of GDP from 10.6 percent of GDP. Despite initial efforts to strengthen banking regulation and supervision, significant gaps remained in these frameworks. The combination of inadequate governance, weak credit underwriting and risk management systems, unreliable accounting and audit practices, limited oversight and capacity of supervisors to intervene, and regulatory forbearance, contributed to the poor quality of credit portfolios, including high levels of single exposures and related party lending.

The recession triggered by the collapse in oil prices in 2014 exposed existing vulnerabilities in the banking sector. The sector was not prepared to withstand the shocks of a deposits run and rapid dollarization after the devaluation and the subsequent rise in nonperforming loans (NPLs). As a result of the devaluation in 2015, the banking sector faced large foreign currency mismatches in their balance sheets and growing NPLs from borrowers impacted by the devaluation. The weak economic environment undermined market confidence and bank failures in early 2015 triggered a run-on banks and rapid deposit dollarization, which widened existing open currency positions. The crisis exposed severely underreported NPLs, which translated into lower loan loss provisions and inflated capital positions. Several banks faced low capital positions, which were insufficient to absorb loan losses. These shocks precipitated the start of several bank closures, with 13 banks having their licenses revoked in 2015-2016.⁶⁷ The largest bank of the sector, the state-owned *International Bank of Azerbaijan (IBA)*, went through a massive restructuring at high fiscal cost, which included the restructuring of the bank's external debt of USD 3.3 billion, a capital injection of AZN 600 million, and the transfer of AZN 14 billion to *Aqrakredit* (a state-owned non-bank credit organization that became the *de-facto* problem asset management for IBA's toxic assets). Authorities also revoked the licenses of insurance companies and several non-bank credit organizations.

The financial crisis unfolded when financial safety nets were incomplete and resolution tools inadequate. At the time, the Azerbaijan Deposit Insurance Fund (ADIF) was underfunded and lacked the needed experience to deal with a high number of bank failures. In addition, the banking resolution framework had limitations. The CBA did not have full legal powers or the full range of resolution tools to address the crisis. The main gaps in the resolution framework included the lack of an explicit mandate for systemic financial stability, gaps in the overall crisis management framework that hampered bank resolution, and no specific resolution plans for systemic banks.⁶⁸

The closure of banks and the restructuring of IBA has had a continued profound impact on financial sector development. Between 2015 and 2019, financial sector assets had decreased to 58 percent of GDP from 62 percent of GDP. The sector remains significantly smaller than its regional peers- for example, Georgia's financial sector was equivalent to 111 percent in 2019. The lengthy process of rehabilitating and recapitalizing banks has contributed to the sluggish pace of recovery. Initial signs of recovery were observed in 2018-2019, supported also by more favorable terms of trade and credit growth. In 2019, the sector consisted of 26 banks, 91 non-bank credit organizations (including 42 credit unions and *Aqrakredit*), 21 insurance companies and one reinsurer, and nine licensed brokerage firms. The sector also included unregulated pawnshops. Despite the recent development of non-bank sectors, especially insurance, banking assets represented roughly 70 percent of financial assets (94 percent excluding *Aqrakredit*).

In the years following the 2014 crisis, authorities have taken numerous measures to respond to the crisis. Immediate crisis response measures were initially delayed by the challenges in assessing the vulnerabilities of the banking sector and the magnitude of the crisis. However, significant reforms were

first oil pumped from Baku happened in 2006. Investments in the Shah Deniz gas field and the construction of the South Caucasus gas pipeline also contributed to the boom cycle.

⁶⁷ Through July 2020, 18 banks have been liquidated (World Bank, 2020).

⁶⁸ The World Bank. 2020 (internal). Azerbaijan Banking Sector History and Stress Testing. Washington, DC.

undertaken in the years following the crisis, including: (i) the approval of the Law on Full Deposit Insurance, introducing higher coverage levels and a blanket guarantee (2016);⁶⁹ (ii) amendments to the Law on Banks and Banking, introducing a new bank resolution framework and streamlining of bank liquidation procedures (2017); (iii) the creation of the Financial Stability Council (2016); (iv) the capitalization of the Azerbaijan Deposit Insurance Fund (ADIF); and (v) adoption of new regulations and prudential requirements.

These reforms have yielded some positive outcomes. Compared to 2014, the banking sector faced external shocks (reduction in oil demand and prices, resumption of armed conflict, and the COVID-19) in 2020 with stronger balance sheets. Banks gradually increased their capital positions over the last three years through capital injections from shareholders and debt swaps with creditors (in particular, international financial institutions), as well as through organic capital replenishment from profits. In February 2019, the President signed a decree introducing state measures to support borrowers affected by the 2015 devaluations and to enable the restructuring of household debt in the country, contributing to the decrease in NPLs.⁷⁰

The sector has observed a decline of NPLs and a reduction in open currency positions, while stronger prudential requirements were introduced. There have been positive efforts to address the high stock of NPLs. The NPL ratio decreased steadily in the last five years. NPL recognition improved partially because of new regulatory requirements and a limited asset review conducted by authorities, although there is a need for continued improvement. Authorities have also taken steps to address legacy asset quality issues in the retail portfolio.⁷¹ In addition, the Insolvency Law was amended in 2019, to include new provisions on debt restructuring which should be accompanied by additional efforts to increase the usage of the law.

After a sharp credit contraction following the crisis, financial intermediation has shown signs of recovery in 2018-2019, but it remains inefficient and below pre-crisis levels (Figure 2.20 and 16). Between 2015 and 2019, bank deposits to GDP decreased from 31.5 percent to 28.2 percent. The contraction in bank lending was much sharper, with credit to GDP plunging from 38.9 percent to 18.2 percent in the same period. During this period, banks have dealt with low capital levels and a legacy of high NPLs in a context of low economic growth, which have significantly hampered the sector's capacity to grow. Despite recent improvements in 2018-2019, financial intermediation remains below pre-crisis levels and has yet to catch up with the median for the Europe and Central Asia (ECA) region. Overall, the widening gap between deposits and lending suggests that there might be fundamental inefficiencies in financial intermediation and their drivers need to be further investigated (Figure 2.21).

⁶⁹ The three-year blanket guarantee was set to expire in March 2019, but it was extended three times until March 2020, December 2020, and until its final expiration in April 2021.

⁷⁰ In February 2019, the President of Azerbaijan signed a decree introducing state support measures to address household debt in the country, including: (i) a compensation mechanism for borrowers with foreign currency denominated loans of USD 10,000 or less issued prior to the 2015 devaluations; and (ii) a credit line to finance the restructuring of personal loans of up to \$10,000 that are overdue by more than 360 days, originated after January 1st, 2012.

⁷¹ In February 2019, the President signed a decree introducing state support measures to address household debt in the country.

Figure 2.19. Deposits with commercial banks to GDP, percent

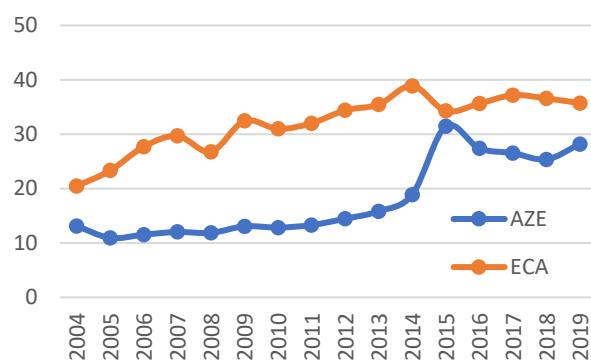
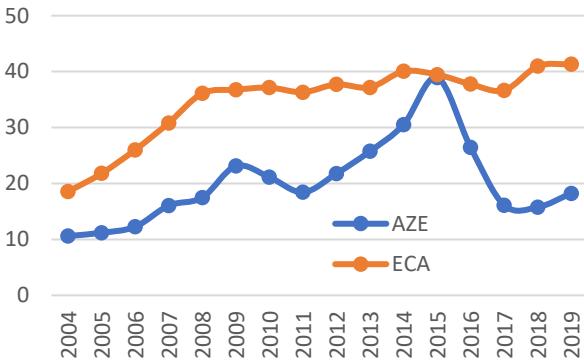
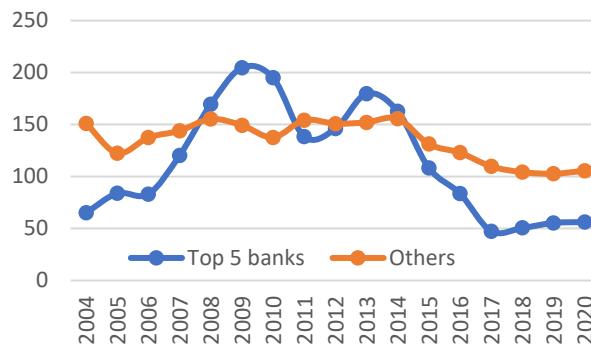


Figure 2.20. Loans from commercial banks to GDP, percent



Source: IMF Financial Access Survey 2020. Note: The median for ECA excludes high-income countries and Belarus (2004–2005). Note: the sharp increase in deposits and loans in 2015 reflect the effects of the two devaluations on banks' portfolios, combined with lower GDP growth observed that year.

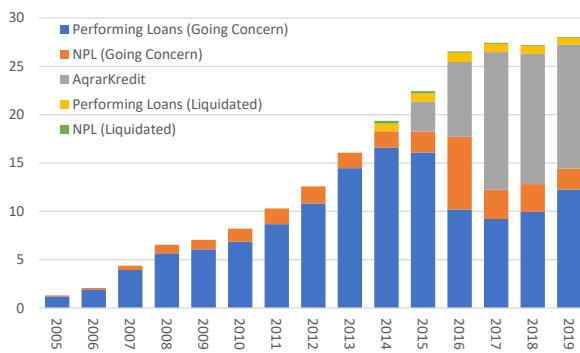
Figure 2.21. Active banks – loans to deposits, percent



Source: Central Bank of Azerbaijan. Balance sheet and income statements of active banks in 2020 were aggregated according to their ranking in total assets.

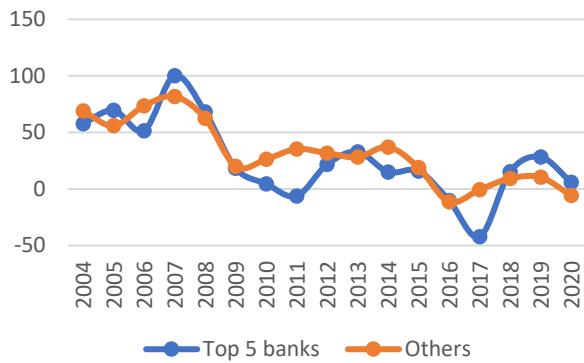
The limited growth in bank lending recently appears to be driven by retail lending (Figure 2.22 and 2.23). As of March 2021, retail lending (consumer and mortgage loans) accounted for 46.6 percent of total loans (33.7 percent in 2011). Prior to the 2014 crisis, retail lending had expanded rapidly observing a CAGR of 22 percent between 2008 and 2015 (32 percent for mortgage lending specifically). During this period, growth in retail lending was only lower than lending to the construction and real estate (33 percent) and manufacturing (26 percent), which accounted for smaller shares of total loans. Despite being severely impacted by the 2014 crisis, the segment has contributed to the credit recovery, with a CAGR of 13 percent in 2018–2020, which was higher than the overall 7 percent growth rate.

Figure 2.22. Loans in the financial system, AZN billion



Sources: World Bank estimations, using data from Azerbaijan Banks Association, Azerbaijan Deposit Insurance Fund, Aqrarkredit, Central Bank of Azerbaijan, Fitch and IMF.

Figure 2.23. Active banks - annual loan growth, percent



Source: Central Bank of Azerbaijan. Balance sheet and income statements of active banks in 2020 were aggregated according to their ranking in total assets.

At the system-level, the sector has observed initial improvements in prudential indicators, supported by stronger capital bases and the credit recovery in 2018-2019 (Table 2). The system's capital adequacy ratio increased to 25.1 percent in 2020 from 9.1 percent in 2016, supported by slightly higher profitability ratios, a decrease in NPLs and capital injections, including as a result of IBA's restructuring. After sharp decreases in 2016 and 2017, the sector's loan portfolio increased by 11 and 17 percent in 2018 and 2019, respectively. Retail lending (consumer and mortgage loans) was the main driver of lending growth in those years, supported by a more favorable economic environment with lower inflation, as well as increases in public sector wages, pensions and social transfers.

Table 2.13: Banking sector – financial soundness indicators (%)

	2016	2017	2018	2019	2020	2021*
Tier I capital adequacy ratio	8.2	13.0	16.9	18.3	21.6	NA
Capital adequacy ratio	9.1	14.4	21.1	22.2	25.1	NA
Return on assets	-6.0	3.2	0.9	1.6	1.8	1.8
Return on equity	-45.0	23.8	6.9	11.7	12.1	12.3
Net interest margin**	3.3	3.4	4.0	4.1	4.3	1.8
FX loans to total loans	47.3	40.8	38.0	34.6	29.8	28.2
FX deposits to total deposits***	70.7	71.3	64.7	60.6	55.3	53.9
Overdue to total loans	9.0	13.8	12.2	8.3	6.2	6.2

Source: Central Bank of Azerbaijan (statistical bulletins, bank reviews, supervisory data), Azerbaijan Banks Association. Compiled by the World Bank. Notes: *As of March 2021; income statement figures are annualized. **Net interest margin calculated as the division of net interest income by assets. ***It excludes deposits with financial institutions.

Efforts to improve the regulatory and supervisory frameworks were initiated following the establishment of an integrated financial sector regulator but have recently slowed down. In 2016, the Financial Market Supervisory Authority of Azerbaijan (FIMSA) and the Financial Stability Council (FSC) were established. Despite organizational challenges and limited track-record, FIMSA initiated efforts to upgrade the regulatory and supervisory frameworks for the sector, including the approval of different prudential regulations and the drafting of a FIMSA Law as well as amendments of key laws (Banking, Insurance, Payments, Deposit Insurance), in line with international standards. Nevertheless, the pace of financial sector reforms has since slowed down significantly. FIMSA was liquidated and its powers were transferred to the Central Bank of Azerbaijan (CBA) in November 2019 before these reforms were completed. In September

2020, the FSC was replaced by the Economic Council with a broader mandate to maintain macroeconomic stability and accelerate socio-economic development. These changes may be contributing to the perception of an unpredictable operating environment for financial institutions. The CBA has recently developed plans to modernize its regulatory frameworks according to the international standards, which should benefit the sector.

Significant structural challenges remain unaddressed and the banking sector continues to be vulnerable to shocks. Some of the persistent challenges include the influence of state (through direct ownership, concessionary finance programs, or policy making that affects the operating environment of banks), inadequate corporate governance practices, and improving, but not full, enforcement of prudential requirements. There is still room to improve NPL recognition to support better provisioning and capital allocation. Capital adequacy appears to be high compared to regional peers, but ratios are not comparable as Azerbaijan is not fully aligned with Basel II and III requirements. In addition, financial performance across institutions has been improving, but uneven, with some banks still reporting repeated losses and building/reversing provisions not consistently in the last years, although conditions have improved more recently. Dollarization has decreased – especially on the loan side – but remains high.

Despite recent improvements, legacy issues such as NPLs inside and outside the banking sector continue to weigh down the sector. The sector has observed a steady decrease in NPLs supported by different factors and government measures (transfer of toxic assets of the IBA, liquidation of problem banks, government program to address retail NPLs), as well as banks' write-offs and efforts to resolve NPLs. However, still improving credit underwriting and possible underreporting of asset quality continue to be significant challenges. In 2019, NPLs represented 14.9 percent of loans according to audited IFRS bank statements compared to an overdue loan ratio of 8.3 percent. If incorporating *Aqrarkredit*'s balance sheet to reflect the NPLs outside the banking sector, the NPL ratio could be as high as 54 percent of total loans. The workout of *Aqrarkredit*'s nonperforming assets – transferred from IBA after the 2014 crisis – has been low. In this context, the legacy of corporate NPLs remains unsolved. The insolvency framework remains largely unused and an out-of-court framework for debt restructuring were not implemented. Despite improvement in the reduction of official NPLs, asset quality remains a key monitoring point for the sector, as it may hamper banks' recovery and credit growth.

Moreover, the sector has yet to become more dynamic and competitive. The banking sector is concentrated. The top banks have slightly increased their share in recent years and concentration levels have recently spiked with the liquidation of four banks in 2020.⁷² Between 2017 and 2020, the share in assets held by the five largest banks increased to 72 percent from 69 percent. The share of foreign-owned bank remains small and domestic banks are linked to existing business interests.⁷³ In addition, state-owned banks still have a strong presence in the sector. The share held by these banks has reduced over time with the restructuring of IBA but remains relevant.⁷⁴ Between 2016 and 2020, the market share of state-owned banks in assets decreased to roughly 28 percent from 40 percent.⁷⁵

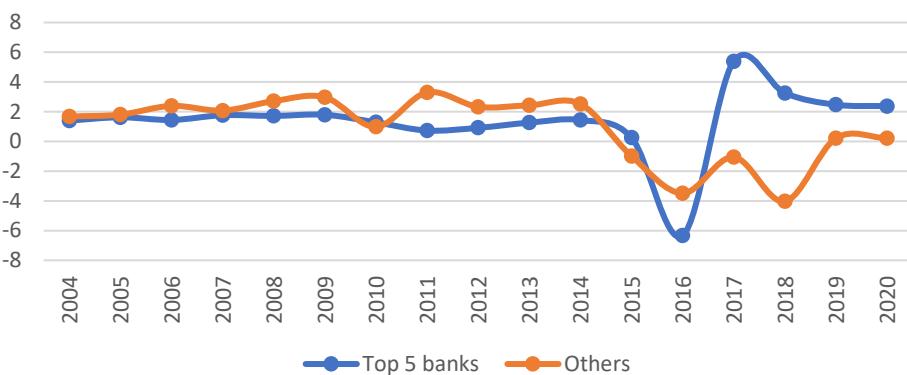
⁷² In 2020, four banks with problems that pre-dated the COVID-19 pandemic were liquidated. One non-life insurance had its license revoked and another withdrew its license.

⁷³ The ultimate beneficial ownership of some banks is opaque (IMF, 2019).

⁷⁴ The state is represented by two state-owned banks (IBA and *Azer-Turk*), *Aqrarkredit*, and one insurance company.

⁷⁵ Estimated based on ranking reports by the Azerbaijan Banks Association.

Figure 2.24. Active banks - return on assets, percent



Source: Central Bank of Azerbaijan. Balance sheet and income statements of active banks in 2020 were aggregated according to their ranking in total assets.

Banks have struggled to develop viable business growth models (Figure 2.24). Slow credit recovery, high funding costs with liquidity concentrated at largest banks, and the need to build provisions add pressure to banks' profit. Some banks have been structurally unprofitable, not reporting profits for more than three years in a row in recent years. Prior to the COVID-19 pandemic, at least seven banks had reported annual losses in 2019. In 2020, the CBA announced the liquidation of four banks, which had been identified by authorities as problem banks following the crisis in 2014. The pressure to increase customer bases and offer more competitive rates will likely weaken banks' profit margins, which might lead to further exits from the market, especially if existing operational inefficiencies and credit risk are not adequately managed.

Finally, external shocks might exacerbate existing challenges. The banking sector did not observe severe impacts following the outbreak of the COVID-19 pandemic. Although banks initially indicated elevated credit risks, with the reclassification of a significant portion of the credit portfolio (according to IFRS audited financial statements), the sector has not observed a substantial increase in NPLs. To mitigate the impact of the crisis, the CBA launched a package of measures to support the financial sector. In particular, banks were encouraged to voluntarily restructure certain types of loans and the CBA allowed banks not to deteriorate the classification of some loans of individuals and entrepreneurs affected by the pandemic which were funded by state fund programs and were restructured following the pandemic. Some banks with more vulnerable balance sheets may face difficulties under a new shock, which could slow down economic recovery. These conditions might be aggravated by additional shocks in energy prices, weak recovery or new global shocks.

Coordination of economic policies

Coordination of macroeconomic policies has been a legacy problem for macroeconomic management. The transmission of oil price and output volatility into the economy is reduced if fiscal, monetary and financial sector policies are well coordinated. This has long been recognized as a key reform area for Azerbaijan. The "Azerbaijan 2020: Vision to Future" strategy adopted in 2012 highlighted that improvement of monetary and fiscal policy coordination was one of the priorities of the macroeconomic management. In 2009, amid high revenue flows to Azerbaijan, World Bank argued for strong policy coordination in Country Economic Memorandum (World Bank, 2009) and recommended to "formalize and strengthen current high-level policy and expenditure coordination by creating an advisory body under the

President (e.g., Economic Council), and to make decisions based on a post crisis strategic framework document (five-year or ten-year) and the MTEF”.

The post 2014 recession prompted the government to institute a mechanism for policy coordination, through the establishment of a Financial Stability Board (FSB) in 2016. The FSB’s main task was to deal with the ongoing banking crisis as well as to implement macroeconomic measures to stabilize the economy amid ongoing adjustment to the “new normal” of oil prices. However, as the economy started to recover and the banking sector crisis became more localized, the mandate for short-term stabilization was gradually reduced and FSB’s role was confined to set of specific issues in the banking sector. This narrow focus, although important for objectives related to ensuring financial stability, did not allow for the as FSB to serve as a platform for discussion and coordination of policies with strategic focus such growth policies, fiscal management and structural issues facing the financial sector.

The Economic Council, with a much wider mandate, could provide an effective forum for coordinating macro policies if its broad mandate is operationalized. The Economic Council established in 2020, replaced the FSB but with a broader mandate to coordinate economic policies including both long-term growth and short-term macroeconomic stabilization policies, with membership of all key economic policy making entities (including MOE, MOF and CBA). Amid stagnating growth and emerging challenges posing risks to macroeconomic stability, the Economic Council could provide an effective forum for coordinating both short-term and long-term economic policies. However, more needs to be to operationalize the Economic Council to help it achieve its broader mandate.

Section 2. Policy recommendations for improving economic management

Improving economic management in Azerbaijan hinges on the addressing the gaps identified in the previous section. For fiscal policy, this involves building a comprehensive fiscal framework to de-couple spending from oil price movements and ensure spending linkages to long-run strategic priorities. For monetary policy, this involves moving away from the exchange rate as a nominal anchor, which has limited the authorities’ ability to smoothen business cycles in the wake of external and domestic shocks. For the financial sector, this involves addressing legacy issues, and strengthening financial regulation to build credibility and boost financial intermediation. Finally, Azerbaijan urgently needs to build institutional and working mechanisms for policy coordination, to enhance the combined effectiveness of fiscal, monetary and financial sector policies.

The key recommendations, together with a proposed sequencing, reflecting a qualitative assessment of the ease of implementation and urgency, are summarized in Table 3 and discussed in detail in the rest of the section.

Table 2.14. Policy actions to improve economic management in Azerbaijan

Policy actions	Time horizon		
	short	medium	long
1. More effective coordination across fiscal, monetary and financial sector policies			
2. Developing a comprehensive fiscal framework to support macroeconomic stability.			
2.1 Introduction of a fiscal rule that anchors the short- to medium-term fiscal policy			
2.2. Adopting long-term fiscal sustainability benchmarks			
3. Using the budget to better achieve strategic priorities			
3.1. Move toward a Medium-term expenditure framework (MTEF)			
3.2. Improve non-oil and gas revenue mobilization			
4. Move toward an inflation targeting regime in the long-term			
4.1. Enhance the effectiveness of monetary policy in terms of policy setting, exchange rate policies and enhanced transparency			
4.2. Resolve the structural weaknesses of the financial sector to increase monetary policy transmission			
5. Enhancing financial sector resilience and building capacity for growth			
5.1. Resolving legacy problems in the financial sector			
5.2. Upgrading legal, regulatory, and supervisory frameworks			

Policy priority 1. More effective coordination across fiscal, monetary and financial sector policies

Strengthening economic resilience in response to the developments both inside and outside Azerbaijan involves putting in place a sound macroeconomic framework. A sound macroeconomic framework includes three policy frameworks that are sustainable, credible, and mutually consistent and would do much to support the long-run economic growth:

A comprehensive fiscal policy framework that is underpinned by sustainable levels of government spending, improved revenue mobilization, principles governing withdrawals from SOFAZ, and promotion of growth enhancing spending;

A monetary framework that addresses the immediate concerns about inflation but does not strain the capacity or credibility of the Central Bank, and

A financial sector framework to restore the country's banks to sound financial health and get finance flowing to the real economy.

Success of the macroeconomic framework critically depends on managing the interlinkages among its components through effective policy coordination. Three components of macroeconomic policy—fiscal, monetary, and financial—are distinct but interdependent. For example, a monetary framework for successful inflation targeting requires both financial depth and the existence of a liquid market for government debt. In deciding what can be implemented immediately and what should wait, it is important to identify the

elements that are common. Effective management of these interlinkages hinges on instituting a working mechanism or a forum for policy coordination among key agencies involved in the implementation of the macroeconomic framework.

The Economic Council's mandate needs to be operationalized to be more effective as a policy coordination forum. The Economic Council was established in 2020 with a broad mandate to coordinate economic policies including both long-term growth and short-term macroeconomic stabilization policies, with membership of all key economic policy making entities (including MOE, MOF and CBA). To be more effective, Azerbaijan could consider operationalizing the broad mandate of the Council by (i) narrowing down objectives, possibly to focus on stabilization policies; (ii) specifying the activities to achieve this objective, which could include the setting of the inflation target, approval of the medium-term fiscal framework, agreements on escape clauses of the fiscal rule, and, in general, facilitating the data and information flow among main agencies; and (iii) strengthening the operation of the Council by establishing a permanent secretariat with dedicated staff, defining a meeting schedule during a year and providing regular briefs and communication of the key findings following the Council meetings.

In order to strengthen the Council's capacity to coordinate the design of economic policies and to carry out economic research and analyses, the Council could establish sub-committees with independent experts (economists and financial experts) that are given the responsibility to prepare and provide such analysis and advice to the Council. These sub-committees could also include technical staff from relevant ministries to ensure access to data is secured and that work is coordinated with other duties of the government, such as any existing medium-term fiscal, budgetary and expenditure frameworks. The analysis could either be presented to the Council only as basis for internal discussions or also be disseminated to the general public to improve fiscal transparency

Policy priority 2. Developing a comprehensive fiscal framework to support macroeconomic stability

International experience broadly suggests two options of instituting a comprehensive fiscal framework in resource rich countries:

- **Option A: Setting up a fiscal rule anchoring short-to medium term fiscal policy and adopting long-term fiscal sustainability benchmark. If this option is selected, the following key policy recommendations could be considered.**

Policy recommendation 2.1. Implement the fiscal rule that anchors the short- to medium-term fiscal policy [short-term]

A fiscal rule needs to be simple and intuitive to comprehend for decision-makers and the general public. A set of technical rules that are complex and where the motivation for the rule is difficult to envisage, is easier to deviate from or suspend. Such rule makes it also more difficult to monitor fiscal policy compliance. Multi-target rules do not necessarily improve the fiscal framework. Complexity and technicality tend to result in opacity. Opacity may result in manipulation which may undermine the credibility of the fiscal framework. Thus, there is a trade-off between simplicity and technical precision that carefully needs to be considered. It is important to bear in mind that fiscal rules do not substitute good policies, and that the main purpose is to prevent governments from misusing fiscal discretion.

Azerbaijan adopted a new rule at the end of 2021 and implementing this rule could help in delinking spending from the oil revenue volatility. At the end of 2021, Azerbaijan's Government adopted a new fiscal rule which targets non-oil primary fiscal balance as a percent of non-oil GDP in the

medium-term⁷⁶. Medium term targets for non-oil primary fiscal balance to non-oil GDP are set by the President, with the current target set at 20 percent of deficit for 2025. Non-oil primary fiscal balance is calculated at the consolidated budget level which ensures broader coverage of spending. The rule is also complemented by the operational target for the sustainable level of SOFAZ's assets.

In addition, over time, Azerbaijan could consider targeting a *cyclically adjusted* non-oil budget balance will help in ensuring counter-cyclicality, provided some key pre-conditions are in place. Targeting a cyclically adjusted non-oil balance will allow for counter-cyclical fiscal adjustments, which could help strengthen the credibility of the fiscal rule and reduce risks of breaching the rule during an economic downturn. However, some key pre-conditions must be in place, such as: i) enhanced estimation capacity for calculating cyclical expenditures and revenues, which, in turn, requires good estimation of output gap and elasticity of revenue and expenditure with respect to the output gap; ii) the assumptions behind calculation of cyclical adjustments must be made clear in the budget and other fiscal documentation, and potentially reviewed by the Economic Council.

The fiscal rule needs to be integrated to the medium-term expenditure framework (MTEF) allowing some flexibility in responding to shocks. A fiscal rule that sets rigid annual targets substantially reduces the policy flexibility to respond to shocks and could incentivize creative accounting. To avoid this, fiscal rule needs be integrated to MTEF, suggesting that compliance with the fiscal policy commitments is over the medium term. Fiscal rule should include procedures for a timely return to targets when the deviation from the medium-term path has occurred, to bring back to sustainability.

Proper escape clauses should be included. The escape clauses should include clear rules and procedures for deviations from the fiscal rules, and when and how to move back to the trajectory that the fiscal rule describes. Escape clauses should only be used when the economy is subject to severe shocks. It should be considered if the National Assembly should make the decision on triggering the escape clause.

Strengthening the enforcement and transparency are important to strengthen the credibility of the fiscal rule. It is important to ensure that decision-makers are committed to abide by the fiscal rule framework. In this regard, Azerbaijan could consider a fiscal responsibility law where the fiscal rule framework is legislated and to anchor the fiscal rule within the medium-term fiscal framework that is presented to the National Assembly as part of the annual budget process. In addition, fiscal rule legislation should also include a detailed methodological explanation for the main indicators used in the fiscal rule calculation. In this context, upgrading the budget classification in accordance with GFS standards will further help in strengthening the credibility of the fiscal accounts.

Policy recommendation 2.2. Adopting long-term fiscal sustainability benchmarks [medium-term]

Fiscal policies should be anchored to achieving long-run sustainability and inter-generational equity and guided by benchmarks in this regard. There should be clear long-term benchmarks, such as targeted debt-to-GDP ratios and government's net fiscal position (debt stock minus the SWF balance) for long-term fiscal sustainability and the government could report regularly on progress against achieving these benchmarks. This could help anchor the fiscal rule in long-term targets and can be used as a means to manage expectations about spending, in case of short-term deviations from the fiscal rule (for example, in response to unforeseen events). Government has already made a step toward establishing a fiscal

⁷⁶ Government's official estimate for non-oil fiscal deficit as a percent of non-oil GDP is 27.5 percent in 2021.

sustainability benchmark following the adoption of the new fiscal rule by adopting targets to stabilize public debt-to-GDP ratio at around 20 percent in the medium-term.

A comprehensive fiscal policy framework should also comprise appropriate economic indicators that measure the fiscal stance, i.e., whether fiscal policy has an expansionary, neutral or contractionary impact on the economy, and the long-term sustainability of the fiscal policy. This requires availability of statistical data, long-term economic models and the capacity to translate the forecasts into short- and medium-term fiscal policy.

- **Option B. Setting up a non-numerical fiscal framework**

Designing a numerical fiscal rule that meets various requirements is not straightforward. An alternative strategy is to design a broader fiscal framework without a specific numerical fiscal rule, but which includes a framework for how medium-term fiscal policies should be designed and adopted. This could encompass a fiscal responsibility law or a charter for fiscal responsibility, independent oversight mechanism(s) and clear procedures for how medium-term fiscal policies are designed and adopted. Proper escape clauses and procedures for how to move back to the target after an external shock could also be part of the framework.

Such a fiscal framework needs to be closely linked to any existing public financial management legislations (PFM Laws) and medium-term fiscal, budgetary and expenditure frameworks. In many countries, the PFM Law regulates the content of fiscal responsibility laws or charter for fiscal responsibility (Box 3). It is common to include long-term revenue forecasts, medium-term fiscal, budgetary and expenditure frameworks and debt sustainability analysis into this framework.

The purpose of a fiscal responsibility law or charter for fiscal responsibility is to improve fiscal discipline by adopting a monitorable fiscal framework. The framework should include overall fiscal objectives and strategies and rules and procedures for how the framework shall be implemented, abided by and monitored. The aim of adopting the law/charter is to ensure more predictability and credibility to the implementation of the government's fiscal policies.

The framework may include a numerical fiscal target for the medium-term with a mechanism for regular assessment and update, or it could include only procedural rules for how fiscal policies shall be adopted. Contrary to a numerical fiscal rule, procedural rules describe how the multi-year fiscal policies should be designed, who should participate in the decision-making process and how transparency and accountability are assured. A fiscal responsibility law may include the decision-making process for fiscal policies and may help strengthening the budgetary process. A well-designed fiscal responsibility law may improve fiscal management, provided that it is introduced together with strong political commitment to pursue fiscal prudence and to comply with the requirements in the law.

A credible fiscal framework, whether it is based on numerical or procedural rules, cannot be changed frequently. The government needs to prove that it will comply with it also during recessions or when external shocks occur to gain trust and confidence to the framework. This requires that the framework is designed in a way that ensures sufficient flexibility to whether external shocks without suspending the framework.

Policy priority 3. Using the budget to better achieve strategic priorities

Policy recommendation 3.1. Move toward a Medium-term expenditure framework (MTEF) [short to medium-term]

The goal of introducing a MTEF is to ensure that (i) spending is allocated to priorities; (ii) effectiveness of spending is enhanced and (iii) that spending is anchored with a medium-term framework that reflects credible macroeconomic assumptions, is sustainable and is aligned with fiscal rules and benchmarks. To achieve this objective, ongoing MTEF reform needs to be accelerated.

This involves several actions, including:

- (i) Developing a credible top-down resource envelope, which requires high quality macroeconomic forecasts, that, in turn, requires coordinated work among key economic agencies on development of macroeconomic forecasts.
- (ii) Ensuring that the framework is well informed by an analysis of policy priorities and emerging risks, which, in turn, requires strengthened capacity at key economic agencies for policy analysis, fiscal risk analysis, fiscal and debt sustainability analysis etc.
- (iii) Reviewing public spending composition, to ensure a rebalancing to support diversification of the underlying asset base of the country, for example, toward strengthening human capital in the medium term.
- (iv) Reviewing the key bottlenecks hindering effectiveness of spending, in key sectors, which could be informed by spending reviews or public expenditure reviews. This can also include a review of how PFM systems, such as public procurement and public investment management, can be modernized to ensure cost effectiveness and value for money.
- (v) Increasing capacity for strategic planning, costing and so on, at selected ministries to enable a smooth transition to a new budgeting system.

Box 2.4. Examples of fiscal responsibility frameworks

Uganda's Charter for Fiscal Responsibility

The Public Financial Management Act (2015) sets out the legal framework for economic management to ensure macroeconomic stability in Uganda. The Act provides that measurable medium term fiscal policy objectives be defined in a Charter for Fiscal Responsibility, and that these objectives be reported on in annual and semi-annual reports. The Charter for Fiscal Responsibility is required to be submitted to Parliament not later than three months after the first sitting of Parliament following a general election.

The Charter shall include a statement of fiscal objectives, a description of methodology for assessing fiscal performance and potential deviations, an overview of sources of data used and a description of how the Charter is consistent with the principles of fiscal policy. The Charter may also include numerical targets for fiscal policy.

Ghana's Fiscal Strategy Document

According to the Public Financial Management (PFM) Act in Ghana, the government shall submit an annual Fiscal Strategy Document to Parliament. The document shall be based on the fiscal objectives embedded in the PFM Act and specify the Medium-Term Fiscal Framework of the Government with measurable fiscal objectives and targets to guide short and medium-term fiscal planning for the ensuing three to five years ahead.

The document shall also include an updated and comprehensive medium-term macroeconomic and fiscal forecast covering current developments and multiple year projections, the Medium-Term Expenditure Framework of the Government with a resource envelope and overall expenditure ceiling and a statement of policy measures the Government shall implement in order to stay within the confines of the fiscal policy objectives. The government may also propose specific numerical fiscal rules, but this is not a requirement. The Fiscal Strategy Document shall also contain a fiscal risk statement and the Medium-Term Debt Management Strategy including debt sustainability analysis and sensitivity analysis of macro-fiscal risk scenarios.

Finally, the document shall contain a progress report on implementation of the previous year's Fiscal Strategy Document. This should include an update on the macroeconomic forecasts and fiscal outturns, the implementation of the fiscal policy and progress against the fiscal principles and rules, an explanation of deviations from the fiscal principles, rules and targets for the short and medium-term objectives, and an explanation of the measures taken to respond to deviations.

Policy recommendations 3.2 Improve non-oil and gas revenue mobilization [short to medium term]

Improving non-oil and gas revenue mobilization is a critical element of the comprehensive fiscal framework, which will enable Azerbaijan to reduce the dependence of the budget on oil and gas revenues, strengthen fiscal sustainability and enhance fiscal space. At the same time, raising non-oil revenues should not undermine growth of the non-oil sector. Going forward, tax policy and administration reforms need to be accelerated and it could include policy actions such as:

- (i) Monitoring of tax incentives and exemptions, evaluation of their efficiency, and preparation of a tax expenditures budget to reduce revenues foregone. A cost-benefit analysis of the tax incentives needs to be conducted on a regular basis to further inform policy makers on the need to continue, eliminate or modify these tax incentives.
- (ii) Reforming the tax regime for small businesses. Simplified regime is largely implemented to increase compliance among small business, but it could also pose challenges, such as presenting opportunities for larger businesses to “hide” behind the veneer of small firms, discourage record-keeping etc. If such schemes are not successful, they fail to facilitate business growth, could lead to revenue losses, and may not facilitate migration into the standard tax regime. Therefore, tax regime for the small enterprises needs to be narrowly defined and should stimulate the migration to a standard regime.
- (iii) Improvement of tax administration by increasing the quality of the taxpayer services, streamlining the business processes, aligning ICT systems with business processes, strengthening the risk-based audit system are important actions to reduce the costs of compliance and tax administration.

Policy priority 4. Move toward an inflation targeting regime in the long-term

To anchor inflationary expectations, Azerbaijan could look to adopt inflation as a nominal anchor in the longer term. The short to medium actions could be geared toward facilitating the transition to such an inflation-targeting regime. This, in turn, requires a change in monetary policy setting and more effective implementation through a gradual change in the management of the exchange rate, focus on de-dollarization and enhanced transparency (Policy Recommendation 4.1), and addressing structural challenges in the financial sector to improve monetary policy transmission (Policy Recommendation 4.2).

Policy recommendation 4.1. Enhance the effectiveness of monetary policy in terms of policy setting, exchange rate policies and enhanced transparency [short term]

Effectively formulating an inflation target and specifying the policy tools to achieve the target is a critical first step toward inflation targeting. CBA has already made progress in this regard by announcing the inflation target range, but more needs to be done in terms clarifying the CBA’s policy actions for managing inflation within the target range. Establishing the hierarchy between exchange rate and inflation targets is critically important, to reduce the uncertainty when there is a tension between two objectives.

Progressive movement to more exchange rate flexibility is essential for effective monetary policy implementation and supporting adjustments to external and internal shocks. While there might be rationale in the short term to maintain a “de facto” exchange rate peg due to the pass-through on inflation and unhedged balance sheets in the financial and private sectors, continuing with it for an extended period is likely to inhibit the development of a credible monetary framework that facilitates de-dollarization and anchors expectations. For example, the high vulnerability of the “de-facto” exchange rate peg to oil price movements and fiscal policy impulses, lowers its credibility which further inhibits the move to manat as a savings currency. It should be noted that clear communication is key to ensure that a progressive move to exchange rate flexibility and subsequent volatility in exchange rates does not lead to market volatility, thus undermining the price stability objective.

De-dollarization is another critical policy direction that can improve monetary policy effectiveness. Deposit dollarization rate remains high at 56 percent in 2020. This undermines the effectiveness of the monetary policy and substantially reduces the ability of the CBA to manage liquidity conditions to achieve its targets. In the past few years several steps were taken to discourage savings in foreign currency by differentiating the maximum interest rates insured by the Deposit Insurance Fund by currencies. Efforts to tackle dollarization issue systematically is critical for the modernization of the monetary policy going forward.

Clear communication is key to increasing the effectiveness of the monetary policy framework. The benefits of communication transparency (Bernanke et al., 1999) include: (i) enhancing the independence of the central bank; (ii) directly enhancing its macroeconomic performance by eliminating “noise”; and (iii) indirectly enhancing macroeconomic performance by building up the credibility of monetary policy. Transparent communication satisfies the following three characteristics: clarity, openness and timeliness. In other words, the central bank does not withhold any meaningful information from the public and informs all agents as quickly as possible while making its communications easy to understand.

Policy recommendation 4.2. Resolve the structural weaknesses of the financial sector to increase monetary policy transmission [medium-term]

Structural weaknesses of the financial system (the challenges and the possible policy actions are discussed in depth in the financial sector policy note) needs to be addressed to strengthen monetary policy transmission. This will require developing the money market, developing financial instruments to hedge currency risks, strengthened capacity for liquidity forecasting etc. This will require establishing a yield curve over the long-term, strengthening transparency regarding the financial health of banks participating in the money market and improving the market infrastructure to reduce transaction costs.

Stability is the foundation for the sustainable development of the financial sector. Measures to ensure stability help the sector build necessary buffers to protect consumers from shocks and shield the economy against crisis that might reverse the country’ development trends. At the same time, it is important not to lose sight of goals of financial deepening and diversification. There are important synergies between financial stability and inclusion, as a broader use of financial services can help financial institutions expand their deposit bases and growth opportunities, as well as diversify risks. Yet there also are trade-offs between these two policy goals that should be mitigated by strong regulatory and supervisory frameworks, robust risk management, and close monitoring of market conditions. In this context, the nexus between financial stability and inclusion is crucial for financial sector development, which should be addressed by high-level policy making, coordinated efforts, and an adequate pace of reforms (Cihak et all., 2016). Discussions about this nexus are particularly important as authorities evaluate the sequencing of the withdrawal of support measures put in place in response to the COVID-19 crisis.

Policy Priority 5: Enhancing financial sector resilience and building capacity for growth

Policy recommendation 5.1. Resolving legacy problems in the financial sector [short-term]

Building a stronger and more resilient financial sector is the prerequisite for building market confidence, reducing dollarization, and mobilizing new savings and investments. Authorities should continue to pro-actively address weaknesses in the banking sector, especially by ensuring the timely identification of NPLs and provisioning for credit losses, which may be exacerbated by the continuous disruptions from the COVID-19 pandemic and new external shocks. Supervisors should ensure proper enforcement of regulatory requirements and closely monitor banks’ credit underwriting standards and practices. Banks with high NPLs should be required to increase internal management resources, develop

action plans with ambitious targets, and introduce tools to significantly reduce NPLs or write-off impaired loans.

Resolving NPLs will be critical for recovery and development. Resolution of NPLs is paramount for economic growth as it promotes the efficient reallocation of resources by enabling the exit of non-viable firms and the reorganization of viable ones. It allows banks to offload non-earning assets and borrowers to regain creditworthiness and maintain operations. In Azerbaijan, still high NPLs have limited banks' financial capacity to supply credit and dragged the development of the financial sector. The development of a comprehensive strategy and definition of an approach for NPL resolution should be an immediate priority for authorities, especially in anticipation of a potential increase of NPLs due to external shocks. The strategy should explore different approaches to problem assets management. The strategy should aim at strengthening regulation and supervision, risk management and workout practices within banks, corporate restructuring, and legal and regulatory reforms to remove impediments to restructuring (Cerruti and Ruth, 2016).

Authorities should pursue reforms to enhance debt resolution and insolvency frameworks. Efforts to address issues related to debt enforcement, debtor rehabilitation, out-of-court restructuring, and pre-insolvency procedures should be promoted. Different options for voluntary out-of-court restructuring and the development of tools to support distressed debt markets, including NPL sales and use of asset management solutions, should be explored.

Policy recommendation 5.2: Upgrading legal, regulatory, and supervisory frameworks [medium-term]

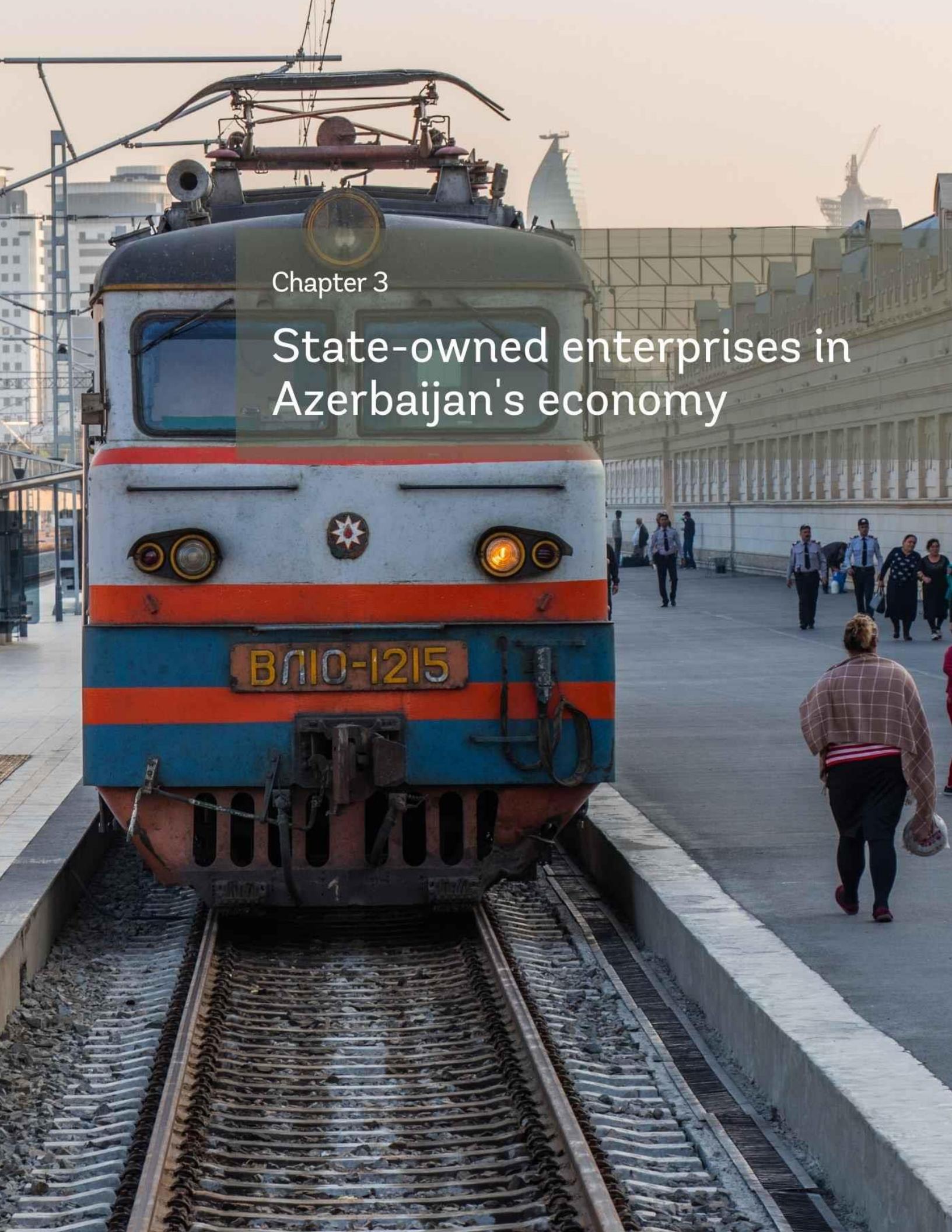
Strengthening the legal, regulatory, and supervisory frameworks will provide the foundations for the sustainable development of the financial sector. The CBA should continue unfinished reform efforts to upgrade the sector's legal and regulatory frameworks, in line with international standards and practices. Authorities should build on previous assessments and efforts to draft amendments to main legislations (Law on Banks, Insurance, Non-Bank Credit Organizations, Payments, Deposit Insurance).⁷⁷ It will be critical to enhance CBA's institutional and supervisory capacity, as well as enforcement powers to increase financial sector compliance with prudential requirements and ensure sound business and governance practices. Additional efforts to improve corporate governance and quality of accounting and reporting should be pursued.

Building supervisory capacity and tools will be essential for enforcing sound market practices. There should be substantial efforts to further strengthen supervisory capacity at the CBA and move away from a compliance-based approach. Authorities should continue to develop steps toward risk-based supervision. Banking supervision could be further strengthened by the improvements in the supervisory cycle, continuous improvements of the early warning system and stress-testing, further enhancements of onsite and off-site supervision, improvements in the reporting framework, and IT upgrades. Further enhancements in the CBA's Credit Registry can be pursued so it becomes a good tool for the regulator to build stronger supervisory functions.

The bank resolution framework needs additional improvement both in terms of regulations and practices. The country lacks a comprehensive framework for bank recovery and resolution, including recovery planning and enforcement of corrective measures. Streamlining the bank resolution and liquidation framework by clarifying the roles of the CBA and ADIF, eliminating inefficiencies and interventions in decision making, and establishing requirements for all banks to develop recovery and resolution plans are recommended.

⁷⁷ For example, the 2017 IADI Deposit Insurance Assessment, 2018 Insurance ICP Assessment, the 2015 Financial Sector Assessment Program. Technical assistance has also been provided by the World Bank Financial Sector Modernization Project 2.

Continued efforts to strengthen the deposit insurance framework are recommended. In 2021, amendments were introduced to discontinue the full deposit insurance scheme. Further amendments to the Deposit Insurance Law should be discussed. The existing law had significant shortcomings that needed to be addressed. As such, the law should be amended in compliance with international standards and guidelines to reflect all ADIF's functions, improve governance, and enable efficient depositors' compensation. The deposit insurance scheme's financial capacity should be increased through the revision of capital, funding, and financial management. Authorities should enhance ADIF's institutional capacity, governance, and operational readiness.



Chapter 3

State-owned enterprises in Azerbaijan's economy

This chapter provides an overview of the role of SOEs in the economy (Section 1); analyses the fiscal and financial performance of the largest SOEs (Section 2); assesses the impact of SOEs on market competition (Section 3); provides an overview of ongoing SOE reforms (Section 4) and ends with policy recommendations to improve SOE efficiency, performance, fiscal relations with the budget and impact on competition (Section 5).

Section 1: SOE role in the economy

This section highlights the significant presence of SOEs in the economy, with SOEs occupying a significant share even in sectors that are typically dominated by the private sector, including manufacturing, construction, and telecoms. SOCAR and its subsidiaries dominate the SOE portfolio, accounting for close to three-quarters of assets and almost 95 percent of revenues from all SOEs combined in 2019. SOEs are also a major employer, although the share of employment has been declining recently. Finally, SOEs play a critical role in public investment, implementing nearly half the projects financed through the Public Investment Program (PIP).

It should be noted that the analysis of Azerbaijan's SOEs is limited by the available official data, including on their aggregate financial information and contribution to the economy, which remains incomplete and requires significant refinement. Despite Azerbaijan's improvement in the World Bank's Statistical Capacity Indicators⁷⁸, granular data on SOEs' performance, revenues as share of GDP, tax and dividends contribution, and sectoral information, are missing. The lack of data is recognized in the recent reports on SOE governance in Azerbaijan, including the World Bank's *Republic of Azerbaijan: Corporate Governance and Ownership of State-Owned Enterprises (2017)* and International Monetary Fund's *Country Report No. 19/301 (2019)*.

SOEs have a large presence in the economy...

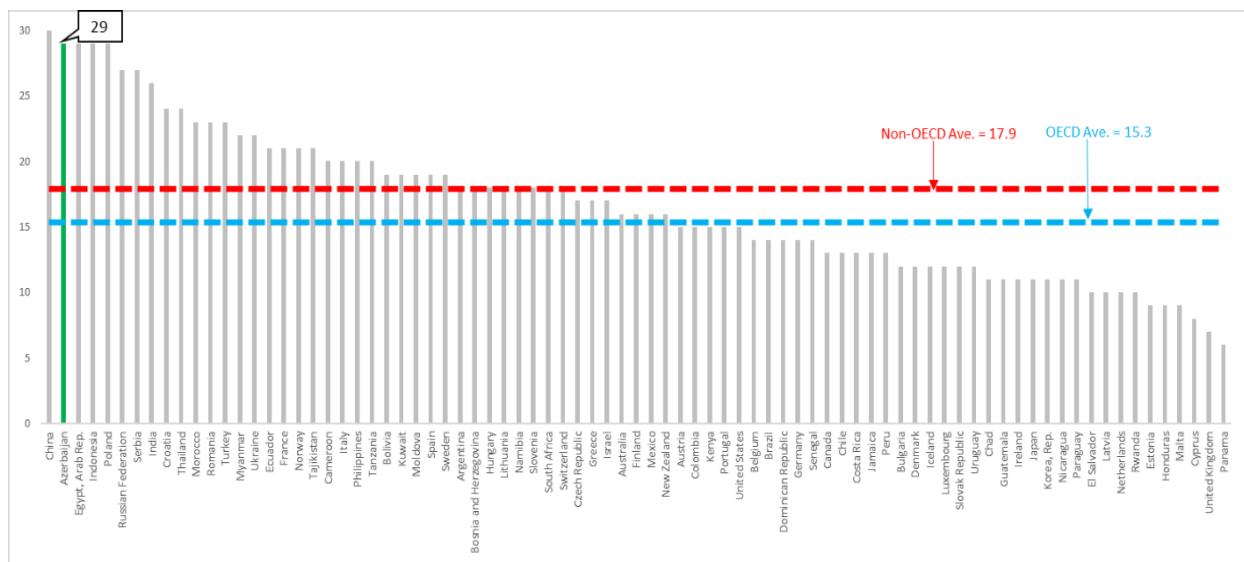
Relative to international averages, Azerbaijan features an unusually large number of SOEs. There are an estimated 5,000 SOEs operating in Azerbaijan. Using the 2013 Product Market Regulation (PMR) methodology, the data suggests that, of the 30 broad sectors covered by the PMR, Azerbaijani SOEs operate in at least 29 sectors or subsectors, compared to an average of 15 in OECD countries, 18 in non-OECD countries, and 15 in other upper middle-income countries (UMICs). This is a direct reflection of the high degree of state involvement in commercial activities in the country (Figure 3.1).

SOEs retain a large presence in sectors that, in developed economies, would typically be dominated by private participation, such as general manufacturing, construction, telecom, and agriculture. Azerbaijan SOEs are present in oil and gas, mining, railways and maritime transport – sectors that have a significant state presence in many countries. Some enterprises also provide key public services, such as electricity and water. However, there are SOEs in sectors, such as manufacturing and agriculture, where the economic rationale for state participation is not clear. An analysis of 4,700⁷⁹ Azerbaijan's SOEs by sector, as compared to the SOE portfolios of benchmark countries (Germany, Lithuania, Norway, and Sweden), suggests that the Government of Azerbaijan (GoA) keeps a larger number of SOEs in sectors that are primarily private in more developed markets (Figure 3.2). In addition to agriculture and general manufacturing, these sectors also include construction, accommodation, real estate activities, and recreational activities. The implications of the large state presence in these sectors are discussed in further detail in Section 3.

⁷⁸ Azerbaijan improved its statistical capacity indicator from 70 (2010) to 80 (2020), which is above ECA's average indicator of 76.4 (2020): <https://datatopics.worldbank.org/statisticalcapacity/SCIdashboard.aspx>

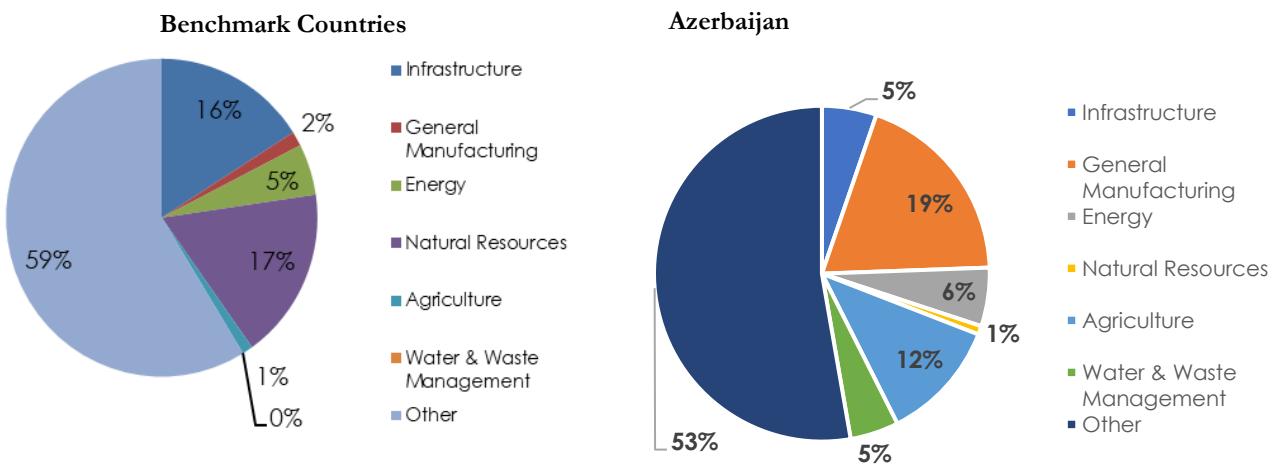
⁷⁹ Azerbaijan information on the number of SOEs is based on the State Statistical Committee data, filtered to exclude the entities operating in public administration, defense, social security, education, health, and social activities (2019).

Figure 3.1. Number of sectors with at least one SOE



Source: WBG Competition Policy Team analysis based on desk research following the OECD PMR template and OECD–WBG PMR data from 2013 methodology as of August 2020.

Figure 3.2. Number of SOEs per sector, percentage



Source: World Bank Corporate Governance of State-Owned Enterprises in Europe and Central Asia Survey (December 2020). Benchmark countries include Germany, Lithuania, Norway, and Sweden. Azerbaijan: State Statistical Committee data (2019).

SOEs occupy a large share of the economy and may be crowding out private sector activity. In 2019, 14 out of 22 of the largest SOEs under the management of Azerbaijan Investment Holding (AIH) generated a total revenue of AZN 89.3 billion (USD 52.5 billion) or 109 percent of GDP, and their total assets reached AZN 87 billion (USD 51.1 billion) or 106 percent of the country's GDP. SOEs benefit from state support, in the form of not only subsidies and public financing, but also competitive advantages such as preferential access to factors of production and better access to credit, and hence may be crowding out private sector growth and deterring the entry of new competitors (as highlighted in Section 3) (World Bank, 2022; U.S. Department of State, 2019).

...with a few large SOEs, particularly in oil and gas, dominating in terms of assets and revenues

Azerbaijan's SOE portfolio is highly concentrated in a few large enterprises, which have significant fiscal and quasi-fiscal impact on the country's economy. The operations of these SOEs have significant fiscal and quasi-fiscal implications, as they typically receive resources from the budget in the form of subsidies and offer goods and services at below market prices. For example, subsidies and capital transfers provided to SOEs vary but they make up a significant share of government total expenditures, reaching 4 percent of GDP in 2019. A highly concentrated SOE portfolio is not unusual in countries with strong SOE presence. The below analysis focuses on 14 out of 22⁸⁰ of the largest SOEs, excluding financial sector entities, under the management of AIH for which financial data were publicly available for the period 2015-2019.⁸¹ In 2019, these 14 SOEs generated a total revenue of AZN 89.3 billion (USD 52.5 billion) or 109 percent of GDP, and their total assets reached AZN 87 billion (USD 51.1 billion) or 106 percent of the country's GDP. In 2019, seven SOEs generated profits totaling AZN 994 million (USD 585 million): SOCAR, Azerbaijan Irrigation and Water Operations, Azerbaijan Caspian Shipping Company, AzinTelekom, AzerGold, Azerkosmos, AzerPost and Baku Telephone Communications. Six out of the largest fourteen SOEs were loss-making, according to their financial statements, delivering AZN 1.16 billion (USD 0.68 billion) in losses (details are disclosed in Annex 1).

The SOE portfolio is dominated by the oil and gas sector (Figures 3.3-5). The oil and gas sector accounts for the majority of SOEs' revenues, with AZN 83.8 billion AZN (USD 49.3 billion) or 94 percent of the SOE portfolio's revenue (Figure 3.5). SOCAR and its subsidiaries are the largest SOE in terms of total assets, accounting for 75 percent of total SOE assets (at AZN 65.4 billion or USD 38.5 billion) (Figure 3.3 and 3.4). After oil and gas, the energy sector (electricity and gas, specifically) is the second largest by total assets (AZN 6 billion or USD 3.5 billion) and by revenues (AZN 2.3 billion of USD 1.5 billion). Railways and maritime transport are the third biggest segment of the SOE portfolio, with around AZN 6 billion (USD 3.5 billion) representing 7 percent of SOEs' total assets. Other sectors represent just around 1 percent or less of total portfolio revenues.

⁸⁰ The total number of SOEs and their subsidiaries under the management of Azerbaijan Investment Holding is 258, which represent 5 percent of all SOEs in the country by number.

⁸¹ No data are available for Azerbaijan Airlines, Azeristiliktechizat, Tamiz Shahar, Baku International Sea Trade Port and Baku Bus, therefore, these SOEs are not covered by the analysis.

Figure 3.3. Total assets concentration at 14 largest SOEs

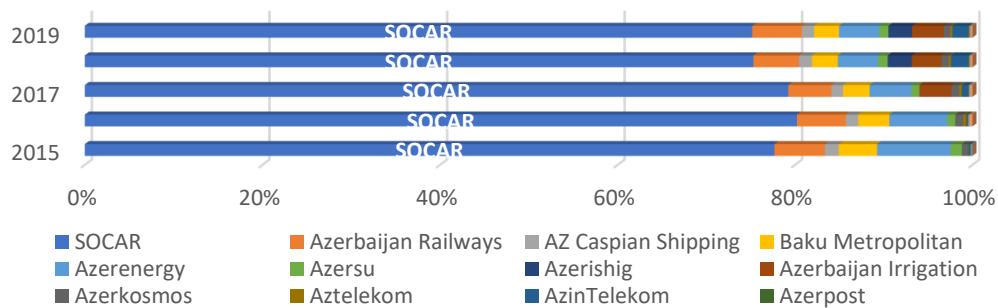


Figure 3.4. SOE portfolio by assets, 2019

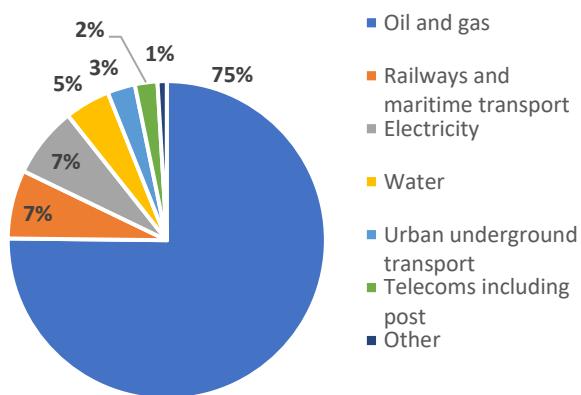
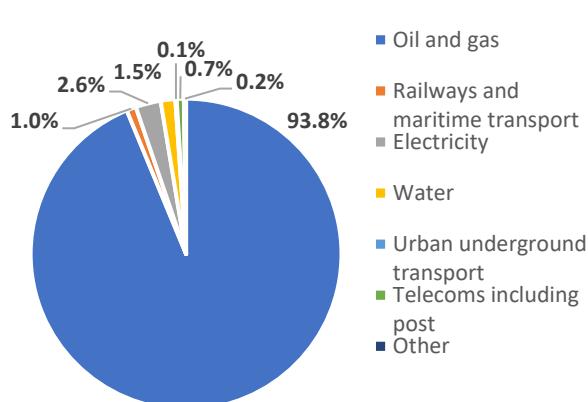


Figure 3.5. SOE portfolio by revenues, 2019



Source: SOE Financial Statements for 2019, World Bank Staff calculations

SOEs are also an important employer...

SOEs remain important employers and are responsible for a sizable share of total employment in Azerbaijan, although this share has decreased gradually. Total employment by the State, including SOEs and the rest of the public sector, has been declining over the past decades - dropping from 30 percent in 2005 to 23 percent in 2019-2020.⁸² At the same time, the number of people employed by the private sector has grown nearly 1.3-fold during the same period. Economic reforms, specifically, privatization of enterprises, re-organization of the public sector, and growth in the private sector, drove the significant changes in employment shares of state and non-state sectors over the past years. By 2020, the share of SOE employment had declined to 7.5 percent or 367 thousand employees⁸³ – on par with more developed economies in the region.

... implementing the major share of the public investment program

Public investment projects are largely financed by the state budget resources, though other sources are also significant (Figure 3.6). The majority of public investment projects are implemented through the Public Investment Program (PIP), covering a time period of 4 years. The PIP is funded largely from state budget revenues, approved as a line in the budget law for each year (60 percent of total financing in 2015-

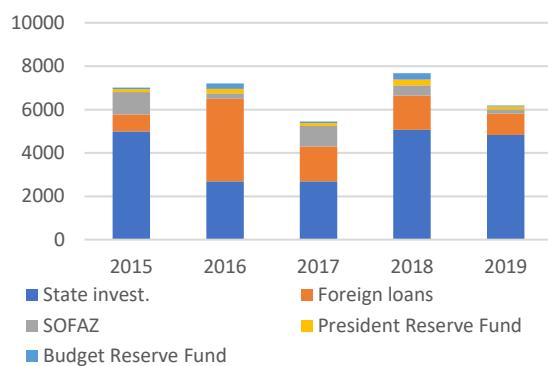
⁸²The State Statistical Committee of the Republic of Azerbaijan, Labor Market Statistical Yearbook, 2021.

⁸³Azerbaijan information is based on the State Statistical Committee data. SOEs data was filtered to exclude the entities operating in public administration, defense, social security, education, health, and social activities (2019).

2019), and from foreign loans/international financial institution (IFI)-financed projects (26 percent of total financing in 2015-2019). Another source of public investments is the contingency fund of the President, which is allocated to projects by the dedicated Presidential decrees.

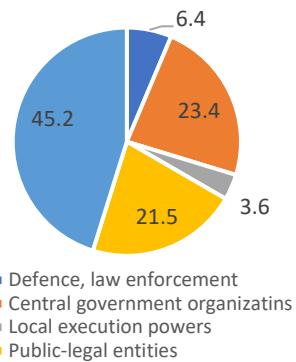
SOEs are the main recipients of public investment financing (Figure 3.7). SOEs received the largest share of funding under the PIP in 2019, executing 45 percent of PIP projects in 2019. Central funding is provided to SOEs for the investment projects that are considered necessary for public policy objectives, and where SOEs are well placed to implement such investments. Among SOEs, the main recipients of government financing and implementing parties of public investments during the period analyzed (2015-19) were SOCAR, Azerenergy, Azersu, Azerishig, Azerbaijan Railways, and Baku Metropolitan. SOEs also finance public investments outside of the PIP, with SOFAZ financing public investment projects in irrigation, transport, and social sectors.

Figure 3.6. Source of financing for public investments



Source: Chamber of Accounts

Figure 3.7. Main agencies executing public investment projects, 2019, percent of total funding



Source: Chamber of Accounts

Public investments implemented via SOEs undergo the same prioritization and approval process as other public investments in the country:

- (i) The Ministry of Economy collects and assesses all proposals for public investments received from the central and local authorities, budget organizations, Cabinet of Ministers of the Nakhchivan Autonomous Republic, SOEs, municipalities and other organizations;
- (ii) The Ministry of Finance calculates the amount for PIP for the budget year and next three years;
- (iii) The Ministry of Economy prioritizes and approves projects within the confirmed funding envelop; and
- (iv) The Cabinet of Ministers approves the final selection.

The majority of public investments implemented by SOEs are targeted toward main infrastructure sectors, such as energy, water, and transport. Monitoring and evaluation of SOEs' public investment projects implementation is carried out regularly by tracking the works' progress, use of allocated funds and their correspondence to the approved project documentation. Results of the monitoring are shared with the Ministry of Economy, the Ministry of Finance, and the Chamber of Accounts. All these agencies may also initiate their own monitoring and evaluation procedures, and representatives of relevant government agencies and independent experts may be involved in the project monitoring process, if needed.

Government-funded public investments flowing via SOEs are capitalized and added to their equity. According to a Cabinet of the Ministers' Decree⁸⁴, government investments allocated to SOEs for the purposes of building infrastructure and improving their operations should be included in the share capital of these entities. Most SOEs have made it their accounting policy that such government investments are initially recorded in a dedicated "government investments" line in the equity until the underlying investments projects are complete, and SOEs are able to register related increases in capital with relevant government agencies. Once completed, SOEs classify such investment projects as additional paid-in-capital and make necessary changes in their charter documents. This treatment appears to be in line with the International Financial Reporting Standards (IFRS), as confirmed by several SOEs' audited financial statements over the period analyzed (2015-2019).

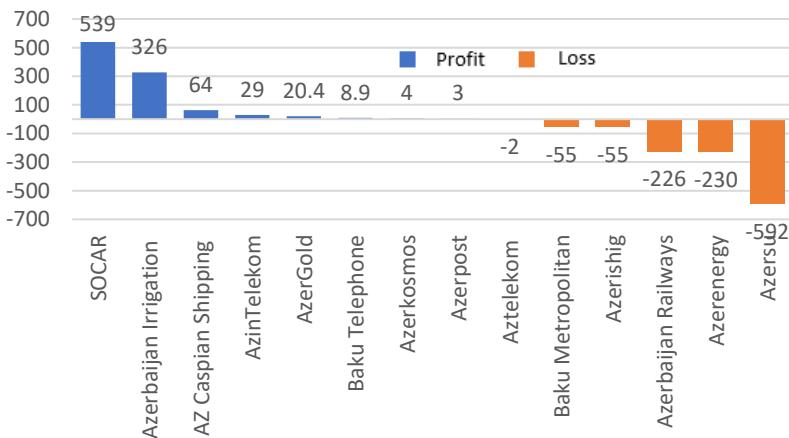
Section 2: Financial and Fiscal Performance of SOEs

This section highlights the growing concerns regarding SOE performance, particularly rising losses in the non-oil and gas sector. The SOE portfolio is now loss-making overall, with a significant variance across individual SOEs. SOEs receive considerable subsidies from the budget and only marginally contribute to budget revenues through taxes and dividends. Fiscal risks from SOEs are rising. However, the assessment of SOEs' fiscal impact is limited by the availability of data on fiscal inflows and outflows and on guarantees provided.

SOE performance has been mixed, with rising losses particularly in non-oil and gas sectors

Azerbaijan SOEs' performance has been loss making on a total portfolio basis but is characterized by a significant degree of variance among individual SOEs. The SOE sectors with positive profitability are oil and gas, telecom, and gold, whereas energy, water, and railway sectors consistently generate net losses (Figure 3.8 and Figure 3.9, Table 3.1). In 2019, SOCAR generated AZN 539 million (USD 317 million) in net profits, while four telecoms, including the national post operator, earned AZN 39 million (USD 23 million) in net profits. Azergold has also operated profitably since 2017, although its profits (AZN 20 million in 2019) are relatively low in comparison to other SOEs.

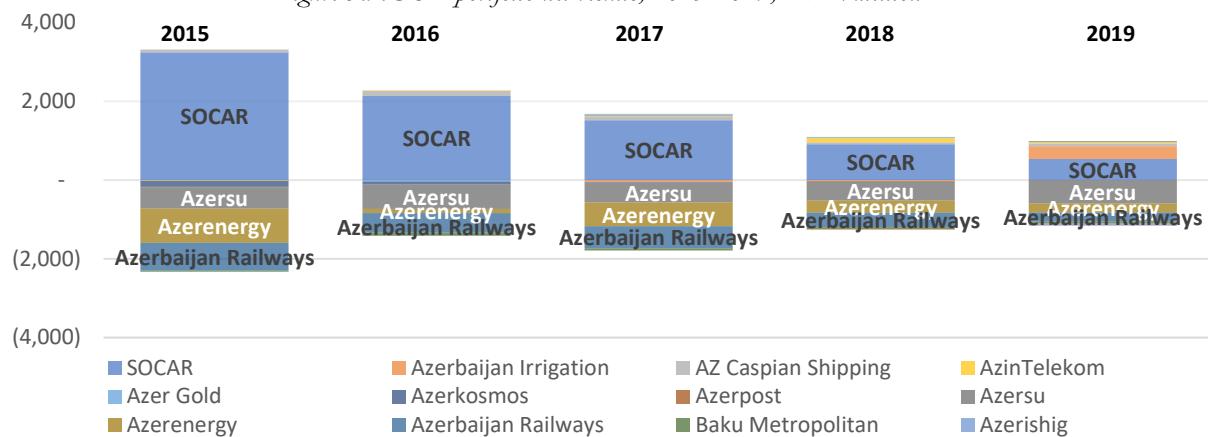
Figure 3.8. SOE portfolio net results in 2019, AZN million



Source: SOE Financial Statements for 2019, World Bank staff calculations

⁸⁴ Cabinet of the Ministers' Decree No. 183 of the of the Republic of Azerbaijan dated October 22, 2010.

Figure 3.9. SOE portfolio net results, 2015-2019, AZN million



Source: SOE Financial Statements for 2019, World Bank staff calculations

Table 3.1. Return on assets (ROA) ratios for largest 14 SOEs during 2015-2019

	2015	2016	2017	2018	2019
SOCAR	10.1%	4.6%	2.7%	1.5%	0.8%
Azer Gold	No Info	Negative	17.7%	6.9%	10.9%
Baku Telephone	Negative	9.7%	9.4%	3.9%	7.3%
AZ Caspian Shipping	8.4%	12.7%	10.4%	4.7%	5.3%
AzinTelekom	Negative	25.0%	2.9%	9.7%	1.9%
Azerbaijan Irrigation	No Info	No Info	Negative	Negative	11.1%
Azerpost	Negative	5.3%	2.8%	Negative	1.8%
Azerkosmos	Negative	Negative	Negative	Negative	0.6%
Aztelekom	No Info	4.5%	2.8%	Negative	Negative
Azerishig	No Info	No Info	No Info	0.6%	Negative
Azerenergy	Negative	Negative	Negative	Negative	Negative
Azersu	Negative	Negative	Negative	Negative	Negative
Azerbaijan Railways	Negative	Negative	Negative	Negative	Negative
Baku Metropolitan	Negative	Negative	Negative	Negative	Negative

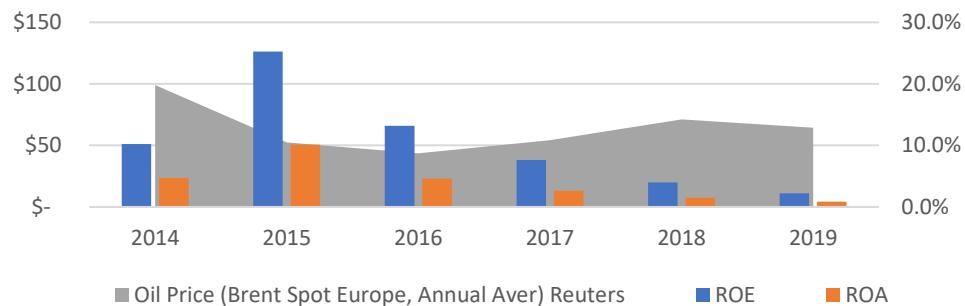
Source: SOE Financial Statements for 2019, World Bank staff calculations

SOCAR remains the most profitable SOE and the biggest profit-generating enterprise for the GoA, but profitability ratios are declining with oil prices (Figure 3.10). Taxes paid by SOCAR accounted for about 10 percent of fiscal revenues in 2019.⁸⁵ Amid the oil price decrease starting in late 2014, SOCAR's export volumes and net profits also went down from their peak of AZN 3.2 billion (USD 3.16 billion) in 2015 to AZN 539 million (USD 317 million) in 2019. Despite the gradual recovery in oil prices from 2017 onwards, SOCAR's profitability ratios seem to be struggling (Figure 3.11) due to several factors, including increase in operating expenses, growing depreciation charges, increases in expected credit loss provisions and fluctuating government grants and transfers. Despite these factors, SOCAR continues contributing to Azerbaijan's development via taxes, public investment projects, and profits that are re-invested into the company's development. In 2021, SOCAR has successfully improved its credit rating, with Fitch affirming

⁸⁵ Fitch Rating Update, May 19, 2021

its ‘BB+/stable’ grade (speculative), linked to Azerbaijan sovereign ratings of ‘BB+/Stable’.⁸⁶

Figure 3.10. SOCAR profitability ratios and oil price, 2014-2019



Source: Thompson Reuters Europe Brent Spot Price FOB, SOCAR Financial Statements, WB Staff calculations

The biggest loss-making SOEs in the country are Azersu, Azerenergy, and Azerbaijan Railways, together posting AZN 1 billion (USD 616 million) losses in 2019. These SOEs deliver critical public services, thus the need to heavily invest in necessary infrastructure, which is partially funded by the GoA via subsidies and capital transfers reaching 4 percent of the country’s GDP. Despite such massive budget support, these three SOEs reported significant and stable losses for the entire period analyzed (Table 3.2). Azerbaijan Railways and Azerenergy were able to reduce their losses slightly toward 2018-2019, but still present significant risks for the state budget that, if they materialize, could require additional capital injections or bailouts.

Table 3.2. Top three loss-making SOEs during 2015-2019 (AZN, mln)

	2015	2016	2017	2018	2019
Azersu (Water)	(541)	(613)	(508)	(480)	(592)
Azerbaijan Railway	(706)	(497)	(555)	(371)	(226)
Azerenergy	(870)	(109)	(603)	(307)	(230)

Source: SOE Financial Statements, World Bank staff calculations

Azersu, the water extraction and distribution company, generated significant losses—ranging between AZN 0.5 billion and AZN 0.9 billion—for the entire period analyzed. Its 2019 loss reached AZN 592 million (USD 348 million) and completely absorbed SOCAR profits on a portfolio basis (Figure 3.9 and 3.10). The reasons for Azersu’s loss-making position are multi-faceted and rooted in: (i) sector regulation that establishes tariffs below the company’s water and sewerage service costs; (ii) high distribution losses, especially in the Greater Baku area; (iii) active public investment into new water pipelines and sewerage systems across the country, albeit largely funded by subsidies from the budget; and (iv) high level of debt. For instance, Azersu’s debt to equity ratio stood at 1.8 in 2019 and 3.2 in 2018 (negative in 2014-2017 due to negative equity), much higher than the ratio of less than or equal to 1.0 suggested by prudent practice. This SOE’s deteriorating position points to the need for government attention, to allow it to properly cost its public service obligations (PSOs) and balance public investments, in order to gradually transition to financial sustainability and improve its efficiency.

Azersu, Azerenergy, Azerbaijan Railways, and other SOEs that implement socially important functions should be allowed to perform without compromising their operational efficiency. The OECD Guidelines on Corporate Governance of State-Owned Enterprises recommend that such special

⁸⁶ <https://www.fitchratings.com/research/corporate-finance/fitch-revises-outlook-on-azerbaijan-socar-to-stable-affirms-at-bb-19-05-2021>

responsibilities and obligations be clearly mandated and legislated. In addition to formalizing these PSO mandates in legislation, other potentially important actions may include: (i) clearly defining and calculating PSO costs; (ii) financing these costs through a specified budget transfer to SOEs so that the cost is explicit both in the budget and in the SOEs' financial statements; and (iii) monitoring of the PSO implementation and performance to enhance transparency and ensure their relevance and effectiveness, holding the SOEs accountable for their implementation.

Strengthening sectoral regulators is key for improving performance and paving the way toward SOEs' financial sustainability. The separation of the state's role as the owner, policy maker and regulator are at the foundation of the SOE corporate governance guidelines introduced by the OECD and the World Bank (OECD, 2015; World Bank, 2014, 2019). These frameworks recommend that sector regulations must be separate from the agencies/ministries exercising the shareholders' powers. Only when the ownership functions are separate from the regulatory functions can the conflicts of interest between policy objectives and SOE incentives be minimized. This separation of duties can lay the groundwork for SOEs' financial sustainability and improved operational efficiency, and ultimately, foster healthy competition in the market via better regulation.

SOEs receive significant subsidies from the budget but only marginally contribute to revenues through taxes and dividends...

SOEs and the state budget have several direct and indirect links in most countries. Direct links include transfers from SOEs to the state budget, including via taxes and dividends; and from the budget to SOEs, such as through public investments or compensations for PSOs or social functions. There could also be more indirect links, such as through below-the-line operations (loans or equity) to inject funds into SOEs; guarantees to SOEs' borrowings from third parties or market placements, which can be sizeable even in a favorable economic environment; and subsidies for below-market price tariffs, which, while initially absorbed by the SOE, can become a liability to the budget in the medium term.

In Azerbaijan, inflows from SOEs are largely in the form of taxes, such as payroll, property, excise and VAT, rather than corporate taxes. In 2019, corporate profit tax accrued by SOEs reached AZN 597 million (USD 351 million), while actual tax revenue received by the State budget from SOEs amounted to AZN 522 million (USD 307 million), which represented approximately 0.6 percent of the country's GDP. In addition to corporate profit tax, SOEs also contribute funds via other types of taxes, including payroll, property, excise, and VAT. Together, the revenue from these taxes reached AZN 2.5 billion (USD 1.5 billion) in 2019 (Figure 3.12). In addition to tax payments, SOEs transfer a portion of their after-tax profit to the budget as dividends. The amounts of dividends paid by SOEs to the State varied during the analyzed period and ranged from a high of AZN 278 million in 2017 to a low of AZN 50 million in 2019, fluctuating between 0.1-0.4 percent of GDP during 2015-2019. SOCAR does not pay regular dividends to the State but is periodically required to complete cash transfers to the budget or finance construction and other projects administered by the GoA. Such contributions, which are additional to regular tax contributions, were around 1 percent of GDP in 2017-2019 (Figure 3.12).

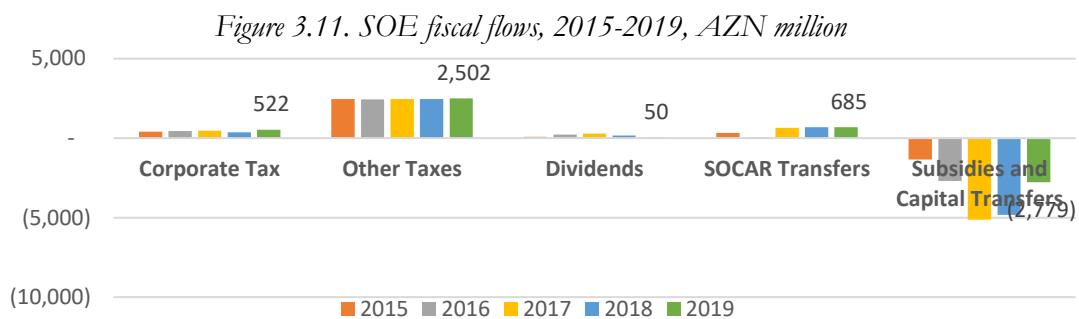
The central government provides significant transfers to SOEs, but a detailed breakdown by SOE of transfers was not available for analysis. Transfers to SOEs include direct transfers (mostly subsidies) and capital transfers, comprising recapitalizations, equity injections and public investments. There is no detailed breakdown available on all SOEs receiving such budget transfers, but it is clear that, with the exception of SOCAR, the majority of SOEs are net recipients of budget funds.

The total volume of budget subsidies and capital injections provided to the portfolio of SOEs reached AZN 2.78 billion (USD 1.63 billion), or close to 12 percent of total budget spending in 2019.⁸⁷

⁸⁷ WB staff calculations, World Bank, 2022.

Energy, water, and railway sectors are heavily dependent on government support, receiving subsidies and capital injections of AZN 525 million (USD 309 million), AZN 699 million (USD 411 million) and AZN 887 million (USD 522 million), respectively, accounting for 76 percent of total subsidies to SOEs in 2019 (Table 3.3).⁸⁸ The capital injections provided to SOEs, in most cases, are tied to specific public investment projects funded by the state budget and capitalized by respective SOEs.

The gap between budget inflows in the form of taxes, dividends and SOCAR transfers, and budget outflows in the form of subsidies and capital injections has been widening (Figure 3.11). In 2015, inflows exceeded outflows by AZE 1.9 billion, with subsidies and capital at less than half the level of taxes and dividends, even excluding SOCAR transfers. By 2018, there was a significant reversal, with SOEs acting as a net drain on the budget, with outflows exceeding inflows by AZN 1.1 billion, driven by a nearly four-fold increase in subsidies and capital transfers as compared to 2015. In 2019, subsidies and capital investments had declined, as compared to 2018, but the overall gap between inflows and outflows (AZN 980 million) was still significantly worse than in 2015.



Source: State Tax Service, SOE Financial Statements, World Bank Staff calculations

Table 3.3. SOEs net impact on the state budget in 2019, AZN million

	Subsidies and Capital	Income Tax Paid	SOCAR Transfer to the Budget	Net Inflow/ (Outflow)
Azerbaijan Railways	(887)	-	-	(887)
Azersu	(699)	-	-	(699)
Azerenergy	(422)	3	-	(419)
Azerishig	(103)	-	-	(103)
Baku Metropolitan	(100)	-	-	(100)
Azerkosmos	(48)	-	-	(48)
AZ Caspian Shipping	(44)	14	-	(30)
AzerGold	(10)	-	-	(10)
Aztelekom	(12)	3	-	(9)
Azerpost	-	-	-	-
Azerbaijan Irrigation	-	-	-	-
Baku Telephone	(1)	5	-	4
Azin Telekom	-	44	-	44
SOCAR	(453)	598	685	830

Source: SOE Financial Statements for 2019, WB Staff calculations

⁸⁸ Subsidies and capital injections are taken from the SOEs' financial statements.

...and fiscal risks arising from SOEs may be significant

Fiscal risks are factors that may cause fiscal outcomes to deviate from expectations or forecasts, with fiscal risks from SOEs being both explicit and implicit in nature. Fiscal risks emanating from SOEs can be organized in the following broad categories (Table 3.4):

- **Explicit liabilities** are those for which the State has contractual obligations. These can be further divided into:
 - i. direct (e.g., subsidies)
 - ii. contingent, which depend on the occurrence of an event, such as an SOE defaulting on a loan guaranteed by the state
- **Implicit liabilities** are those to which there is a moral or political obligation for the Government to respond, even in the absence of a contractual obligation, to meet public expectations. Such implicit liabilities can also be divided into:
 - i. direct (e.g., the Government assuming the cost of social security payments for SOE staff)
 - ii. contingent (e.g., bankruptcy, expenses related to the sale/privatization of an SOE, etc.)

Table 3.4. Fiscal risk matrix (2019 data)

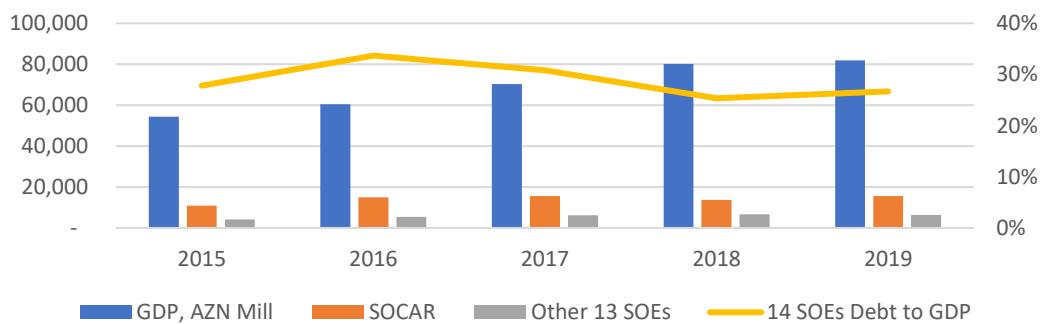
Operating Statement		Balance Sheet		
	Revenues	Subsidies/Public Investments	Direct Liabilities	Contingent Liabilities
Direct	<ul style="list-style-type: none"> - Income Tax payments (0.6% of GDP) - Other Taxes (3.1% of GDP) - Dividends (0.1% of GDP) - SOCAR Transfers (0.8% of GDP) 	Subsidies and Capital Transfers (3.4% of GDP)		
Explicit Obligations				State guarantees to non-financial SOEs on their external debt (data not available for analysis)
Implicit Obligations			Capital investment required to improve or maintain quality of public services	<ul style="list-style-type: none"> - Rebuilding the regained territories - Ongoing SOE losses in critical sectors that need recapitalization (energy, water, transport) - Natural disasters (e.g., effect of earthquakes in affected areas) - SOE liabilities clean-ups (e.g., in cases of restructuring/privatization) - Unexpected SOE liabilities associated with adverse shocks (e.g., COVID-19 pandemic, fluctuating oil price)

Source: World Bank staff consolidation

The GoA faces material fiscal obligations, both explicit and implicit, stemming from SOEs debt levels and their poor financial performance (Table 4). Direct fiscal risks emanating from Azerbaijan SOEs are relatively small because explicit budget subsidies to SOEs are roughly matched by total taxes and dividends paid by SOEs, hence their net fiscal impact on the budget is neutral. On the other hand, SOEs' debt obligations are significant. Often, the state guarantees certain SOE loans to obtain better credit terms. However, by guaranteeing such debt, the government assumes explicit fiscal risks should SOEs incur financial issues, which could increase future expenditure obligations.

SOE debt has fluctuated between 25 to 35 percent of GDP between 2015 and 2019 (Figure 3.12).⁸⁹ In 2019, the stock of debt (interest-bearing loans and bonds) of Azerbaijan's top 14 SOEs stood at AZN 21.9 billion (USD 12.9 billion), an amount equal to 26.8 percent of GDP (7.7 percent of GDP, if excluding SOCAR's debt). Most of this debt is guaranteed by the State, with total sovereign guarantees reaching AZN 24 billion (USD 14 billion) in 2019, or nearly all of the SOE portfolio's debt obligations. The SOEs' aggregate leverage level of 59 percent of debt to equity (aggregated for all SOEs analyzed) remains manageable, with prudent practices suggesting this ratio not exceeding 1.0.

Figure 3.12. SOE portfolio debt to GDP, AZN, million



Source: SOE Financial Statements for 2019, World Bank staff calculations

Further debt increases require a more rigorous monitoring of SOEs' financial health by the GoA in order to calculate and anticipate the risk of default. Debt is mainly concentrated in the largest, most strategic SOEs, such as SOCAR, Azerbaijan Railways, Azerenergy, and Azerishig, with these four SOEs alone holding over 90% of all SOE debt in the country (Figure 3.13). While SOEs mainly borrow to invest, thus increasing wealth, such debt levels represent a source of contingent liabilities for the State budget where their debt is explicitly or implicitly State-guaranteed.

⁸⁹ Debt numbers are based on individual financial statements of the SOEs. World Bank had not obtained information as to which portion of this debt is guaranteed by the State, and which only relates to SOEs credit risk.

Figure 3.13. SOE portfolio debt breakdown, 2019, AZN million



Source: SOE Financial Statements for 2019, World Bank staff calculations

Additionally, the budget may be facing other implicit risks related to SOEs' liabilities and operating losses, as the government is often inclined to cover such losses to keep SOEs running. Losses may be covered by direct budget transfers or additional capital injections to the loss-making SOEs. Additionally, the existing need for more capital investments to ensure that SOEs operating in critical public services sectors can adequately meet citizens' demand may further increase implicit government liabilities.

Further implicit contingent liabilities associated with SOEs may pose additional risks for the government. There are risks of implicit contingent liabilities related to unplanned SOE obligations caused by (i) natural disasters, such as earthquakes or droughts; (ii) SOE debt clean ups, e.g., in cases of restructuring, privatizations or PPP agreements; or (iii) major adverse shocks, like the COVID-19 pandemic, or fluctuating oil prices. If such liabilities materialize and SOEs are unable to honor them, the government assume the risk of funding them from the budget, especially if they concern strategic SOEs.

Section 3: Markets, Competition and SOEs

The state dominates the economy as its biggest employer and investor. The government accounted for about 45 percent of total investment and half of all formal employment in 2019 (Asian Development Bank, 2020a). Public investment has been the main growth driver in the non-hydrocarbon economy since 2010, and, at 10 percent of GDP in 2019, was significantly higher than regional peers (as discussed in Chapter 2). SOEs play a major role in several key industries, while some private enterprises either directly receive support via state budget contracts or indirectly benefit from undue influence on government policies and programs. This existing equilibrium may be contributing to an uneven playing field on which private companies must operate (as discussed in Chapter 4).

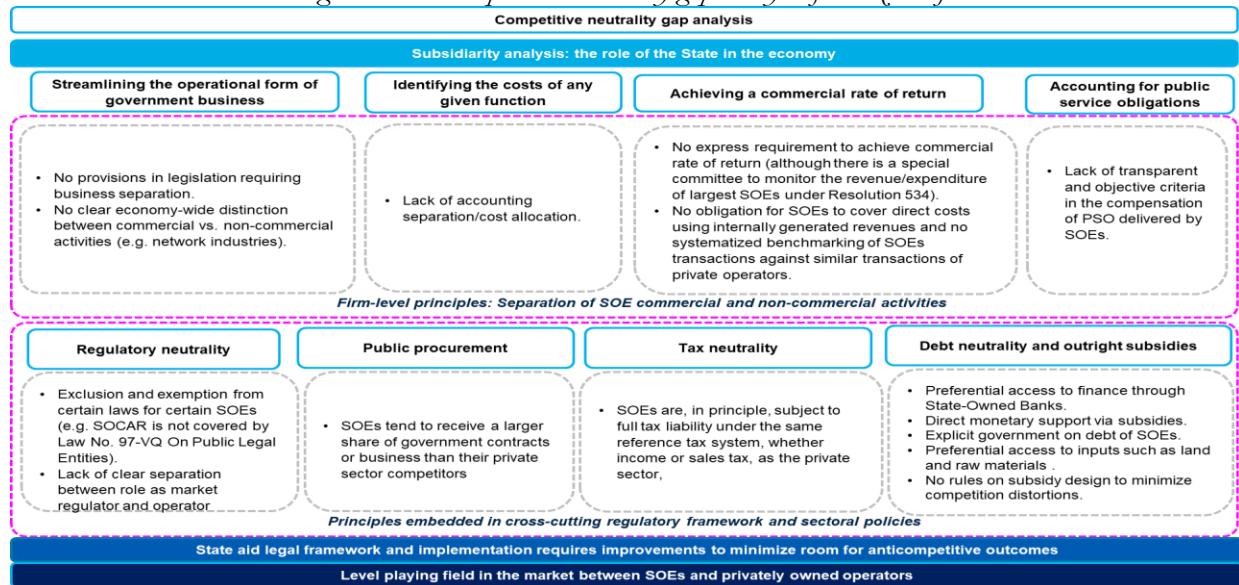
In Azerbaijan, SOEs operate in several sectors beyond natural monopolies typically associated with dominant SOE presence. For example, among the 14 largest SOEs analyzed in this chapter, the telecom sector is considered competitive in other countries, thus, is typically operated by private providers. Beyond the top 14 enterprises analyzed, smaller SOEs operate in such competitive sectors as agriculture and general manufacturing, which includes construction, accommodation, real estate activities, and recreational activities (see Annex 3 and Annex 4). Moreover, while not covered by this CEM, there are a number of state-owned

financial institutions in Azerbaijan, including commercial banks, leasing, and insurance companies. In a competitive sector such as the financial industry, greater private sector involvement may be desirable.

SOEs may be benefiting from certain competitive advantages that are unavailable to private firms. SOEs have in the past used their influence to deter entry of new competitors (World Bank, 2022; U.S. Department of State, 2019). Many SOEs receive budgetary support from the Government and some, at times, have enjoyed a privileged status in government procurement contracts. In addition, SOEs have certain competitive advantages that are unavailable to private firms, such as preferential access to factors of production and better access to credit. Such advantages generate resource misallocation, which may limit private firm entry and expansion, thereby impeding private sector development.

There are salient differences in the rules that apply to SOEs and those that apply to private enterprises. The principle of Competitive Neutrality demands that the same set of rules are applied to all enterprises, be they public or private, domestic or foreign. Implementing this principle is important if the GoA is to reduce the risk of crowding out private investment or imposing heavy burdens on the state budget. A competitive neutrality gap analysis for Azerbaijan (Figure 3.14) suggests that the state lacks several policies to ensure such neutrality. In particular: (i) there is no legal requirement or systematic separation between the commercial and non-commercial activities of SOEs (IMF, 2019; Asian Development Bank, 2020a); (ii) there is little structural or accounting separation between commercial and non-commercial activities, implying that SOEs can use compensation from non-commercial activities to cross-subsidize commercial activities in which they may face private competition (IMF, 2019); (iii) the law does not systematically require SOEs to achieve a commercial rate of return, and their transactions are not generally benchmarked against those of private operators (IMF, 2019); and (iv) the State systematically provides budget support to SOEs (Asian Development Bank, 2020b), yet there is neither a framework to control how such state aid and public support measures are granted nor one to assess their impact on competition (Asian Development Bank, 2020b).

Figure 3.14. Competitive neutrality gap analysis for Azerbaijan



Source: World Bank Competition Policy team analysis based on desk research for Azerbaijan as of August 2020

Strong vertical integration within and between SOEs may further stifle contestability. There is a high degree of vertical integration in Azerbaijan's SOEs. As an example, the railways sector in Azerbaijan is dominated by the vertically integrated Azerbaijan Railways (AR). AR is Azerbaijan's single operator for both passenger and freight services (Asian Development Bank, 2017). Furthermore, the same company owns all

of Azerbaijan's railway infrastructure. In a similar vein, SOCAR has no separation between generation, transmission, and distribution of gas. Moreover, SOCAR has integrated several ancillary products and services, such as the exploration of oil and gas fields, production, processing and transporting oil, gas and gas condensate, and manufacture of petroleum and petrochemical products (Energy Charter, 2020).⁹⁰ This level of vertical integration could heighten anticompetitive behavior by leveraging the SOE's market power to foreclose competition in a related market. Business conglomeration can also increase the risk of price discrimination and other practices that weaken competition.

Section 4: SOE reform status

SOE reform is identified as one of the priority areas by the Government of Azerbaijan. The recently approved National Strategy *Azerbaijan 2030: National Priorities for Socio-Economic Development* puts SOE efficiency and transparency at the forefront of reaching sustainable and high economic growth. The Strategy commits to implementing good corporate governance standards, the application of equal commercial principles to SOEs, and increasing the transparency and efficiency of SOEs' operations.

Over the past five years, the Government of Azerbaijan has implemented a number of reforms to strengthen SOE transparency and accountability. Building on the World Bank's Report on SOE's Governance and Ownership (World Bank, 2017), the Government has: (i) expedited SOEs' corporatization process, (ii) subjected SOEs to the performance targets and required them to follow annual key performance indicators (KPIs)⁹¹, and (iii) strengthened enforcement of the publication of SOEs' annual audited financial statements that significantly improved from only 10 largest SOEs in 2015, to the largest 14 SOEs in 2019. Moreover, the GoA chose to centralize and strengthen its SOE ownership, governance, and oversight function by establishing the Azerbaijan Investment Holding (AIH).

The AIH was established in 2020 with the aim of streamlining the ownership function over portfolio of largest SOEs to improve their efficiency and strengthen oversight. The AIH carries out the shareholders' functions over the SOE portfolio by instilling stronger corporate governance and financial accountability practices and ensuring that coherent measures are taken to improve SOE efficiency and public investment projects implementation. The AIH structure and set up are designed and inspired by the best international practice examples, such as Khazanah Nasional (Malaysia), Temasek (Singapore), and others. The AIH's is led by the Board of Directors under the chairmanship of the Prime Minister of Azerbaijan.

With the establishment of the AIH, Azerbaijan is transitioning from a decentralized ownership model to a dual model. In this transition, operational management and oversight over the portfolio of SOEs is still performed by both the AIH and the line ministries. However, the ownership function is gradually being transferred to the AIH, which is working on building a proper corporate governance architecture and introducing a system of centralized financial oversight over SOEs' performance. In accordance with the OECD Guidelines and good corporate governance practices, the line ministries will continue to be responsible for the sector strategy and priorities. At the same time, there are several large SOEs that remain under multiple line ministries that continue to strongly impact different sectors of the economy, such as agriculture, telecom, financial institutions, and others. These SOEs do not report to AIH

⁹⁰ For a complete list of the companies integrated within SOCAR, see SOCAR's webpage at: <http://www.socar.az/socar/en/home>.

⁹¹ Rules and Standards of Corporate Governance in Joint Stock Companies with Majority Public Holding, approved by the Resolution No. 257 dated June 4, 2019.

or the central ministries, making their oversight difficult.

Most of Azerbaijan's SOEs are now governed by their Boards of Directors, which are led by high-profile representatives of central and line ministries and other civil servants. SOE boards focus on examining and approving annual budgets and financial statements. In practice, key decisions are mostly taken outside of the boardroom, with the board often limited to providing ex-post procedural approval only. To empower the SOE boards with strategic guidance and oversight over SOEs management, the Government will need to consider gradually reducing civil servants' participation in SOE boards. Such a direction would more closely align corporate governance structure with good practices (World Bank, 2014). Civil servants are typically appointed to pursue government policy goals. Therefore, when a government representative is appointed directly from the relevant line ministry, the board is more vulnerable to conflicts of interest, as the appointee may pursue policy objectives, rather than act in the best interests of the SOE. Together, these factors weaken an SOE board's autonomy, accountability, and access to relevant industry and specialized skills.

Disclosure practices by SOEs have recently improved, with SOEs continuing to face challenges of timely and comprehensive reports publication. Despite improvements, both financial and non-financial reporting to oversight bodies and the public remains limited. For instance, regulation requires companies, including SOEs, to publish their full audited financial statements, including notes, but in practice this is seldom the case. Public access to SOE information is also limited and the internet is underutilized as a means for publishing information. Most often, SOEs make information available at corporate offices or in the official gazette that is not sufficient to reach the wider public and interested stakeholders such as existing or potential investors.

The broader set of SOEs that operate outside of AIH mandate still need to be identified and mapped for further action. The Government has an improved understanding of the SOE portfolio that is centrally governed by the AIH. However, there are a significant number of centrally and municipally owned SOEs that report to various line ministries, or municipalities, without aggregated analysis of their performance or oversight by the central government. This broader universe of SOEs needs to be identified and strategically mapped, in order to identify the need for such SOEs, their mandate, public costs and further actions in developing a coherent and articulated strategy in SOE ownership. The mapping process needs to be structured such that Government can classify SOEs as ones that: (i) are strategic or need to be under state ownership for other reasons; (ii) need to be privatized; (iii) need to be restructured, merged, consolidated, or unbundled; and (iv) need to be liquidated or closed down as they are not viable. This mapping will be a critical input for the SOE Ownership Strategy, which, in turn, will lay the foundation for "right sizing" of the SOE sector and for bringing in private capital.

The re-organization of Azerbaijan SOEs will impact welfare and labor market status of workers, which needs to be considered in the strategic mapping process. If and when the Government completes the SOE strategic mapping and moves ahead with the "right sizing" of the sector, adequate measures for supporting the workforce that may be released from such SOEs should be designed and put in place. These measures should look to protect workers and to increase their productivity. Such measures could include, in the short term, temporary income support while displaced workers are finding alternate employment through both social insurance and social assistance schemes. People who are not under the coverage of social insurance schemes and others who are at risk of falling into poverty during such a transition, despite their social insurance income, can be protected through social assistance. Income support programs can be combined with reintegration into the labor market by providing targeted active labor market programs, particularly retraining, counseling, and job search assistance. An integrated approach can facilitate access to productive and freely chosen employment, not least in the context of labor market transformations arising from privatization, technological, climate-related or other changes (International Labour

Organization, 2021). Along with these measures, to foster job creation, wage/employment subsidies could also be considered, with appropriate analysis of costs and benefits, to enhance job creation in the private sector.

Section 5: Policy Recommendations

The analysis of SOEs' presence in the economy, their financial and fiscal performance, and the interaction of SOEs and the private sector highlights some key messages: (i) SOEs remain critical in Azerbaijan, as a participant in the economy, major employer, provider of public services and source of revenue; (ii) SOE performance has shown worrying trends, with rising losses in several key non-oil and gas SOEs, declining net fiscal transfers, and potentially significant fiscal risks; and (iii) SOEs may be benefiting from competitive advantages that are unavailable to private firms, reflected in significant SOE participation in sectors that are typically dominated by the private sector.

Responding to the key issues highlighted, the concluding section will highlight some policy options to improve SOE efficiency, performance, fiscal relations with the budget and impact on competition. The recommendations build on the significant SOE reforms that are currently being undertaken, including the establishing of the AIH in 2020. The key recommendations are summarized in Table 3.5 below and discussed in further detail in the rest of the section.

Table 3.5. Recommendations summary table

Issue	Recommendation	Priority
FUNCTION AND FORM OF STATE OWNERSHIP		
Lack of a clear vision of the purpose and objectives of state ownership	<p>Formulate comprehensive SOE Ownership Policy, including types of ownership, objectives of ownership in particular areas/sectors, and political accountability, and ensure its periodic revision.</p> <p>Strategically map the entire SOE portfolio—5,000 SOEs, segmenting these into categories for either continued Government's ownership for strategic or other reasons; or divestiture; or reorganization into government agencies; or closure.</p>	Short term
MACRO FISCAL IMPLICATIONS AND PSOs		
Information on fiscal costs of SOEs' core and non-core operations is not properly disclosed	<p>Disclose the quasi-fiscal activities of SOEs in both: (i) the government budget via Fiscal Risks Statement and (ii) SOEs' financial statements.</p> <p>Disclose public service obligations (PSO), or other non-core activities of SOEs for social spending, mandated by the government, separately from commercial activities.</p> <p>Separately disclose capital transfers (funding public investments) and subsidies (funding current spending or operational gaps between tariff's revenues and expenses, subsidies).</p>	Short term

No system exists to estimate and manage budget implications of SOEs' public service obligations	<p>Design and implement a system for transparently compensating SOEs for PSOs from the budget.</p> <p>Assess and implement an appropriate method of calculating the costs that generate quasi-fiscal deficits, as discussed in the OECD's Accountability and Transparency Guide for State Ownership (2010).</p>	Medium term
SOEs are dependent on budget subsidies and capital injections	<p>Impose hard budget constraints for SOEs. Monitor SOEs' new debt and guaranteed debt issuance.</p> <p>Consider linking budget transfers (capital injections) to SOE performance.</p>	Medium term
CORPORATE GOVERNANCE AND SOE BOARDS		
SOE boards do not have independent board members	Professionalize SOE boards and introduce independent board members to achieve skills set and industry expertise within SOE boards of directors. Gradually reduce presence of civil servants and introduce respective industry experts and independent board members to the boards of the largest SOEs.	Short and Medium term
SOE boards insufficiently active in strategy-setting, appointing, remunerating, and removing management boards, or assuming responsibility for efficient internal controls	SOEs' boards of directors need to be empowered by legislation to properly exercise their functions and act as effective governance bodies in strategy-setting, appointing, remunerating and removing SOEs' CEOs and management.	Medium term
PERFORMANCE MONITORING		
Management remuneration is insufficiently linked to performance and achievement of objectives.	Legislate transparent system of incentives for SOE management, linking it to SOE performance, considering potential sanctioning (dismissal, reappointment).	Medium term
FINANCIAL ACCOUNTABILITY, CONTROLS AND TRANSPARENCY		
Discrepancies in SOE accounting and disclosure practices	Enforce SOE publication requirements, ensuring audited financial statements (including notes) and management reports are publicly disclosed by SOEs.	Short term
Insufficient oversight of financial reporting requirements	<p>Perform periodic (at least yearly) review of each SOE's performance.</p> <p>Improve scrutiny of financial reporting by requiring independent audits by reputable firms.</p>	Short term
Insufficient public information available on SOE finances, governance, and performance	Develop aggregate reports on SOEs to improve SOE transparency. Benchmark aggregate reporting to good international comparators. Identify missing quantitative and qualitative information.	Medium term
MARKET NEUTRALITY		

Stifled competition environment in key sectors dominated by SOEs	Target unbundling of the key SOE-dominant sectors to achieve separation of state's role in regulatory, policymaking and operational functions, to allow entry of the private sector. Establish independent sectoral regulators—statutory bodies that can be accountable to the respective line ministries—for key sectors to help avoid conflicts of interest between policy objectives.	Medium term
No level playing field for state and private entities	Develop and adopt state aid control framework to limit potential distortions of state support measures benefitting SOEs or selected private players.	Medium term
SOCIAL PROTECTION		
Social safety nets and other support, in the form of re-skilling, job search, etc. needed to cover release of labor force from SOEs	Design adequate measures for supporting the workforce that may be released from SOEs slated for liquidation, restructuring or privatization.	Medium and Long term

The Government of Azerbaijan is committed to maximizing the efficiency and strengthening the governance of the strategic SOEs that will remain in state ownership. This process will require: (i) a sequenced set of reforms addressing the rationale for continued State ownership; (ii) the separation of the state's role in regulatory, policy-making, and operational functions in SOE-dominant sectors; (iii) strengthening incentives and accountability to enhance the efficiency of SOE operations; (iv) the state's exit from some SOEs to permit the entry of private investors into competitive and contestable sectors; as well as (v) the implementation of necessary safety nets and other support measures in the form of training, re-skilling and job search support, etc., for the workforce that may be released from such SOEs.

Development of a comprehensive SOE ownership policy should become the first and foundational step toward reducing the State's footprint in Azerbaijan's economy. This ownership policy should set out a clear vision for the reasons for state ownership; define the purpose and objectives of SOE ownership; and articulate the importance of social mandates that SOEs may carry, the public services they deliver, and the cost of such obligations. A debate should be held, at different levels of the Government, on the role of SOEs in delivering essential services and maintaining employment, along with a discussion on the safety nets and support that should be provided to affected works. This shared vision should be enshrined in the SOE ownership policy and formally adopted by the Government. The policy needs to communicate key expectations to all stakeholders, including shareholders, boards, management, and the public. It can be a living document, updated as the country changes its priorities or as public policy obligations evolve.

Comprehensive stocktaking (or a strategic mapping) of existing SOEs can follow the SOE ownership policy, paving the way for reducing the number of SOEs and allowing the private sector to come into competitive industries. An analysis of existing SOEs must capture the entire SOE portfolio and strategically assess and map all 5,000 entities, with the intent to: (i) keep certain entities in the Government's ownership for strategic or other reasons; (ii) privatize; (iii) restructure, merge, consolidate, or unbundle; (iv) convert into government agencies, or (iv) close non-viable entities. This analysis should be based on the SOE ownership policy, considering the IMF's Government Finance Statistics Manual criteria (IMF, 2014). Once complete, it will provide the foundation for “rightsizing” the SOE portfolio, reducing pressures on the competition environment and attracting private capital.

Better data management, aggregation and analysis of the data collected from SOEs' financial and non-financial reporting is necessary for benchmarking and improving the potential of SOEs. Better

data collection, processing, and analysis will enable the GoA to make informed decisions regarding the SOE ownership and improve the potential of the overall public sector. More efforts are required to establish coherent and digitally based collaboration between the Ministry of Finance, the Ministry of Economy, the AIH, respective line ministries, and the State Statistical Committee to operationalize processes for SOE data collection, processing, and analysis.

SOEs that will remain in state ownership must be subjected to a higher standard of corporate governance and accountability and gradually brought into models of cost recovery and financial sustainability. To improve their operational efficiency and financial performance, SOEs should be put on an equal footing with private sector and commercialized. Mechanisms should be put in place to ensure sufficient operational autonomy of SOEs, stronger corporate governance, management incentives that are aligned with financial performance, and enhanced transparency, including proper accounting and audit requirements.

To reduce and optimize the significant subsidies presently provided to SOEs, there is a need to systematize SOEs' relationship with the budget by properly calculating and compensating them for their quasi-fiscal activities. SOEs in Azerbaijan carry out important public service obligations, which are delivered at below-cost rates, particularly in the provision of electricity and water distribution, as well as passenger transport. These obligations are only partially subsidized—implicitly and explicitly—by the state budget. These SOEs cannot become financially sustainable unless they are duly compensated—through clearly costed direct budget transfers—for the actual cost of their public social obligations. Such subsidies and compensations should be monitored vigorously by the Government and be transparently included into the Fiscal Risk Statement or otherwise disclosed to increase SOEs' accountability and visibility of their finances to the Parliament.

This entails improved fiscal monitoring of SOEs by tracking and disclosing operational and capital transfers to SOEs. To enable the Ministry of Finance to properly assess and monitor the amount of budget funds flowing to SOEs, as well as measure their effectiveness, there is a need for transparent accounting of flows between SOEs and the state budget. The MOF and SOEs should clearly disclose the amounts dedicated to capital (funding public and/or capital investments), and other operational transfers (funding current spending or operational gaps between tariff's revenues and expenses, subsidies).

The AIH is well placed to instill the good corporate governance and accountability mechanisms in its portfolio of SOEs. As its portfolio grows, the AIH should be legally empowered to oversee the SOEs' performance; properly contribute to the SOEs' boards mandate; determine performance strategic objectives; and guide the strategic direction of SOEs. To achieve this, there is a need to develop clear requirements for SOE boards, defining and authorizing them with the necessary legislative authority, and establishing competence and objectivity requirements to facilitate strategic guidance and monitoring of SOE management, including appointment and dismissal of CEOs.

Professionalizing SOE boards and introducing independent board members should be considered on a priority basis. The Government may need to evaluate the balance the skills set and industry expertise of SOE boards, gradually reducing the presence of civil servants and introducing respective industry experts and independent board members to the largest SOEs' boards of directors. Starting with just one independent member could be a good progress in the short term, gradually aiming for a majority of independent board members. Such experts and independent board members may be drawn from various private sector entities in Azerbaijan or abroad, including but not limited to commercial banks, leading accounting and audit firms, privately owned or joint ventures, and industry leaders.

To ensure that SOE reforms achieve their ultimate objective of maximizing SOE value for society, SOEs require tools and remuneration polices that appropriately incentivize senior executives. SOE

boards should have the power and authority to design remuneration policies that are competitive with the private sector and that contain incentives to achieve financial targets set by the board and respective KPIs, such as an agreed return on equity or profit (or in some cases a loss reduction target in enterprises where significant restructuring may be required). The level of remuneration and incentives for senior executives and the chief executive should be transparent and fully disclosed in the non-financial information in the SOEs' annual reports. If needed, market benchmarks of appropriate compensation levels should be conducted to advise on the comparable compensation levels to enable SOEs to attract high-qualified talent from the private sector.

Disclosure and transparency requirements should be continuously improved to increase accountability, drive performance, and benefit the public, SOEs' ultimate owners. The reporting of financial and non-financial information are the direct elements of disclosure practices, but equally important are the external audit practices, internal control environment, risk management and internal audit practices. Disclosure of timely, reliable, and complete information can increase accountability of SOEs toward their owners and the public at large, and through improved governance and enhanced external scrutiny, encourage improvement in SOEs' performance.

Effective implementation of the planned reforms will be key in improving SOE corporate governance, performance, and accountability. The complex of SOE reform measures will require both significant investment in capacity of the government agencies in charge of the ownership function, and central government's close supervision of the reform process in SOEs and their respective line ministries. This process takes time and leadership. Incentive mechanisms can be strong motivators for SOE management and encourage these changes in SOE performance, governance, and reporting.



Chapter 4

Supporting a dynamic private sector

This chapter reviews the current state of the private sector in Azerbaijan, using available evidence (Section 1); identifies critical constraints to private sector development (Section 2); highlights the impact of the COVID-19 pandemic on firms (Section 3); and provides policy options to foster a more dynamic private sector that can support sustained, long-run growth (Section 4). The focus of this chapter is on cross-cutting constraints to private sector development, rather than focusing on sectors that could drive growth in the future, which is covered in the recent concluded World Bank Group Country Private Sector Diagnostic (CPSD).

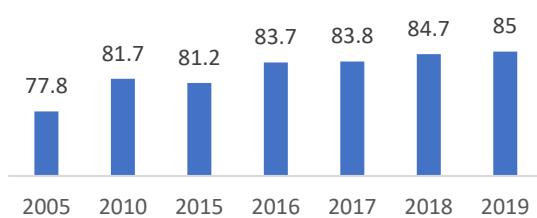
Section 1. The state of the private sector

This section will highlight some of the key facts about the private sector, focusing on the non-oil/gas sector, using available data. It should be noted that, due to the absence of access to detailed firm-level data on output, costs and profits, the chapter does not discuss in detail the dynamics and drivers of within-sector and within-firm productivity in Azerbaijan.

The non-oil and gas private sector is characterized by small firms engaged in low value-added activities

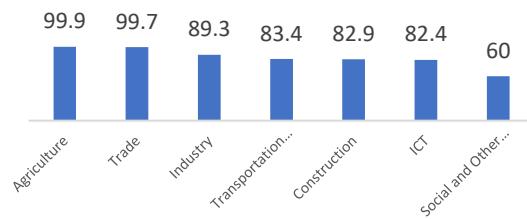
The private sector in Azerbaijan is characterized by duality. A large oil and gas sector, integrated in global markets, coexists with a non-oil/gas sector characterized by low productivity, low investment and weak global linkages. Propelled by large foreign investment flowing into the oil and gas sector, private sector contribution to GDP stood at a healthy 85 percent of GDP in 2019⁹² and rose by close to 10 percentage points since 2005, according to official data (Figure 4.1). In terms of sub-sectors, agriculture and trade recorded near complete private participation in output, followed by industrial activities such as oil and gas production, which have historically received significant investments from global energy companies (Figure 4.2)). However, examination of Azerbaijan's SOEs suggest that they may account for a larger share of economic output than inferred from official statistics, as highlighted in Chapter 3.

Figure 4.1: Share of private sector in gross domestic product at current prices, percent, 2005-2019



Source: Statistical Committee of the Republic of Azerbaijan, Statistical Yearbook (2020)

Figure 4.2: Share of private sector in key economic sector output at current prices, percent, 2019



Source: Statistical Committee of the Republic of Azerbaijan, Statistical Yearbook (2020)

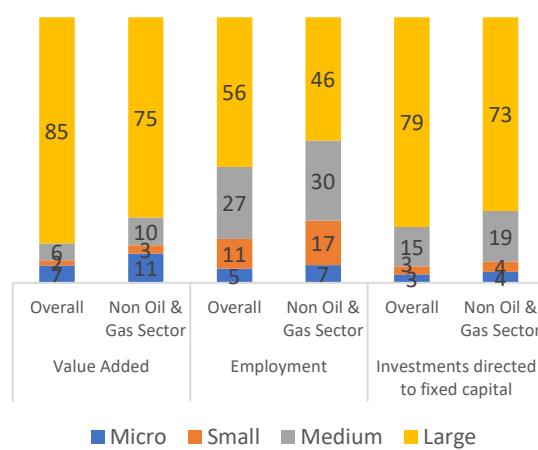
Most private firms are smaller in size; and micro, small and medium enterprise (MSME) activities are concentrated in less productive non-oil/gas sectors. Smaller firms in Azerbaijan employ over half of the non-oil/gas labor force but produce only a quarter of non-oil/gas value added (Figure 4.3). Moreover,

⁹² State Statistical Committee of the Republic of Azerbaijan, 2020.

despite accounting for over 95 percent⁹³ (OECD, 2019) of all established firms, MSMEs are largely concentrated in relatively low value-added activities, such as trade and repair of vehicles, transportation and storage, and tourism (Figure 4.4).

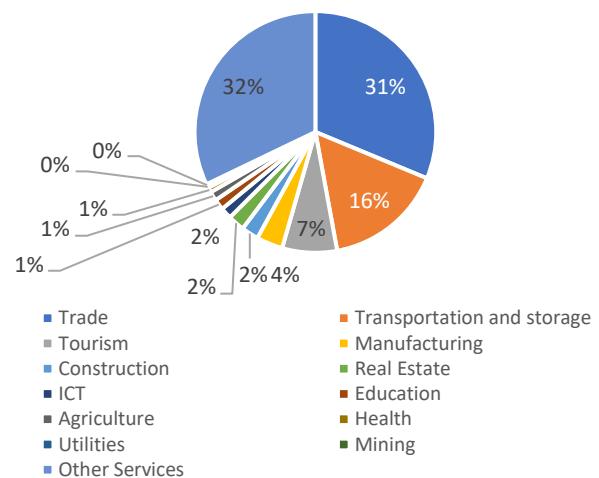
Smaller firms face significant challenges to scaling up and benefiting from foreign linkages. Raiser and Indermit (2012) find that entrepreneurial profiles dominated by smaller enterprises are not suited for productivity improvements and global integration. While staying small often carries the benefit of staying nimble and limiting risks, it also means facing challenges in affording the wages demanded by skilled workers and being less attractive for foreign investors. In the 2018 OECD survey (OECD, 2019) of Azerbaijani firms, a significant proportion of the foreign investors interviewed found that the inputs they require, including specialist skills, were not available locally in Azerbaijan or failed to meet their product quality standards. Thus, from the investors' point of view, linkages are limited by the capabilities of domestic firms. This also explains why a significant share of foreign businesses come to Azerbaijan to sell rather than to source. As per the 2019 EU Business Climate survey in Azerbaijan, more than a quarter of respondents (EU businesses operating in Azerbaijan) consider access to the domestic market as the key motivation driving their investment—the reason given by the highest share of respondents. Moreover, 54 percent of respondents rate their local partners as average for quality, with the main causes of dissatisfaction being lower quality standards, a shortage of reliable local production input, and a lack of relevant skills. However, it is important to note that not all MSMEs have the potential to have global trade or investment linkages and become highly productive firms that contribute to long-term growth and competitiveness (OECD, 2019). In fact, the bulk of SMEs stay small, and they may never integrate into GVCs.

Figure 4.3: Contribution of all enterprises to the economy by size, share of total, 2019



Source: Statistical Committee of the Republic of Azerbaijan, Statistical Yearbook (2020)

Figure 4.4: Share of MSMEs in sector enterprises, 2019



Source: Statistical Committee of the Republic of Azerbaijan, Statistical Yearbook (2020)

⁹³ For comparison, Turkey has an estimated 3.5 million active SMEs, representing 99.8% of all registered entities in the country (Source: Union of Chambers and Commodity Exchanges of Turkey). 99.7% of all firms in Georgia in 2017 were SMEs (Source: Mid Term Evaluation, Georgia's SME Development Strategy 2016-2020)

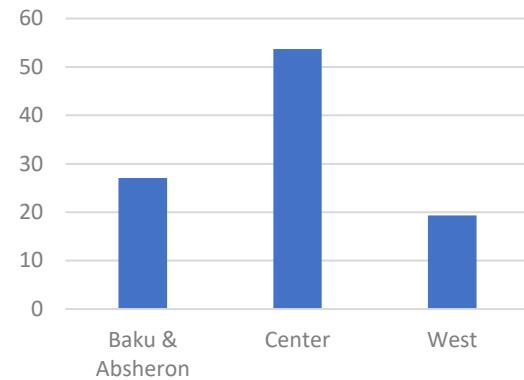
The informal sector is estimated to be large posing challenges for formal firms

The impact of the informal economy is felt by Azerbaijan's formal private sector. The size of a countries' shadow economies is strongly correlated with negative outcomes like lower income per capita, lower productivity, and weaker public services, among others (Ohnsorge and Yu, 2021). According to the 2019 World Bank Enterprise Survey, about 30 percent of firms in Azerbaijan indicated that competition from unregistered or informal businesses was the biggest obstacle to their operations, with the country's central region being most affected (Figure 4.5). The share of firms citing informal sector competition as an obstacle has increased consistently over the last decade. Small firms (5-19 employees) were the most impacted, with close to 40 percent citing competition from informal businesses as the key obstacle to their operations.

The absence of firm level data and information on informal firms precludes deeper analysis of the constraints to formalization, and the challenges posed by informal firms to formal firms. In the absence of this analysis, it should be noted that high levels of informality are a key challenge, as, globally, informal firms are, on average, less productive than formal ones, and informal workers tend to be paid less than formal workers.

Addressing informality is complex, and requires coordinated action across financial, fiscal and other economic policies (See Box 4.1). It should be noted that Azerbaijan has initiated reforms designed to reduce the share of the informal economy. This includes amendments made to the Tax Code's Article 300 including PIT abatements for private sector wage earners; increased informal recruitment fines for employers; introduction of fines for undocumented sales, trades, as well as failure to properly document and report expenses and deductibles; and procedures for improved data sharing within government agencies.

Figure 4.5: Percent of firms competing against unregistered or informal firms



Source: World Bank Enterprise Survey in Azerbaijan 2019

Box 4.1. Global experience on addressing informality

Informal firms are, on average, less productive than formal ones, and informal workers tend to be paid less than formal workers

Informal sector firms tend to employ more low-skilled workers; have more restricted access to funding, services, and markets; and lack economies of scale. Female and young workers make up a disproportionate share of workers in the informal sector.¹ The average informal firm in emerging markets is only one-quarter as productive as the average firm operating in the formal sector.¹ This is partly explained by informal firm characteristics such as their younger age, fewer years of experience, and smaller size. Moreover, firms in the formal sector that face informal competition are, on average, only three-quarters as productive as those that do not. This suggests that competition from the informal sector (for market share and resources) can erode formal firms' productivity. One possible driver of this is that formal firms must shoulder the costs of regulatory compliance.

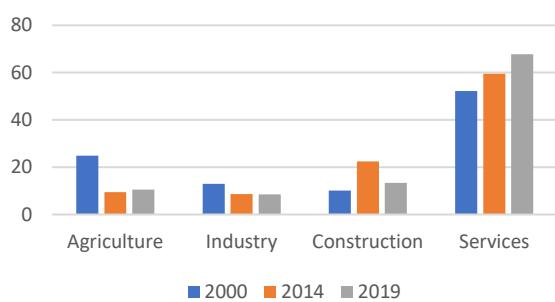
Addressing informality requires coordinated action, while taking into account country-specific conditions

- Countries with larger informal sectors tend to have less access to finance for the overall private sector, lower overall labor productivity, slower physical and human capital accumulation, and smaller fiscal resources to support economic activity (Docquier, Müller, and Naval 2017; La Porta and Shleifer 2014).
- Informality is also associated with higher income inequality and poverty and less progress toward the Sustainable Development Goals (Chong and Gradstein 2007; Loayza, Servén, and Sugawara 2010).
- Policy changes to address informality could affect vulnerable groups and can be balanced by stronger safety nets, greater labor and product market flexibility, and better access to resources for informal firms.
- Specific measures include streamlining of tax codes and enhanced enforcement of revenue collection (a reform area where Azerbaijan has already made progress); easing firm and labor regulations to create a level playing field for both formal and informal participants; as well as greater access to finance and public services to help increase productivity in the informal sector. In other emerging European countries, policies to tackle informality have centered around fiscal policies, reforms of institutional environments, and labor market policies.
- Evidence from Latin America and the Caribbean, as well as African countries, offers additional policy solutions, such as focusing public service interventions on clusters of firms, rather than individual firms, to take advantage of formal-informal business linkages and network effects; providing support in the form of financing, social protections, managerial trainings, and other technical assistance that does not target formalization itself; considering intermediate and/or temporary legal forms for informal firms to transition through before reaching a full formal status; or the establishment of more attainable legal forms for microentrepreneurs that would otherwise not consider formalization (Marusic and Nielsen 2019).

Labor and capital are not flowing to more productive sectors

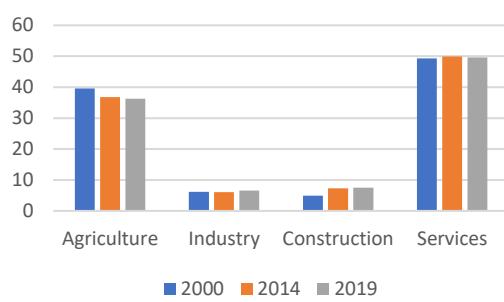
Azerbaijan has experienced limited structural transformation over the last two decades, with labor still concentrated in low value-added activities. During 2000-2014, the economic structure shifted toward non-tradable construction and services (Figure 4.6), in part reflecting a shift in relative prices as the real exchange rate appreciated by 47 percent during this period. The change in relative prices, due to the double devaluation of the manat in 2015, spurred some expansion of tradable sectors and some decline in non-tradeable sectors such as construction, albeit at a smaller scale. However, labor market response to this shift in economic activity was largely muted. The bulk of the labor force remains in the low-productivity agriculture sector, which accounted for 36 percent of total employment in 2019, a relatively minor reduction from 40 percent at the turn of the century (Figure 4.7). The productivity patterns may also be reflected at the sector and firm level, but the absence of detailed firm-level data precludes analysis of within-sector and within-firm productivity dynamics in Azerbaijan over time.

Figure 4.6: Share of total non-hydrocarbon sector value added, percent, 2000-2019



Source: World Bank Group staff calculations based on Azerbaijan State Statistics Service data

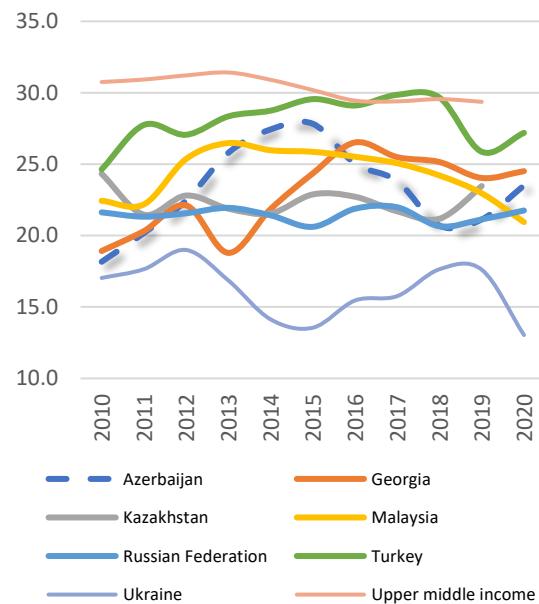
Figure 4.7: Non-mining employment by sector, as a share of total, percent, 2000-2019



Source: World Bank Group staff calculations based on Azerbaijan State Statistics Service data

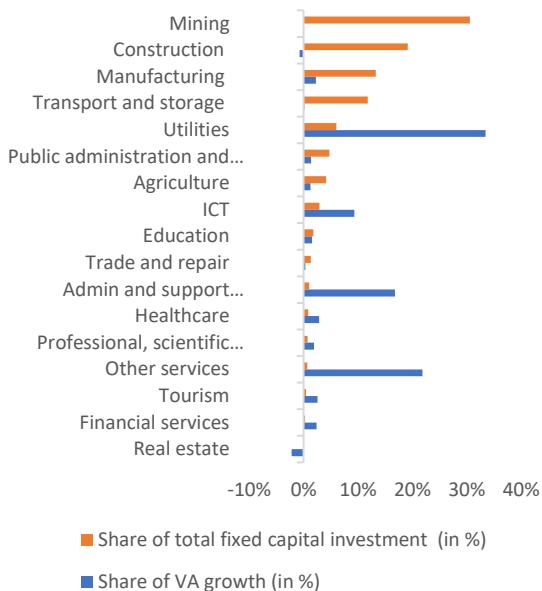
Investment has been directed to low-growth sectors. Gross fixed capital formation has improved in the last decade as a share of GDP, but it is still below the pre-2016 crisis level of 27.8 percent and the UMIC average of 29 percent (Figure 4.8). Moreover, sector-level disaggregation reveals that fixed investment is not flowing to productive, high-growth economic activities. In 2019, hydrocarbon-heavy mining received nearly a third of fixed investments without contributing to y-o-y value-added growth (Figure 4.9). In terms of non-oil/gas sectors, the non-tradeable construction sector was the second largest recipient of investment in 2019, while showing a negative contribution to value added growth. On the other hand, a high-growth sector like ICT received only a fraction of total fixed investments.

Figure 4.8: Gross fixed capital formation in Azerbaijan and peers⁹⁴, percent, of GDP, 2010-2019



Source: World Bank Worldwide Development Indicators
Notes: Gross fixed capital formation includes land improvements; plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. The data is extracted from the national accounts of reported countries.

Figure 4.9: Sector-wise fixed investment share vs. value-added growth contribution, percent, 2019



Source: World Bank Group staff calculations based on Azerbaijan State Statistics Service data
Notes: Sector contribution to value-added growth for 2019 calculated using y-o-y sector output growth (2018-19) weighted by share of sector in total value added in 2018. Sector contribution to fixed capital investments for 2019 calculated by dividing sector-level fixed capital investments by share of total fixed capital investments.

The non-oil/gas sector is not well-integrated in the global economy

The merchandise export to GDP ratio has doubled in the last two decades, largely driven by oil and gas product exports, while non-oil/gas exports have remained low and stagnant. Export-to-GDP ratio grew from 20 percent in 1999 to just over 40 percent in 2019, with the share of oil and gas in total exports rising from about 79 percent to 91 percent in the same period⁹⁵. However, export earnings have also seen significant volatility, as crude oil continues to dominate the export basket and render it vulnerable to commodity price movements (Figure 4.10). Meanwhile, the share of non-oil/gas exports to GDP has remained stagnant at around 4 percent, reflecting its low contribution to national output and poor competitiveness in foreign markets. In part, this reflects ‘Dutch Disease’ (as discussed in Chapter 2), with an over-valued real exchange rate reducing the competitiveness of other tradable sectors. In addition to ‘Dutch Disease’, weak export performance also reflects structural challenges to private sector growth and development, which will be discussed in depth in this chapter.

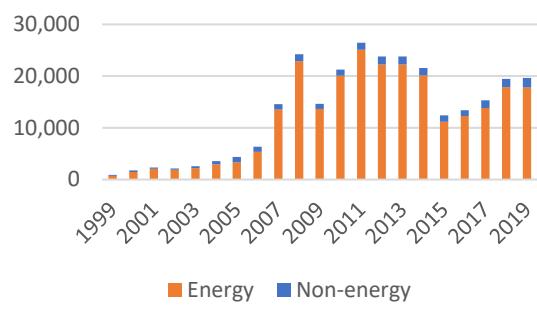
⁹⁴ NB: Peers for Azerbaijan have been selected as a combination of regional (Georgia, Kazakhstan, Russian Federation, Turkey, Ukraine), structural (Kazakhstan, Russian Federation, Ukraine, Malaysia), and aspirational comparators (Turkey). The same were identified after discussions with public sector stakeholders as part of the WBG Azerbaijan CPSD scoping mission in 2020.

⁹⁵ World Bank Azerbaijan Trade Background Study 2019-2020

Azerbaijan's non-oil/gas sector is dominated by low value-added exports, as evidenced from the country's low export complexity. While the value of non-oil/gas product exports⁹⁶ increased considerably from about USD 200 million in 1999 to close to USD 2 billion in 2019, this was driven by the rising exports of unprocessed commodities, such as agricultural products. Tomatoes, fruits (e.g., persimmons, cherries, and apples), hazelnuts, cotton, as well as non-monetary gold were the key low-processed goods exported (Figure 4.11). The dominance of energy and unprocessed commodity exports is supported by the fact that Azerbaijan ranks 120th among 133 countries on the Economic Complexity Index (ECI) in the Harvard Atlas of Economic Complexity, which is the lowest among a set of regional and structural comparators (Figure 4.12).

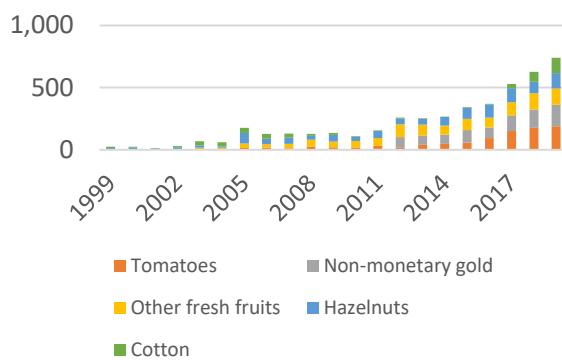
Moreover, there is significant concentration of non-oil/gas exports in a few destinations, leaving the country vulnerable to demand from a handful of external markets. For example, Russia receives nearly 100 percent of Azerbaijan's fresh tomato and other fruit exports, as well as nearly half of its shelled hazelnut exports, while Turkey receives nearly 90 percent of the country's cotton, and Switzerland is the dominant market for gold exports.

Figure 4.10: Merchandise exports, energy vs non-energy, USD million, 1999-2019



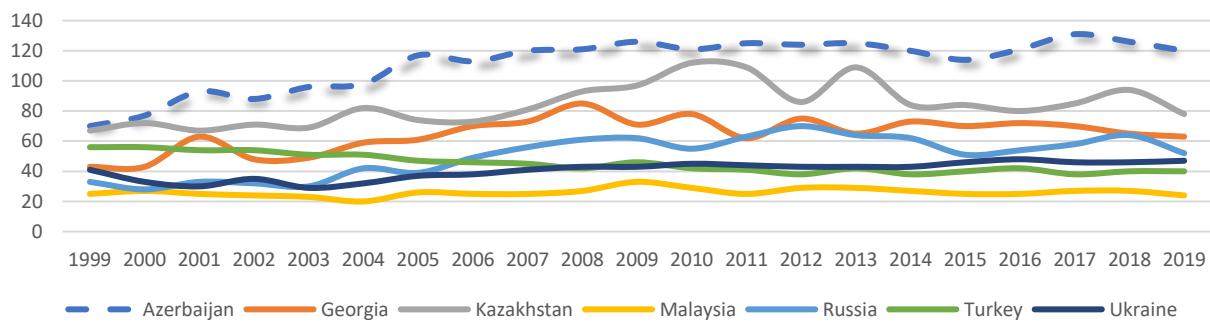
Source: World Bank Group staff calculations based on UN Comtrade data (HS code for energy: HS27)

Figure 4.11: Azerbaijan's top non-oil/gas exports, USD million, 1999-2019



Source: World Bank Group staff calculations based on UN Comtrade data

Figure 4.12: Economic Complexity Index ranking, 1999-2019 (Higher value implies lower complexity)



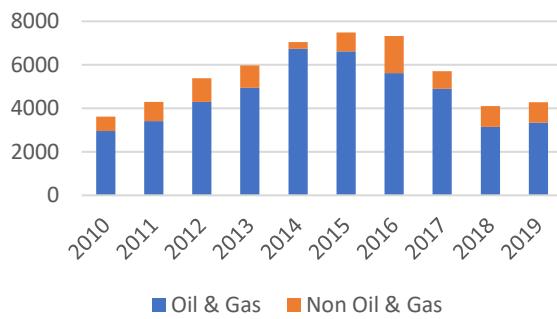
Source: The Growth Lab at Harvard University 2021

Another sign of weak integration is that FDI flows are predominantly natural resource seeking, with non-oil/gas FDI accounting for a small share of overall FDI inflows and of non-oil/gas GDP. Close

⁹⁶ Excluding HS27 (Energy products)

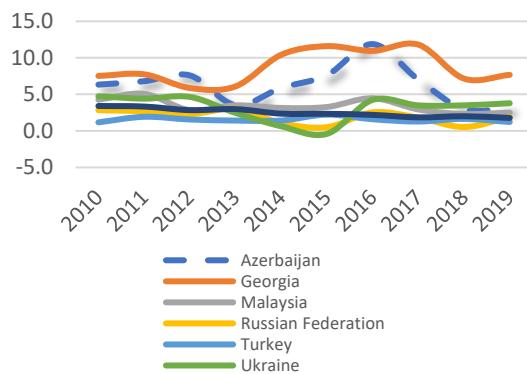
to 80 percent of overall FDI inflows in 2019 were directed to the oil and gas sector (Figure 4.13), leaving the country exposed to the oil industry's investment and price cycles. FDI as a share of GDP has not only significantly declined in Azerbaijan since the 2016 recession, but it also remains below most of its peers (Figure 4.14). Moreover, non-oil FDI continues to make only a minor contribution to the country's non-oil GDP, with an average annual contribution of less than 3 percent since 2000.⁹⁷ Among the non-oil/gas sectors, non-tradeable sectors, such as construction (18 percent) and utilities (9 percent), were top recipients of foreign capital in 2018 (Figure 4.15). In terms of sourcing, a handful of countries make up the majority of FDI inflows into Azerbaijan. In 2020, half of the FDI inflows was received from the United Kingdom and Turkey, and the top five source economies made up 75 percent of all FDI inflows (Figure 4.16).

Figure 4.13: Foreign direct investment, oil/gas vs non-oil/gas, USD million, 2010-2019



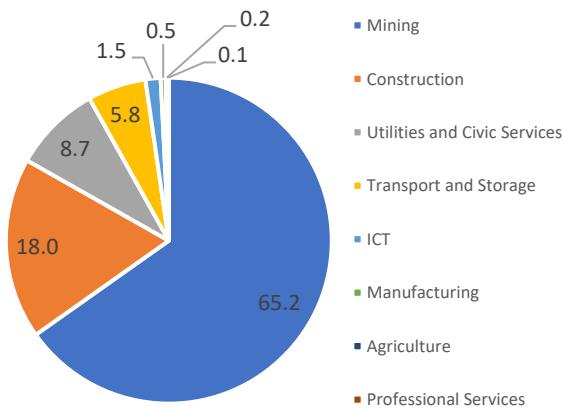
Source: Statistical Committee of the Republic of Azerbaijan

Figure 4.14: Foreign direct investment, net inflows, percent of GDP, 2010-2019



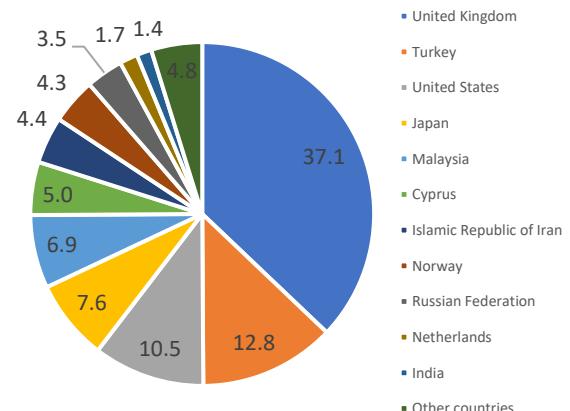
Source: World Bank Worldwide Development Indicators

Figure 4.15: Foreign investment directed to fixed capital by economic activity, 2018



Source: Statistical Committee of the Republic of Azerbaijan

Figure 4.16: Foreign direct investment inflows by source country, 2020



Source: Central Bank of Azerbaijan

This implies that Azerbaijan is likely not benefiting from the economy-wide productivity gains that typically accompany efficiency-seeking FDI in export-oriented sectors. The positive relationship

⁹⁷ Dr. Azer Mehtiyev, Baku Research Institute. Based on data from the State Statistical Committee (SSC) and as cited in World Bank FDI Sector Scan (2019).

between FDI and productivity gains has been well-established⁹⁸. In Azerbaijan, a 2018 OECD survey of Azerbaijani firms found that GVC linkages, which are often supported by efficiency-seeking FDI, were correlated with increased firm productivity. According to the survey, local Azerbaijani firms that enjoyed some form of trade, investment or contractual linkages with MNCs experienced a productivity premium, measured as the ratio of their average productivity (turnover per employee) relative to firms that have no links. The highest productivity premium (of a factor of 12.5) was observed for companies that produce processed goods that are used as intermediate inputs by firms that eventually export their output.

Azerbaijan is also missing out on other positive spillovers from FDI. Global experience suggests that supplying to or partnering with MNEs is not only associated with productivity gains, but also improves local product quality, facilitates transfer of best practices, and enhances working conditions for employees (Echandi et al., 2015). Resource-rich countries such as Chile and Malaysia employed SME supplier development programs to catalyze participation of SMEs in value chains with MNEs and deepen economic diversification in the economy. In addition to objective measures of above-average productivity, the OECD survey also captured significant perceived benefits from trade and investment linkages (**Error! Reference source not found.** 4.17 and Figure 4.18). Specifically, improvements in the quality of products or services, adoption of new technologies, processes and practices, and improved staff working conditions are all benefits that firms without linkages miss out on.

Figure 4.17: Benefits of backward linkages (with MNC suppliers), 2018

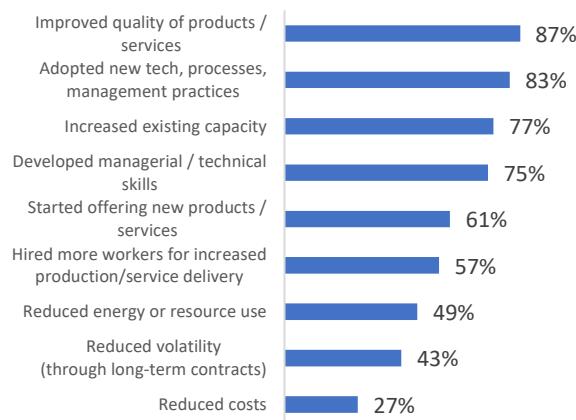


Figure 4.18: Benefits of forward linkages (with MNC buyers), 2018



Source: Azerbaijan: Linking Domestic Suppliers with Foreign Investors, Organization of Economic Cooperation and Development, 2019.

Notes: Based on responses from 150 companies; respondents are not representative of the overall population of SMEs in Azerbaijan.

Source: Azerbaijan: Linking Domestic Suppliers with Foreign Investors, Organization of Economic Cooperation and Development, 2019.

Notes: Based on responses from 111 companies; respondents are not representative of the overall population of SMEs in Azerbaijan.

⁹⁸ https://www.worldbank.org/content/dam/Worldbank/Event/DEC/ABCDE/ABCDE-2015/KA3-%20Alfaro_WB_20150615.pdf

Section 2. Constraints to private sector development

This section will focus on constraints that impede private sector development in Azerbaijan, and lead to the outcomes highlighted in Section 1. This section will begin with a discussion of the broader *investment climate*, including the lack of a level playing field, followed by a discussion on *access to factor inputs*, specifically finance and skills, and finally, will discuss *policy support for MSMEs*, which has been a priority for the government.

It should be noted that the constraints identified in this chapter are perception survey- based, which has limitations, as these self-reported constraints ideally need to be complemented with measures of firm performance. However, such analysis was not possible for this report given the absence of access to representative firm-level data on output, costs, and profits.

Investment climate assessment

Cross-cutting investment climate perceptions

Azerbaijan lags regional peers across key business climate and competitiveness indices. The country scores lower than structural comparators like Kazakhstan and Russia on WEF's Global Competitiveness Index (2019). Institutional issues around transparency, related to corruption incidence, and legislative inefficiencies, related to dispute settlements, were sub-indicators that worsened year-on-year for Azerbaijan on the Global Competitiveness Index.

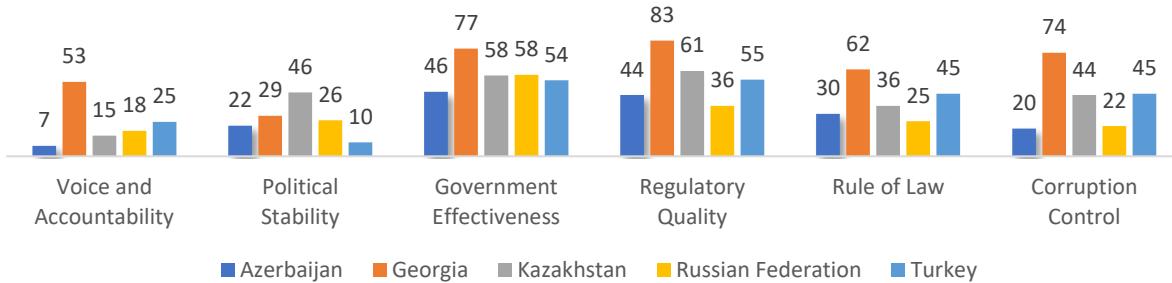
Azerbaijan has made progress in the areas of in business integrity and governance, but more progress could be made in government effectiveness and accountability. Business integrity has been indirectly addressed by the National Action Plan on the Promotion of Open Government (2020-2022) through measures aimed at preventing corruption and promoting accountability in the economy (OECD, 2020). The recent introduction of criminal liability of legal persons for corruption offenses is an important step toward stronger corruption prevention in the private sector (OECD, 2020). The GoA's efforts to improve the business environment and promote public sector transparency have had a positive effect on reducing corruption,⁹⁹ as reflected in the decline from 2009 to 2013 in the share of Enterprise Survey respondents citing corruption as the most pressing obstacle to business. However, that trend has reversed recently, with the share of respondents citing corruption as the most pressing obstacle to business more than doubling from 3.7 percent in 2013 to 7.9 percent in 2019. Azerbaijan scores the lowest on 'Voice and Accountability', 'Government Effectiveness', and 'Corruption Control' among comparators, as per the Worldwide Governance Indicators 2020 Update (Figure 4.19).

Perceptions about corruption and transparency have improved but from a low base. Over the last 15 years, the GoA has formed several institutions to fight corruption and increase transparency. The Anti-Corruption Department (with the Prosecutor General of the Republic of Azerbaijan) was formed in 2004, and the Anticorruption Commission of Azerbaijan was launched in 2005 to monitor and analyze anticorruption policies in the country, as well as to coordinate anticorruption efforts across the government. The Chamber of Accounts (the Supreme Audit Institution in Azerbaijan) has been charged with conducting audits that disclose corruption risks, and in 2012, the GoA created the Azerbaijan Service and Assessment Network (ASAN), a state agency for the provision of public services. Nonetheless, Transparency International's 2020 Corruption Perceptions Index ranked Azerbaijan 129th out of 180 countries, among the

⁹⁹ ACN, O. (2019), "Progress Report Update, Azerbaijan", Istanbul Anti-Corruption Action Plan, Fourth Round of Monitoring, <https://www.oecd.org/corruption/acn/OECD-ACN-AzerbaijanProgress-Update-2019-ENG.pdf>.

lowest performances in the emerging Europe region. The Bayesian Corruption Index, which is based on data gathered by the Quality of Governance Survey, placed Azerbaijan 104th out of 194 countries in 2020. Indeed, the EBRD's 2016 Life in Transition Survey found that almost 30 percent of respondents confirmed that they themselves had participated in some form of bribery in the past 12 months.¹⁰⁰

Figure 4.19: Governance Indicator Benchmarking, percentile rank (lower is worse)



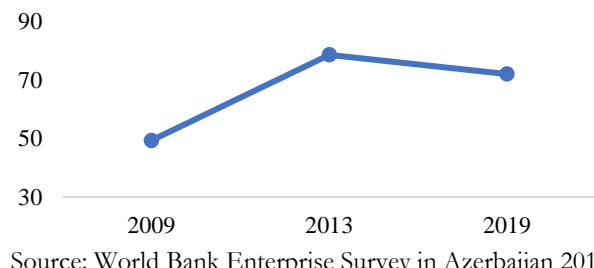
Source: World Bank Worldwide Governance Indicators, 2020 Update

Legal and judicial reforms have improved contract enforcement and alternative dispute resolution. Following the 2014 Presidential Decree on electronic judicial information systems, automation policies such as the “e-court” system were implemented, which significantly improved efficiency and transparency of case management and court proceedings. For instance, a new electronic judicial information system (AZEMIS) put in place the automated random distribution of cases to judges to reduce incidence of corruption and is now operational in 60 percent of courts across the country. In addition, procedures for small claims were simplified, and several electronic processes were introduced, including e-court proceedings for commercial disputes, e-payments for court fees and e-document flow (OECD, 2020). Following the 2019 Presidential Decree on judicial reforms, the establishment of specialized courts to treat cases related to entrepreneurship disputes, taxes, and customs has further supported stronger contract enforcement.

Significant progress has been made in legal and judicial reforms but there remains scope for improvement. While a significant share of Enterprise Survey respondents (70 percent) considered the court system fair, impartial, and uncorrupted in 2019, the share was down from close to 80 percent in 2013 (Figure 4.20). This may be due, in part, to the incomplete implementation of all initiated reforms in the past five years. On intellectual property rights (IPR) protection, the WEF Executive Opinion Survey ranks the country 30th out of 141 countries (World Economic Forum, 2019), as IPR-related cases are still treated within the general court system (OECD, 2020). There also remains scope for improvement in the areas of alternative commercial and investment dispute resolution, as the current state of the legal-judicial system is a principal factor discouraging FDI (AHK Azerbaijan 2020 business climate survey). Finally, it is important to continue to improve the country’s competitive standing on institutional parameters. Azerbaijan ranks the second-lowest on ‘Rule of Law’ and ‘Regulatory Quality’ among comparators (Figure 4.20), reflecting firms’ perception of the government’s weak ability to formulate and implement sound policies that support businesses and aid redressal.

¹⁰⁰ The Life in Transition Survey (LiTS) is a combined household and attitudinal survey which collects information on the socio-economic status of respondents and includes asking perception-based questions on economic, political and social topics. It is developed and conducted by the European Bank for Reconstruction and Development.

Figure 4.20: Percent of firms believing the court system is fair, impartial, and uncorrupted



Source: World Bank Enterprise Survey in Azerbaijan 2019

Finally, constraints related to tax rates and tax administration, seem to have eased over the last decade, implying Azerbaijan has made progress in rationalizing corporate taxes and collections. According to a 2020 survey by the German-Azerbaijani Chamber of Commerce (AHK Azerbaijan), taxation system reforms were recognized as the most effective undertaken in recent years by nearly 70 percent of respondents. These reforms include steps taken by authorities to simplify tax procedures, lower the tax burden, enhance efficiency of tax collections, and reduce the tax rate applicable to SMEs (from 4 percent to 2 percent), as well as a change to the Tax Code exempting monthly income of up to AZN 8,000 for personal income tax liability for individuals employed in the non-oil private sector.¹⁰¹ Moreover, the recent establishment of the Office of Tax Ombudsman helps taxpayers resolve issues that arise when dealing with the tax authorities out-of-court and facilitates dialogue between taxpayers and the tax administration (OECD, 2020).

Lack of a level playing field

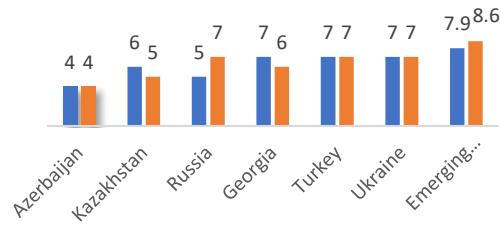
Azerbaijan's businesses are concerned with a low degree of perceived market competition. The latest Bertelsmann Stiftung's Transformation Index indicators (BTI, 2020)¹⁰² suggests that the fundamentals of market-based competition – i.e., regulatory interventions that enable competition – are perceived to be less developed in Azerbaijan, as compared to its structural and regional comparators. Additionally, policies that promote competition also appear to be relatively weak (Figure 4.21). The country, for instance, scores less than half of the regional average on both market-based competition and competition policy. According to the latest Economist Intelligence Unit (EIU) data, investor perceptions on the risks of vested interests are relatively unfavorable compared to Azerbaijan's regional peers, three times the EU average, and have not changed over the last five years¹⁰³. In addition, despite recent improvements, the EBRD's latest transition indicators—which measure progress toward a market-based economy—suggest that Azerbaijan is relatively less competitive compared to peers (Figure 4.22). This may be explained by inefficiencies in market features such as insolvency resolution, rule of law, and other enabling legal and regulatory frameworks, which serve to support a level playing field and make it easier to do business.

¹⁰¹ AHK-Azerbaijan Foreign Business Survey 2020

¹⁰² The indicators of the Bertelsmann Stiftung's Transformation Index (BTI) answer the following questions based on expert judgment: (i) to what level have the fundamentals of market-based competition developed (including the low importance of administered pricing, currency convertibility, no significant entry and exit barriers in product and factor markets, freedom to launch and withdraw investments, and no discrimination based on ownership (state/private, foreign/local) and size and (ii) to what extent do safeguards exist to prevent the development of economic monopolies and cartels, and to what extent are they enforced (including the existence of antitrust or competition laws and enforcement)?

¹⁰³ Economist Intelligence Unit, 2020.

Figure 4.21: Organization of the market and competition, 1–10 (best)

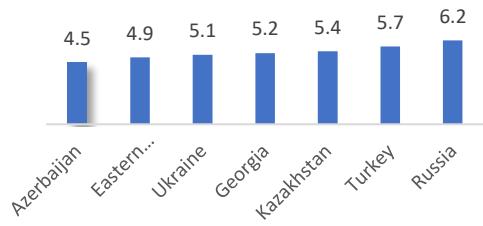


■ Market-based competition (higher value = better competition enabling environment)

Source: BTI 2020.

Note: The BTI is a perception indicator based on in-depth assessments of countries and is managed by the Bertelsmann Stiftung.

Figure 4.22: Assessment of transition qualities - competitiveness indicator, 1–10 (best)



Source: EBRD Transition Report 2020-21

Limited competition in Azerbaijan stems from a combination of factors. These include: a suboptimal competition law framework and limited competition enforcement; widespread dominance of SOEs in the sectors that could be efficiently supplied by private operators, paired with financial and non-financial support to SOEs that violate principles of competitive neutrality; and regulations that could be unintentionally distorting market dynamics, such as price controls (World Bank, forthcoming).

Although the Law on Antimonopoly Activity has seen important reforms, several aspects of the Law can be further reviewed and refined. In 2016, the Law introduced the concept of cartel agreements—irrespective of market power of their participants—and opened the list of infringements to any conduct that can restrict competition.¹⁰⁴ In doing so, it allowed the GoA to better tackle anticompetitive practices.¹⁰⁵ However, several concerns remain: (i) natural monopolies¹⁰⁶ are excluded from the competition law; (ii) the competition rules for private and public undertakings are not well harmonized; (iii) some legitimate conduct (in keeping with good international practices) are prohibited, such as exclusive distribution agreements or tying and bundling in the absence of a dominant position; (iv) there is no individual exemption mechanism for pro-competitive practices; and (v) although a merger review system exists, there is no clear definition of economic concentrations, allowing subjective thresholds to be used as one of the criteria for notifying transactions, which undermines legal certainty and increase transaction costs;¹⁰⁷ and (vi) there is no clear State aid control framework.¹⁰⁸ Thus, while competition policy in Azerbaijan covers a broad range of topics, anticompetitive conducts and investigation mechanisms should be further developed in the law (Figure 4.23).

¹⁰⁴ Law of the Republic of Azerbaijan on Antimonopoly Activity.

¹⁰⁵ As defined in the Law on Natural Monopolies. See also Law of the Republic of Azerbaijan on Antimonopoly Activity.

¹⁰⁶ See article 11 of Law of the Republic of Azerbaijan on Antimonopoly Activity.

¹⁰⁷ Subjective merger thresholds—such as market shares—require a market definition and analysis that may be difficult to carry out and can be open to different interpretations. Merger threshold measures should be thus based on objective criteria, rather than on subjective criteria. Objective thresholds such as turnover, assets or value of the transaction are clear and understandable; based on information that is readily accessible to the merging parties; and calculated through a process that is easier and more transparent. As such, several jurisdictions in the recent years have moved away from the practice of using market shares because of these difficulties.

¹⁰⁸ Unjustified granting of tax, credit and other privileges to specific companies is prohibited

Figure 4.23: Percentage of formally adopted competition criteria, as of June 2019



Source: OECD Azerbaijan Small Business Act Country Profile, SME Policy Index Eastern Partner (EaP) Countries, 2020.

Note: The chart above refers to the percentage of competition policy criteria formally adopted in the legal framework. It gives equal weight to all criteria. This does not illustrate actual enforcement activity in terms of relevance or quantity, and whether the competition criteria selected is relevant.

Compliance with anti-competitive policy is hampered by ambiguous economic sanctions. The sanctioning regime is complex, which reduces legal certainty and hinders enforcement. In particular: (i) fines are not concretely defined, allowing for discriminatory or arbitrary decisions; (ii) other economic sanctions (such as repayment of illicit profits and compensatory damages) would benefit from in-depth review; and (iii) some remedies provided by the Law (including price controls, company segregation, tax penalties and budgetary penalties) might substantially distort market conditions and reduce competition. Lack of enforcement comes at a high cost to society and benefits the powerful few: consumers pay higher prices, SMEs are discouraged from entering markets, and investment, innovation, productivity, and growth suffer (OECD, 2020).

Moreover, Azerbaijan's competition authority has limited independence and its powers of inspection are constrained. The State Service for Antimonopoly Policy and Consumer Rights Protection has made a modest number of decisions against anticompetitive agreements and cartels since its inception.¹⁰⁹ Despite recent efforts to increase staffing, the committee does not have sufficient human resource nor de-facto independence (given it is under the ambit of the Ministry of Economy) and authority to enforce competition rules.¹¹⁰ Moreover, the state committee's mandate is complex; in addition to the competition law, the institution oversees consumer protection and excessive prices and is also responsible for certification and standardization of services. Most, if not all, of the authority's efforts seem to focus on consumer protection, and application of competition law provisions remains limited (OECD, 2020). This complexity, combined with the state committee's limited independence, likely exacerbates issues related to rule enforcement.

State-owned enterprises and their subsidiaries play a prominent role in the Azerbaijani economy and may be hindering private sector growth. The wide reach of SOEs in the economy and their impact on competition and private sector development are covered in depth in Chapter 3. As noted in Chapter 3, there are over 5,000 active SOEs in the country operating in at least 29 sectors, even those for which the economic rationale for state participation is not clear, such as manufacturing, accommodation, and banking.¹¹¹ Total assets and total revenues of the largest 14 SOEs exceed 100 percent of GDP as highlighted in Chapter 3. Many of the larger SOEs enjoy monopoly or near-monopoly status in their sectors of operation. Moreover, SOEs have in the past used their influence to deter entry of new competitors, and at times, some have enjoyed a privileged status in government procurement contracts (US Department of State, 2019). In addition, SOEs have certain competitive advantages that are unavailable to private firms, such as preferential access to factors

¹⁰⁹ In the last few years, the State Service for Antimonopoly Policy and Consumer Rights Protection has not issued any decision against cartels and other anticompetitive practices. In contrast, according to the information provided by the agency, it has managed to identify and sanction several abuses of dominant position.

¹¹⁰ According to the Bertelsmann Stiftung's Transformation Index (BTI) 2018 report, the State Committee on Anti-Monopoly Policy and Consumer Rights Protection is described as a mere formality with no significant competition enforcement activity.

¹¹¹ Using the 2013 Product Market Regulation (PMR) methodology. See Annex 2.

of production (US Department of State, 2019). Such advantages can generate resource misallocation, which may limit private firm entry and expansion.

Regulation of prices in Azerbaijan create market distortions. Price controls can adversely affect aggregate productivity improvements by disincentivizing firms from seeking efficiency improvements, limiting the efficient allocation of resources across firms and sectors, and discouraging innovation. In addition, maximum prices can act as a focal point for firms to create shortages and collude on prices or quantities. Under some circumstances, price controls (whether through tariffs or margins) may be necessary to limit undue market power (World Bank, 2020a). This may be the case in sectors where competition is not feasible because of supply and demand characteristics such as high start-up costs or economies of scale in natural monopolies, or in cases of external shocks. However, in competitive markets with several efficient suppliers, or in cases where government interventions are the cause of limited competition, it would be more effective to find less distortive policy alternatives, such as eliminating import restrictions or monopoly rights or distributing vouchers to vulnerable households. The GoA regulates the prices of goods and services rendered by government and natural monopolies.¹¹² However, there are a number of products whose prices are regulated, despite the fact that the sectors to which they belong do not exhibit monopolistic characteristics. The pharmaceuticals price controls introduced in 2015 are one example. The International Trade Administration (2019) has noted that they have discouraged some foreign companies from entering the Azerbaijani pharmaceutical market, creating shortages of certain medications and vaccines.

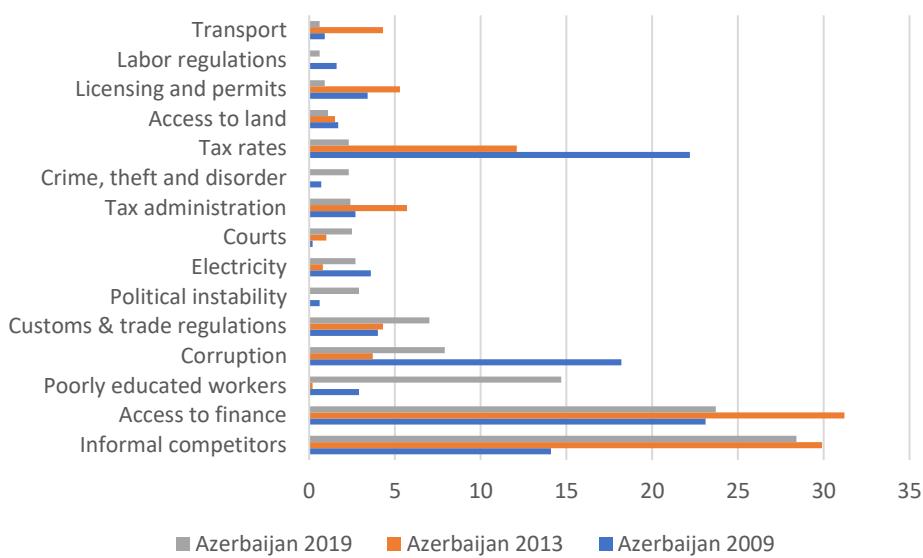
Access to factor inputs

The practices of the informal sector and access to critical inputs – finance and skilled labor – were identified as the top three constraints faced by firms in the most recent firm-level survey conducted by the World Bank (Figure 4.24). Specifically, the difficulty in securing financing has been consistently identified as the biggest obstacle by the highest number of respondents previously (Enterprise Surveys 2009, 2013) and was especially salient for SMEs in 2019. The practices of the informal sector also disproportionately challenge SMEs, with 38 percent of smaller firms and 18 percent of medium-sized firms citing this as the biggest obstacle affecting business operations. For larger firms, an inadequately skilled workforce is of critical importance, with over 47 percent of large firms citing it as the most important obstacle to business operations.

This sub-section will highlight firms constrained access to skills and finance. The challenges posed by the competition from the informal sector are already discussed in Section 1.

¹¹² Law of the Azerbaijan Republic on Natural Monopolies (of December 15, 1998 No. 590-IQ, as amended on 18-12-2015).

Figure 4.24: Biggest obstacle affecting business operations, percent of respondents



Source: World Bank Enterprise Survey 2019

Inadequate supply of skills¹¹³

Firms find it difficult to recruit skilled workers in Azerbaijan. According to the STEP Skills Measurement Employer Survey conducted in Azerbaijan in 2013-2014, 34 percent of traditional firms indicated that they encountered problems when trying to hire professional workers, and nearly 60 percent of innovative firms faced the same problem. Representatives of the business sector complained that both secondary and tertiary education in Azerbaijan was of low quality and mostly theoretical, rather than practical, and young job applicants often lacked soft skills. For example, representatives of the tourism sector mentioned that secondary school graduates did not have the necessary soft skills needed in their industry. Even university graduates were often considered to be lacking in not only job-specific skills, but also higher order cognitive skills (problem solving skills), socio-behavioral skills (leadership and openness to experience), and language skills (English and Russian). Moreover, the tertiary education and vocational training system in Azerbaijan specializes in areas like humanities, social sciences, and law, while employer demand has mainly come from sectors such as agriculture, modern services¹¹⁴, and non-oil related manufacturing (Honorati et al. 2019). Azerbaijan has undertaken numerous policy initiatives in recent years to address this critical constraint, which are discussed in depth in Chapter 5.¹¹⁵

System coordination can be improved to promote skills development. A system that supports and strengthens coordination and cooperation within the educational system (e.g., between secondary education and vocational and tertiary education institutions) and between the education system and employers is an essential prerequisite to responding to the skilling needs of a dynamic labor market (as discussed further in Chapter 5). In Azerbaijan, there are a large number of actors and providers involved in the education and preparation the labor force – ministries, agencies, central and regional governments, NGOs, employers, and

¹¹³ See Chapter 5 for detailed discussion on skills and the policy initiatives undertaken to address this constraint

¹¹⁴ These include finance, insurance, real estate and business services

¹¹⁵ These reforms include changes in the VET system (planned move to per-capita financing, targeted trainings and dual model of training), creation of a State Agency for Quality Assurance, connecting employers with students through job fairs, state scholarship programs for studying abroad, and increased number of inter-governmental scholarships.

workers, yet their efforts often overlap, and coordination is weak. There have been efforts to improve coordination between key actors in the system, for instance, the Ministry of Labor and Social Protection of the Population (MLSPP) has established 14 field capacity development commissions in 2019, with the Ministry of Education (and the State Agency for Vocational Education) represented in the commission. This coordination could be built upon, with a particular need to strengthen the regulatory framework to ensure that both education and qualification standards are in compliance with the needs of both the labor market and the educational sector.¹¹⁶

The low involvement of employers in higher education institutions (HEIs) has meant a mismatch between the supply of skills and those demanded by the labor market. According to the STEP Skills Measurement Employer Survey 2013-2014, few firms in Azerbaijan have regular contact with education institutions. Moreover, only 7 percent have contacts with institutions that train highly skilled white-collar workers. Such contacts are critical for addressing the skills mismatch, as it is via these partnerships that HEIs can adjust their training curricula, develop and strengthen internship programs, and provide career guidance, attuned to the needs of the labor market. Policy measures have been undertaken to reduce the skills mismatch in recent years, with about 30 percent of teachers in several HEIs and SABAH groups invited from the labor market (or working concurrently). Additionally, accreditation criteria for higher and secondary special education institutions are also being developed.

Significant shortage in technical skills to sustain a modern agriculture sector is a case in point. A recent World Bank study of the agriculture sector in Azerbaijan found that access to skilled labor is one of the main constraints that agricultural firms face. In particular, many businesses are missing the skills necessary to scale up their mostly small businesses and better integrate into global supply chains. The country's agricultural university in Ganja city is viewed as having low admissions standards and outdated curricula, failing to provide students with the required technical skills, and producing cadres of agricultural engineering specialists ill-prepared for the demands of the modern agriculture sector (Honorati et al. 2019). Efforts are being made to address this skills deficit, for example, through the implementation of dual degree programs in several specialties and increased scholarships for students in agrarian specialties since 2018. This is reflected in a 34 percent increase in enrollment of students in agrarian specialties in 2021 compared to 2018.

Constrained access to finance

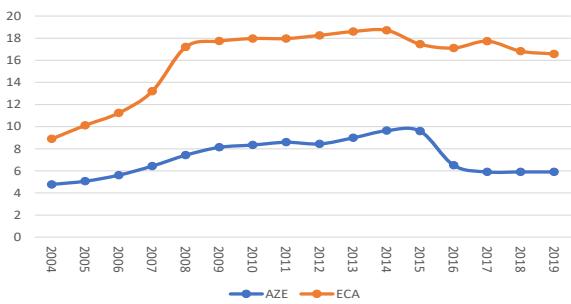
As discussed in detail in Chapter 2, Azerbaijan's financial sector is hampered by significant vulnerabilities, which poses risks to financial stability and also hinders financial intermediation. The financial sector enjoyed rapid expansion in the years of the oil price and production boom, from 2004-2014, but expansion also created vulnerabilities, due to gaps in banking regulation and supervision. The sharp decline in oil prices in 2014 and the subsequent adjustment to the exchange rate peg led to a financial crisis in 2015 and exposed these vulnerabilities, such as the dominance of banks, inefficiencies in financial intermediation, and lack of competition. Substantial weakness of the financial intermediation is reflected in low credit to GDP in Azerbaijan (18.2 percent in 2019, substantially below the regional average of 41 percent). Following the financial crisis, authorities have taken steps to clean up the financial system and bolster financial stability. However, vulnerabilities are still significant and pose risks to the soundness and effectiveness of financial intermediation.

Financial inclusion and access to finance in Azerbaijan remain below levels observed in ECA and UMICs. The World Bank Global Findex Database finds that only 29 percent of adults in Azerbaijan had an

¹¹⁶ The education standards for around 150 study programs at the level of Bachelor are being revised to support curricula reform, while the Ministry of Labor and Social Protection should develop and update occupational and qualification standards for priority professions in the labor market between 2020- 2025. As of 2020, more than 396 occupational and qualification standards have been developed and included in the Register of Occupational and Qualification Standards.

account in 2017, compared with 65 percent for the ECA region and 73 percent for UMICs (Figure 4.26).¹¹⁷ The country was on a positive path prior to 2014, but progress appears to have since stalled until at least 2017.¹¹⁸ The decline in asset valuation driven by the 2014 drop in oil prices on banks and on financial infrastructure has constrained the sector's ability to increase access and outreach, which were already below the regional median. The main reported reasons, as reported in the Findex Database, for an adult not having an account are insufficient funds (according to 69 percent of adults without an account), lack of trust in financial institutions (42 percent), lack of necessary documentation (42 percent), and cost of services (39 percent).

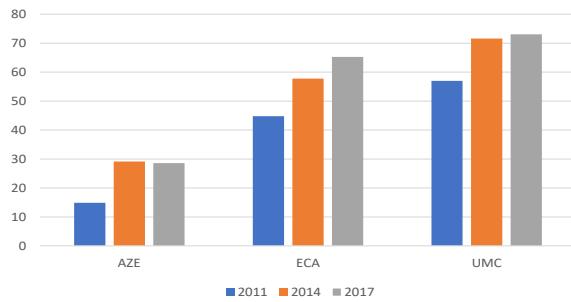
Figure 4.25: Number of bank branches per 1,000km²



Source: IMF Financial Access Survey 2020.

Note: The median for ECA excludes high-income countries.

Figure 4.26: Percentage of adults with an account, percent of age 15+



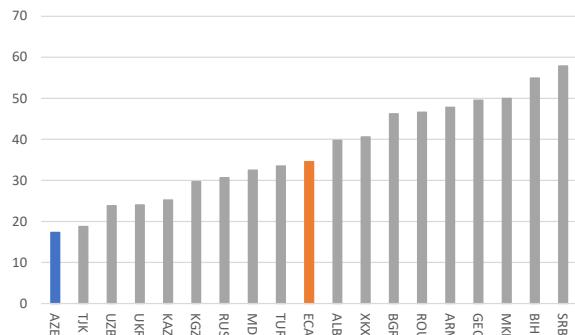
Source: World Bank Global Findex Database 2017-18

At the firm level, despite improvements since 2013, access to finance remains the biggest obstacle to a significant share of firms. Between 2013 and 2019, the percentage of surveyed firms in the Enterprise Survey with an account jumped from 69 percent to 95 percent, approaching levels observed in ECA. Despite this surge, access to finance remained the biggest obstacle to business operations for nearly 20 percent all firms surveyed in 2019, a stark contrast with only 9.6 percent for all ECA countries. Progress in increasing the share of firms with a loan has also been muted in the same period. In 2019, only 17 percent of firms had a loan, which is the lowest level in ECA (Figure 4.27). Access to finance, unsurprisingly, is a more pervasive constraint among smaller firms. While only 6 percent of large businesses (100 or more employees) find access to finance to be a major or very severe obstacle, nearly a quarter of small firms (5-19 employees) consider lack of financing to be severely limiting (Figure 4.29). Moreover, a third of small firms can be classified as either fully or partially credit constrained. Of that third, the majority are fully credit constrained; that is, these firms did not use any source of external financing, either because their loan applications were rejected, or because the firm did not consider applying, even though they needed additional capital.

¹¹⁷ The Global Findex database defines account ownership as having an individual or jointly owned account either at a financial institution or through a mobile money provider.

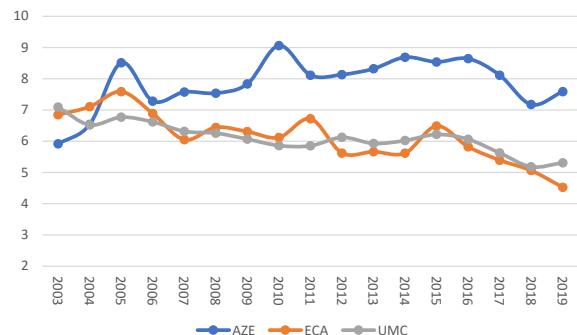
¹¹⁸ Latest available data is for 2017. The next Global Findex Database will be released in 2022.

Figure 4.27: Share of firms with a bank loan or line of credit, percent, 2019



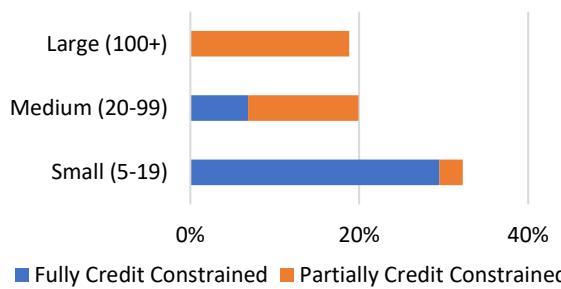
Source: World Bank Enterprise Survey in Azerbaijan

Figure 4.28: Interest rate spread (lending rate minus deposit rate), percent



Source: World Bank World Development Indicators

Figure 4.29: Share of credit constrained firms, percent



Source: World Bank Enterprise Survey in Azerbaijan, 2019

2019. In comparison, there are more than 240,000 farmers with land of 5 hectares or more and almost 600 agricultural SMEs in the country. The high average loan size also suggests that most borrowers are larger enterprises. The combination of larger loans and high interest rate subsidies suggests that current credit policy has resulted in a substantial fund transfer to large-scale enterprises (World Bank 2020). However, it should be noted that in 2020 and 2021, for the EDF, the trend has shifted toward MSME financing, with loans to MSMEs accounting for 84.2 percent and 88.1 percent of total EDF loans in 2020 and 2021 respectively.

To mitigate the adverse economic impact of COVID-19 on firms, two new programs were introduced in 2020 for severely affected regions. The first policy, a publicly funded loan guarantee program, was initiated to cover 60 percent of loan value and up to 3 million manat. Commercial banks could charge interest rates of up to 15 percent for loans made under this program, with government paying half of this interest and borrowers paying the rest. The second program was designed to support the existing commercial loan portfolio (up to AZN 1 billion) of businesses from affected industries. The program offers one-year 10 percent interest rate subsidies for non-government-guaranteed loans up to AZN 5 million (regardless of loan tenure and interest rate).

The high cost of credit, collateral requirements, and risk aversion of the financial system toward MSMEs remain critical constraints to MSME development. In the absence of formal financing, MSMEs have largely continued to rely on self-financing. Access to finance has been a persistent challenge, as reflected also in the extent of firm informality, high interest rates and funding constraints (particularly for smaller banks), high levels of dollarization, as well as a lack of proper products and credit methodologies. Azerbaijan

has one of the highest lending spreads among ECA and UMIC countries. Even though collateral requirements have declined, they remain much higher in comparison to those at the regional level. Additionally, weaknesses in bank balance sheets following the 2014 crisis and inefficiencies in financial intermediation precluded improvements in firms' access to finance. Alternative sources of financing and instruments, such as leasing, factoring, trade finance, early-stage and equity financing, are still limited.¹¹⁹ Non-bank lenders are active, especially in rural areas, but their lending capacity has been constrained by the crisis, liquidity constraints, and overall higher costs.

Policy support for MSMEs

In recent years, Azerbaijan has mainstreamed MSME-focused policy making, with notable progress in the area including the establishment of the SME Development Agency (SMEDA). Under the ambit of the “Strategic Roadmap for the Production of Consumer Goods at the Level of Small and Medium Entrepreneurship” – one of 12 strategic roadmaps adopted from 2016 to 2020, the GoA launched a number of initiatives to aid SME development. Most notable have been the establishment of a dedicated SME development agency (SMEDA) under the Ministry of the Economy (MoE) in 2017, as well as measures to extend credit guarantees, provide entrepreneurial learning, and support women’s entrepreneurship (OECD, 2020). To support SMEs, SMEDA is in the process of establishing a SME development fund to facilitate access to finance; has rolled out a skill matching tool (the Small and Medium Enterprise Development Clusters); established a community board for public oversight of its activities; and set up regular public and private stakeholder consultations with a view to improve its services.

Progress has also been made in reducing administrative barriers to SME operations and in expanding the provision of export support and promotion services. Azerbaijan outperforms the Eastern Partnership (EaP)¹²⁰ countries’ average on “operational environment” and “internalization” in the OECD’s SME Policy Index (see indicators for Pillars A and D in Figure 4.30). The emphasis on supporting SMEs as they become an important source of growth and employment was also reiterated in the Azerbaijan 2030 vision priorities approved in February 2021.

Despite noteworthy progress to build SME support systems, more remains to be done. SME contribution to the economy remains low compared to OECD countries, for instance, where SMEs generate 60 percent of value added and 60-70 percent of employment (OECD, 2020). As seen in Figure 4.30, policy indicators pertaining to access to finance (Pillar C) and SME skill-building (Pillar B) significantly lag the average of other EaP countries, and Pillar B, along with the indicator pertaining to standards and regulations (Pillar D), even worsened from 2016 to 2020.

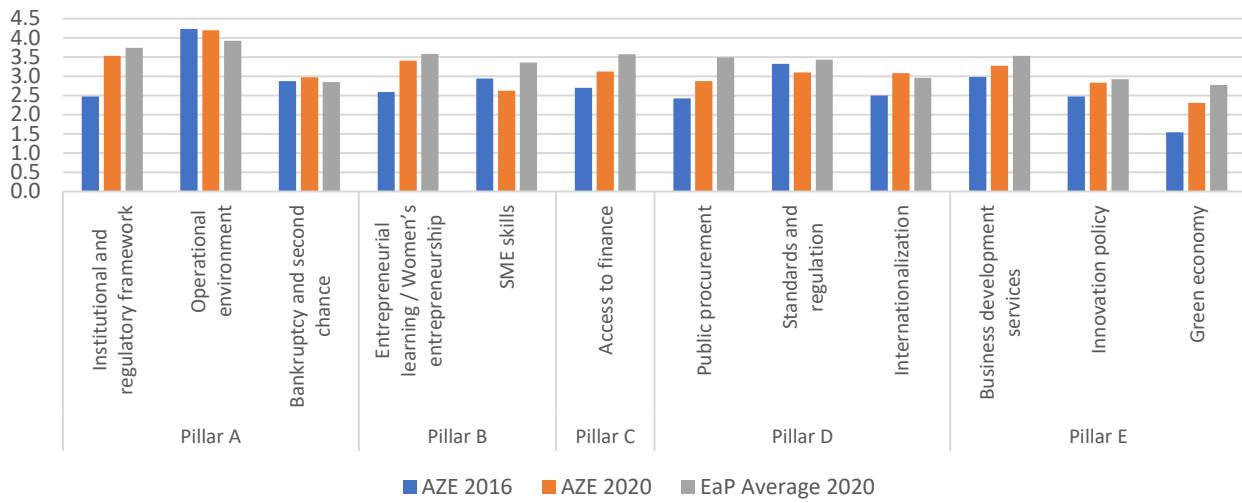
Focused efforts to improve gender equity in the MSME sector can be informed by Georgia’s experience in policy design, stakeholder co-ordination, and policy effectiveness monitoring. Given Azerbaijan’s relatively low levels of female ownership and women in management positions, much more can be done to support female entrepreneurship (as highlighted in Box 2). As suggested in the OECD SME Policy Index for Azerbaijan (2021), annual work plans for the Social Commission can be introduced to structure efforts, set targets, and to facilitate information sharing, especially with NGOs. The government can encourage identification of female role models or champions from regions in a multi-stakeholder approach based on predefined selection criteria and/or international best practices. Capacity building for NGOs and business associations is required to improve their performance in supporting women’s entrepreneurship and

¹¹⁹ A 2015 World Bank demand-side assessment identified other constraints, such as complex application procedures, limited availability of long-term financing and lacking financial capabilities.

¹²⁰ Eastern Partnership Countries to the EU – Armenia, Azerbaijan, Belarus, Georgia, The Republic of Moldova, and Ukraine

female-focused job creation and to participate in the monitoring exercises of the Centre of Analysis of Economic Reforms and Communication.

Figure 4.30: SME Policy Index scores for Azerbaijan, 2020 vs. 2016



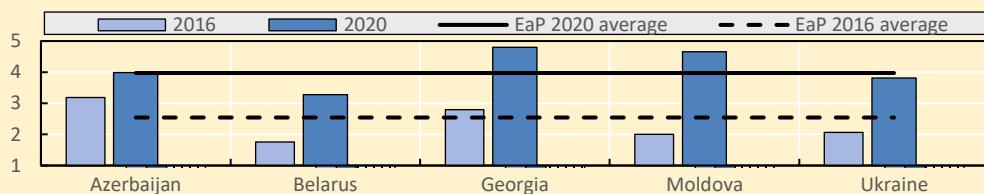
Source: OECD Azerbaijan: Small Business Act Country Profile (2020)

Box 4.2. Policies to support female entrepreneurs in the SME sector

In terms of female entrepreneurship, the country has made noteworthy progress

- The social commission of the SME development agency leads a structured policy partnership and involves key stakeholders like the Women Entrepreneurship Development Association, a non-government organization uniting companies owned and managed by women.¹
- Realizing that gender equity in the SME sector is an important element for sustainable economic growth, the GoA targets improvements in women's entrepreneurship outcomes through multiple policies and actions. Examples of policy measures include incentive mechanisms for lending and preferential taxation for female employers, with a focus on women in rural areas.¹ Additionally, the State Committee for Family, Women and Children's Affairs has established resource centers and women resource centers to provide employment and self-employment support to women (particularly from disadvantaged groups, with close to 8,000 women benefiting from such support and over 400 women starting businesses).
- Support for women's entrepreneurship is also mainstreamed into the action plans of the ministries of economy, labor and social protection, youth and sport, and business associations with each ministry all have a gender focal point. As a result, the GoA's performance on the gender dimension in entrepreneurship has seen a marked improvement between 2016-20 (Figure 4.31).

Figure 4.31. Scores for the SME Policy Index: Women's Entrepreneurship dimension (2020 vs 2016)

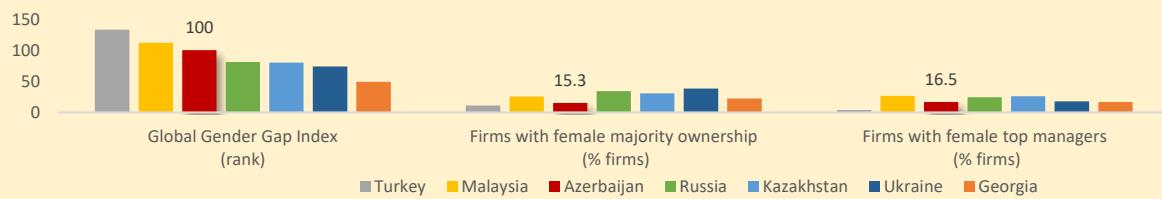


Source: OECD SME Policy Index: Select Eastern Partnership (EaP) Countries, 2020

However, there is potential to do more to support female entrepreneurs in the country

- Azerbaijan is one of the lowest ranked economies (23rd out of 26) in Eastern Europe and Central Asia in the Global Gender Gap Index (Figure 4.32). An indication of the country's slow progress in narrowing the gender gap is the fact that its rank on the index dropped from 59th (out of 128) in 2007 to 94th in 2020.
- Among its regional peers, the country has one of the lowest levels (only 15 percent) of firms with female majority ownership. Azerbaijan also has one of the lowest ratios of women in top management positions, at 16.5 percent compared to 26 percent for a structural comparator like Kazakhstan.
- Tackling such low female entrepreneurial participation rates require broadening perceptions of the range of jobs available to women, improving parental leave provisions, and having measures for better work-family balance to facilitate women's entry into nontraditional or progressively senior career paths.^x
- Only 39.4 percent¹ of women in Azerbaijan are employers, but the country also has one of the highest rates of self-employment among women (72.8 percent) in the region.¹ There is clear potential for increased female participation in both entrepreneurship and job creation, which both contribute to growth.
- Moreover, Azerbaijan still trails Eastern Partnership (EaP)^t top performers, Georgia and Moldova, whose high scores are due to the maturity of their women's entrepreneurship support policy frameworks and persistent investment into a dedicated set of implementation measures.¹
- The experience of Georgia, which implemented concerted efforts to raise the effectiveness of women's entrepreneurship policy design, stakeholder co-ordination, and evaluation of policy effectiveness, could be particularly helpful for Azerbaijan.

Figure 4.32. Azerbaijan has one of the highest gender gaps in Eastern Europe and Central Asia



Source: World Economic Forum, Global Gender Gap Index, 2021

* OECD Azerbaijan Small Business Act Country Profile, SME Policy Index Eastern Partner (EaP) Countries, 2020

† Eastern Partnership Countries to the EU – Armenia, Azerbaijan, Belarus, Georgia, The Republic of Moldova, and Ukraine

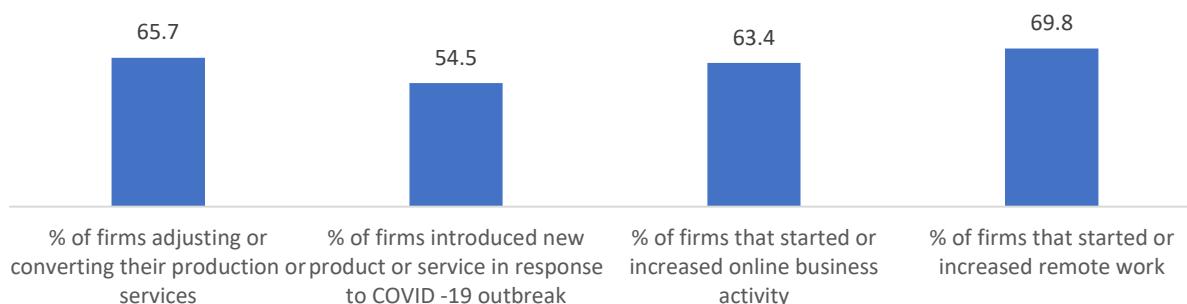
‡ ADB Azerbaijan Country Gender Assessment, 2019-20

Section 3: Impact of COVID-19 on firms

The outbreak of the COVID-19 pandemic changed the way businesses around the world operate. Firms that were more productive prior to the pandemic were more prepared to weather the crisis (Muzi et al, 2021). The World Bank conducted a follow-up Enterprise Survey with the respondents of the 2019 baseline survey in April and May 2021 to understand the depth of the impact of the pandemic on the private sector in the country. The survey found that 5.7 percent of businesses, most of which were SMEs, closed permanently. By comparison, the average exit rate was 3.5 percent for all the countries in which the follow-up surveys have been implemented (Muzi et al., 2021), and an annualized rate of 1.9 percent for Europe and Central Asia (World Bank, 2021). During the first year of the pandemic, over 62 percent of Azerbaijan's businesses had to temporarily close, with a length on average of 15 weeks. The manufacturing sector, which operated at 60 percent of capacity utilization prior the pandemic, dropped to 48 percent of overall capacity.

For the firms that survived, pandemic-related constraints have driven them to find innovative solutions to ensure business continuity and compelled them to mainstream technological adoption. Figure 4.33 shows that nearly two-thirds of businesses have adjusted or converted their production processes, while over half of businesses have introduced a new product or service in response to the pandemic. Technological adoption, as measured by the percentage of firms increasing their capabilities for remote work or online business activity, has also grown significantly, with the majority of non-users adapting to new ways of doing business to ensure business continuity. This is likely to have significant future productivity gains, particularly among SMEs, as businesses reallocate resources within the firm and innovate with product and process technology.

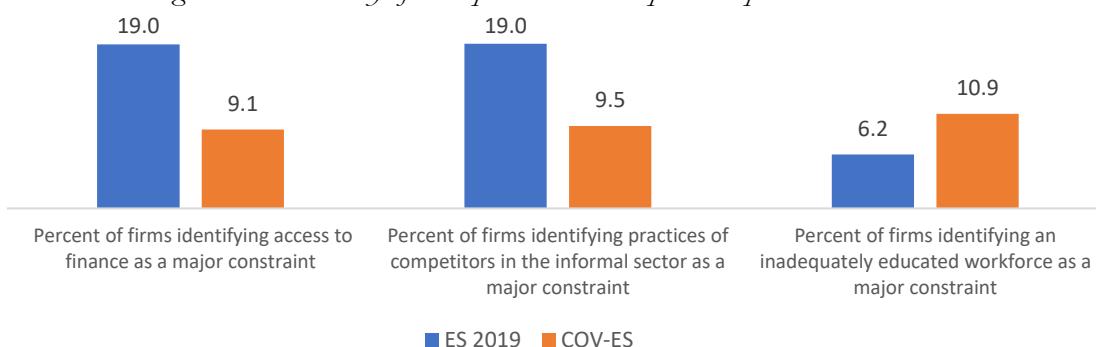
Figure 4.33: Innovation and technological adoption



Source: World Bank COVID-19 Enterprise Survey Follow-up in Azerbaijan 2020

The relative intensity of the major bottlenecks for businesses maybe altered because of the pandemic. As described in detail in the preceding section of this chapter, the top three obstacles to businesses operating in Azerbaijan prior to the COVID-19 pandemic were inadequate access to finance, unfair competition from informal sector firms, and an inadequately educated workforce (Figure 4.34). In the COVID-19 follow-up surveys, businesses were asked to rate these three obstacles in the exact same manner as it was done in the standard Enterprise Survey in 2019.¹²¹ While the perceived adverse effects from the limited access to finance and the informal sector declined, the role of workforce skills increased, with almost 11 percent of firms indicating that they have trouble with the skillset of the workers (see Figure 4.34). This may partly be explained by the changing labor market needs in a post-pandemic normal in which firms need to adapt to new ways of doing business, such as calling upon digital marketing skills to respond to a growing e-commerce sector, and the ability to perform work responsibilities remotely. The shift in the intensity to the obstacles to operations toward the importance of the human capital of workers is exacerbated by the pandemic and it is likely to be confined for the duration of it. As indicated earlier in the chapter, access to finance and competition from the informal sector are the top two obstacles facing firms and require attention to mitigate their long-term impact. Beyond driving a skills wedge, the pandemic also affected workers in the private sector. Since over 46 percent of firms are working less hours than they did a year ago, cost-cutting measures have been introduced to match the decline in operations and revenue streams. Overall, businesses reduced the number of their employees by 20 percent from December 2019 to May 2021. About 10 percent of the workers who kept their jobs had a reduction in their salary of about 50 percent, on average.

Figure 4.34: Intensity of the top three obstacles pre- and post- COVID-19



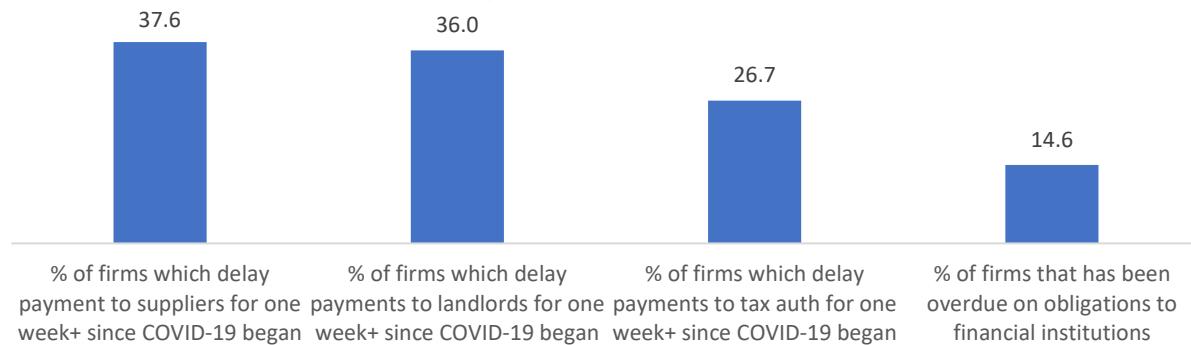
Source: World Bank COVID-19 Enterprise Survey Follow-up in Azerbaijan 2020. Note: The question here compares the shares of respondents who consider these three issues as a “major constraint,” instead of “biggest constraint” as reported in an earlier Enterprise Survey chart.

However, access to finance continues to be a pressing challenge for firms, as existing difficulties prior to the pandemic were exacerbated by the lockdowns and business disruptions. More than four in five Azerbaijani firms indicated that they experienced a decrease in liquidity and cash flow availability since the start of the pandemic, somewhat higher than the average of 70 percent for all countries in Europe and Central Asia. To cope with this, many businesses resorted to delaying payments and been forced to be overdue on their financial obligations (Figure 4.35). Over 50 percent of firms delayed payments to either suppliers,

¹²¹ Note that the Enterprise Survey in 2019 was conducted face-to-face, while the COVID-19 follow-up survey with the same respondents was conducted over the phone. These different modes of data collection may have affected the way respondents perceived the questions. Regardless, the relative answers between the three top obstacles are still indicative of the growing importance of lack of adequately educated workforce.

landlords, or tax authorities. Only about 30 percent of firms applied for a loan since the outbreak of the pandemic, with nearly one-fifth of them being rejected¹²².

Figure 4.35: Delaying payments and overdue on financial obligations

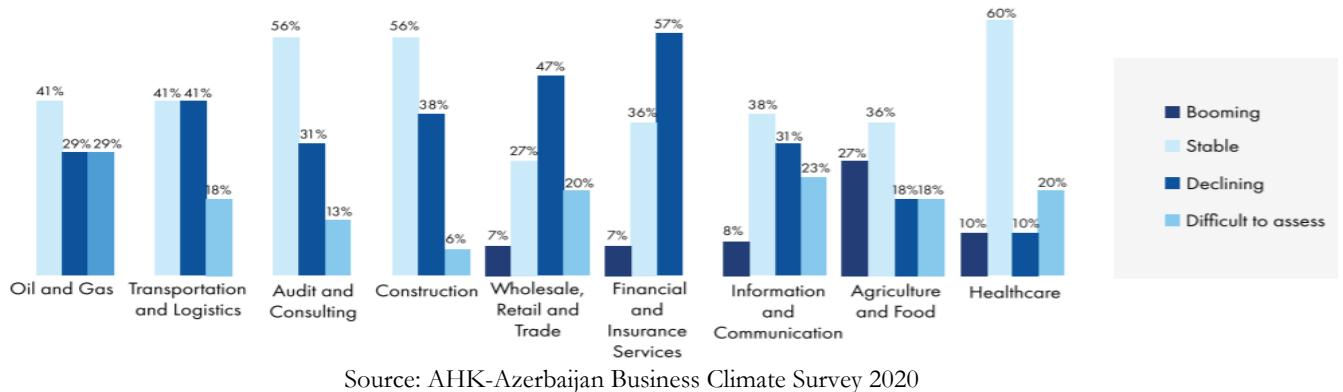


Source: World Bank COVID-19 Enterprise Survey Follow-up in Azerbaijan 2021.

Foreign firms do not expect significant disruption to business prospects over the medium- and long-term because of the COVID-19 pandemic. The 2020 AHK-Azerbaijan Business Climate Survey of EU companies operating in and cooperating with Azerbaijan found that the majority of respondents (55 percent) expected the adverse effects of COVID-19 to be short-lived. However, foreign businesses across industries were polarized in terms of their sentiments about the state of their respective industries (Figure 4.36). Healthcare sector respondents reported the highest share of “stable” or “booming” perceptions, reflecting the increasing importance of such services during the health crisis. On the other hand, perceptions in the financial sector underscored its chronic fragilities, with the highest share of respondents indicating a “declining” state of business, relative to all industries. Nonetheless, at the aggregate level, a little less than a quarter of surveyed foreign businesses reported significant business disruption. Deloitte’s Business Outlook Survey for Azerbaijan (2021), which provides a more updated view of business expectations, confirmed that while nearly 50 percent or more of surveyed firms had been impacted by pandemic-related closures (via reduced sales, spending cuts, and supply chain interruptions), nearly 40 percent expected their companies to recover from the crisis and return to pre-COVID levels in less than one year, and another 45 percent expected the recovery to happen within 1-2 years. Moreover, 42 percent of companies surveyed did not report experiencing significant changes to their balance sheets, and only about 2 percent reported completely closing their physical establishment. These trends support the notion that most resilient and productive firms have been able to successfully adapt to the new post-COVID-19 normal.

¹²² In April 2020, the CBA announced a package of measures to mitigate the negative impacts of COVID-19. Some measures that were introduced to support businesses are still in place, including non-deterioration of loan classification, non-accrual of interest fines, penalties and other related payments due to the delay in repayment (these two measures were extended until October 1, 2021), and incentives to restructuring of loans funded by state funds (EDF, the Agrarian Credit and Development Agency). According to the CBA, AZN 1.2 billion in loans were restructured in 2020 (about 52,000 loans), of which 87 percent were business loans. SME schemes were also expanded and/or introduced in response to the crisis, for example through the EDF and the Azerbaijan Mortgage & Credit Guarantee Fund (AMCGF).

Figure 4.36: Evaluation of the situation across sectors as of June 2020



Source: AHK-Azerbaijan Business Climate Survey 2020

Section 4: What will it take to foster a dynamic private sector that supports sustained growth?

The previous sections highlight some key messages regarding the state of the non-oil and gas private sector and the key constraints to its development in Azerbaijan: (i) the sector is characterized by allocative inefficiencies, with labor and capital flowing to low-productivity sectors; (ii) private firms are typically small, engaged in low value-added activities and not integrated globally; and (iii) the key cross-cutting constraints are restricted access to finance (particularly for MSMEs), an inadequate supply of skilled labor (particularly for large firms), competition from the informal sector, lack of a level playing field and business climate shortcomings.

Table 4.1 summarizes the key policy recommendations, with suggested sequencing, designed to address the key constraints identified. They are discussed in further detail in the rest of the section.

Table 4.1: Policy priorities and recommendations for promoting a productive and diversified private sector

Policy Priority	Policy Recommendation	Timeline	Institutional Responsibility
Pillar 1: Identifying and addressing constraints to formalization			
	Recommendation 1: Use firm-level data over time or through further targeted surveys to better understand the context of informality in Azerbaijan.	Short-term	Ministry of Economy, Ministry of Labor and Social Protection
	Recommendation 2: Consider evidence from fiscal reforms in other similar country contexts, such as preferential tax schemes, less distortive alternatives to labor tax, and formal employment subsidies, to identify the right policy mix for Azerbaijan.	Medium- to Long-term	
	Recommendation 3: Evaluate the effectiveness of flexible labor market regulations, for instance, on hiring and dismissal, working arrangements, and wage levels.	Medium- to Long-term	
Pillar 2: Improving access to finance, particularly for MSMEs¹²³			

¹²³ See Chapter 2 for greater detail.

	Recommendation 4: Enhance financial sector resilience and build capacity for growth through effective resolution of non-performing loans (NPL) and debt restructuring.	Short-term	CBA and relevant line ministries
	Recommendation 5: Continue unfinished reform efforts to upgrade legal, regulatory, and supervisory frameworks, pass pending draft laws, and enhance the CBA's operational independence, enforcement powers, corporate governance, and quality of accounting.	Short- to Medium-term	
	Recommendation 6: Promote financial sector deepening and diversification through a quick diagnostic of the access to finance issues faced by firms, particularly MSMEs, and move to the development of alternative capital markets.	Short- to Medium-term	
Pillar 3: Ensuring supply of skills to meet private sector needs¹²⁴			
	Recommendation 7: Promote the involvement and coordination among relevant stakeholders in skills development, with the aim of improving knowledge diffusion and adapting education programs and their content to labor market demands.	Short-term	Ministry of Education, Ministry of Labor and Social Protection, higher education institutions, businesses and other relevant actors
	Recommendation 8: Enhance the quality and availability of skills data to more accurately anticipate current and future skills demand, by establishing clear roles and channels of interactions among relevant actors and building data collection and forecasting capacities.	Short-term	Ministry of Education and Ministry of Labor and Social Protection
	Recommendation 9: Support public-private partnerships in skills development, such as the deployment of projects in cooperation with SMEs and firms from all technological sectors, so that the higher education and vocational training sector is flexible and responsive to businesses' needs.	Medium- to Long-term	Ministry of Education, Higher education institutions, businesses
Pillar 4: Improving the business climate			
Level the playing field for the private sector	Recommendation 10: Strengthen competition policy's legal and institutional framework, as well as enforcement.	Short-term	Ministry of Economy; Parliament (Milli Majlis)
	Recommendation 11: Promote pro-competition rules and encourage market contestability by reducing barriers to firm entry in specific sectors and removing market-distortionary price controls.	Short-term	Ministry of Economy and other line ministries
	Recommendation 12: Foster competitive neutrality principles in markets established via international best practices.	Medium-term	Ministry of Economy; Council of Ministers
Promote predictability in business and	Recommendation 13: Establish long-term commitment to targeted business climate reforms, involving key stakeholders (public and private), to	Short-term	Ministry of Economy

¹²⁴ Refer to Chapter 5 that looks at skills supply and functioning of labor market in greater detail.

investment climate reforms	reduce market uncertainty and increase effectiveness of existing institutional and legislative support.		
	Recommendation 14: Strengthen institutional support for MSMEs' access to domestic and international markets by expanding and better targeting the services provided by the SME Development Agency, AzPromo, and AzExport.	Short- to Medium-term	
Tackle persistent issues related to poor governance, particularly regarding corruption control	Recommendation 15: Adopt measures for furthering business integrity, incentivizing corruption reporting, and raising broader awareness through collective action among individual firms, business associations, and the GoA.	Medium-term	Ministry of Economy
Build on legal and judicial institutions and processes to improve the business environment	Recommendation 16: Continue implementation of legal and judicial reforms made in recent years, and pilot additional efforts to plug the gaps in current legal architecture, including IPR-related dispute mechanisms.	Medium-term	Ministry of Economy, Ministry of Justice

Pillar 1: Identifying and addressing main constraints to formalization

Recommendation 1: Use firm-level data over time or through further targeted surveys to better understand the context of informality in Azerbaijan. Competition from informal firms was the biggest bottleneck for formal businesses in 2019. As seen in earlier evidence, not only do informal firms tend to be less productive on a standalone basis, but formal firms are also less productive in the presence of informal competition. Informal firms face constraints to entry into the formal sector, such as prohibitive taxation, regulatory complexity, and poor governance, which serve to disincentivize formalization. These factors need to be studied further using firm-level data over time or through further targeted surveys.

Recommendation 2: Consider evidence from fiscal reforms in other similar country contexts, such as preferential tax schemes, less distortive alternatives to labor tax, and formal employment subsidies, to identify the right policy mix for Azerbaijan. Outcomes of fiscal measures on reducing informality have been mixed,¹²⁵ however evidence from the emerging ECA region suggests policy options in the form of: (i) Fiscal reforms such as preferential tax schemes, less distortive alternatives to labor tax, and formal employment subsidies; (ii) Better governance through stronger institutions; and (iii) Flexible labor market regulations (Ohnsorge and Yu, 2021). Preferential tax schemes for the self-employed and small firms is one form of tax simplification that can encourage entrepreneurship, increase revenue collection from hard-to-tax sectors, and ease the transition from informal to formal work. However, these schemes may also inadvertently encourage perverse outcomes—formal workers may want to avoid higher taxes by shifting into presumptive tax status; firms may want to remain small (Packard et al. 2012). Shifting to less distortive¹²⁶ and more easily enforced taxes, such as value-added taxes and progressive real estate or land taxes, may be alternatives to shrink the informal economy (Packard et al. 2012), as has been evidenced in Georgia and Azerbaijan itself after 2000 (Végh and Vuletin 2015). Finally, a formal employment subsidy introduced in Turkey in 2004-2005

¹²⁵ Typically, reducing the tax compliance burden and tax rates, as well as subsidizing the transition to formality, has been accompanied by declines in informality. On one hand, higher labor tax rates encourage a movement into untaxed informal employment, especially for low-wage earners (Koettl and Weber 2012). On the other hand, higher labor tax rates have in some cases been associated with a lower share of informal employment, because higher revenue allow governments to provide better public goods that can only be accessed in formal employment (Fialová and Schneider 2011; Friedman et al. 2000).

¹²⁶ Labor income taxes constitute a wedge between informal and formal employment

led to an increase in the number of registered jobs by encouraging informal workers to transition through better social protection and other benefits (Betcherman et al. 2010).

Recommendation 3: Evaluate the effectiveness of flexible labor market regulations, for instance, on hiring and dismissal, working arrangements, and wage levels, in reducing informality in related country contexts, and adapt learnings accordingly for Azerbaijan. More restrictive employment protection legislation has been associated with higher informal output and employment in ECA (Ohnsorge and Yu, 2021). This makes it important that Azerbaijan analyze options for increasing labor market flexibility (Fialová and Schneider 2011; Lehmann and Muravyev 2009), which could include changes in regulations related to hiring and dismissal, working arrangements, and wage levels. Such policies, while targeting simplification and streamlining for the informal sector, could also help address formal sector business leaders' concerns around a challenging regulatory environment.

Pillar 2: Improving access to finance, particularly for MSMEs

Access to finance has been one of the most pressing challenges for firms in Azerbaijan in the last decade. It is also a particularly pressing challenge for smallholder farmers in the strategic agricultural sector (not covered in the Enterprise Survey). Addressing this bottleneck will require focused efforts across three policy priorities identified in the access to finance policy note for Azerbaijan (2021): (i) Enhancing financial sector resilience and building capacity for growth; (ii) Upgrading legal, regulatory, and supervisory frameworks; (iii) Promoting financial sector deepening and diversification.

Recommendation 4: Enhance financial sector resilience and build capacity for growth through effective resolution of non-performing loans (NPLs) and debt restructuring. A stronger and more resilient financial sector is the prerequisite for building market confidence, reducing dollarization, and mobilizing new savings and investments. Resolution of NPLs is paramount for economic growth, as it enables the exit of non-viable firms and the reorganization of viable ones, thereby promoting the efficient reallocation of resources. It allows banks to offload non-earning assets and borrowers to regain creditworthiness and maintain operations. In Azerbaijan, still-high levels of NPLs have limited banks' capacity to supply credit and inhibited the financial sector's growth. The development of a comprehensive strategy for NPL resolution should be an immediate priority for authorities, especially in anticipation of an increase in NPLs due to the COVID-19 pandemic. The legal framework should be reformed to enhance debt enforcement, debtor rehabilitation, out-of-court restructuring, and pre-insolvency procedures. Different options for voluntary out-of-court restructuring and the development of tools to support distressed debt markets, including NPL sales and asset management solutions, should be explored.

Recommendation 5: Continue unfinished reform efforts to upgrade legal, regulatory, and supervisory frameworks, pass pending draft laws, and enhance the CBA's operational independence, enforcement powers, corporate governance, and quality of accounting. Strengthening the country's legal, regulatory, and supervisory frameworks will provide the foundation for the sustainable development of the financial sector. The CBA should continue unfinished reform efforts to upgrade the sector's legal and regulatory frameworks in line with international standards and practices. Authorities should build on previous assessments and efforts to draft amendments to main legislations (i.e., Law on Banks, Insurance, Non-Bank Credit Organizations, Payments, Deposit Insurance). Particularly in the area of payments, there is opportunity to support private sector participation by putting the appropriate legal and regulatory architecture in place. For instance, the GoA should prioritize the development and digitization of the payments ecosystem in Azerbaijan by enacting the draft law on Payment System and Payment Services, which currently incorporates most elements of the EU PSD2 Directive and includes important provisions on open banking, agent banking, and regulatory sandboxes (World Bank, forthcoming). Moreover, drafting the National Payments System (NPS) and National Financial Inclusion (NFI) strategies based on stocktaking of the "State Program on

Expansion of Digital Payments in the Republic of Azerbaijan for 2018-2020" can also be considered. Such legal efforts will not only aid the growth of the cashless economy but can also help to reduce informality. It will be critical to enhance the CBA's institutional and supervisory capacity, operational independence, legal protections, and enforcement powers to increase financial sector compliance with prudential requirements and ensure sound business and governance practices. Additional efforts to improve corporate governance and quality of accounting and reporting should also be pursued.

Recommendation 6: Promote financial sector deepening and diversification through a quick diagnostic of the access to finance issues faced by firms, particularly MSMEs, and move to the development of alternative capital markets. Financial sector deepening and diversification should start with an effective diagnostic of the issues and include the development of alternative capital markets. An in-depth assessment involving business pulse surveys and other tools should investigate the current situation of access to finance, obstacles to financial inclusion such as legal and regulatory barriers, and the overall institutional environment. A mapping of the different types of MSMEs and available instruments (financing and non-financing instruments) would help inform the development of a financial inclusion strategy for underserved segments. As MSMEs require different types of lending methodologies and instruments depending on their priorities and development cycles, authorities should undertake efforts to diversify the offer of financial products. The development of asset-based lending (ABL) products and supply chain finance is strongly recommended. Plans to develop a legal and regulatory framework for private equity (PE) and venture capital (VC) financing are also strongly encouraged. Finally, in addition to the prompt adoption of the draft law on Payment System and Payment Services, the CBA should keep up the pace of reforms in areas such as fintech regulation and e-commerce law, as this will promote innovations with transformative impacts.

Pillar 3: Ensuring supply of skills to meet needs of the private sector

Poor quality of skills was the third most cited bottleneck by businesses in the 2019 Enterprise Survey and became relatively more salient than the other two top constraints in the aftermath of COVID-19. An effective skills development infrastructure in Azerbaijan is not only necessary to improve labor productivity across economic sectors, but also a key ingredient for attracting FDI, as highlighted by foreign businesses in the AHK Azerbaijan business survey. Addressing the skills deficit with a focus on private labor market needs will require considering three policy options identified in the skills and tertiary education policy note for Azerbaijan (2021): (i) Improve the involvement and coordination among relevant stakeholders involved in skills development; (ii) Improve the quality and availability of skills data for correctly anticipating demand; (iii) Support public-private partnerships in skills development.

Recommendation 7: Promote the involvement and coordination among relevant stakeholders in skills development, with the aim of improving knowledge diffusion and adapting education programs and their content to labor market demands. Collaboration between the Ministry of Education, Ministry of Labor and Social Protection, higher education institutions, employers and other stakeholders involved in skills development need to be strengthened. For instance, the Republic of Korea and Singapore have set up governance arrangements that help articulate demand and supply in a dynamic way, which is necessary to address skills mismatches in a timely manner. Those countries have put future-oriented skills strategies at the heart of their productive development and have succeeded in achieving considerable progress in impressively short historic periods (ILO, 2015). Building official links among training providers (including vocational education institutions), businesses, and other partners, as well as integrating skills development within broader development strategies, could also help this purpose.

Recommendation 8: Enhance the quality and availability of skills data to anticipate current and future skills demand more accurately, by establishing clear roles and channels of interactions among relevant actors and building data collection and forecasting capacities. In addition to skills data

availability, mechanisms for anticipating skills demands and disseminating this information to inform policy and training planning are also necessary. The establishment of a National Observatory on Labor Market and Social Protection in 2019 has been an important step in the identification of skills gaps in Azerbaijan. Its effectiveness could be improved by establishing clear roles and channels of interactions among relevant actors and building their capacities to leverage data collection and anticipate present and future skills demands. The capacity of public officials to adapt resource allocations to labor market needs must be strengthened, as well as the ability of HEIs to systematically analyze and respond to labor market demand. Dissemination and stronger research capabilities of higher education institutions are also important to the process.

Recommendation 9: Support public-private partnerships in skills development, such as through the deployment of projects in cooperation with SMEs and firms from all technological sectors, so that the higher education and vocational training sector is flexible and responsive to businesses' needs. In Azerbaijan, some HEIs have begun to include internship programs into their study curricula and operate career guidance centers. These activities help students to find jobs or improve their qualifications, thus increasing their employability. Some companies that have recognized the competencies of students graduating from certain faculties offer jobs to those students immediately after or even before graduation. Yet cooperation between HEIs and employers remains informal and is not formally regulated. Practices such as internships and HEI-employer partnerships could be more systematically implemented and expanded at the national level. Going forward, policymakers should emphasize the development of applied tech skills and structured partnerships between HEIs and vocational training institutions and industry for internship and capstone projects.

Pillar 4: Improving the business climate

To address the business climate shortcomings identified in Section 2, Azerbaijan needs to focus on (i) fostering competition, with a focus on leveling the playing field for the private sector; (ii) promoting predictability in business and investment climate reforms; (iii) tackling persistent issues related to poor governance and (iv) consolidating and building on legal and judicial reforms to improve the business climate.

Policy Priority 1: Level the playing field for the private sector

Competition and contestability are critical fundamental requirements for the private sector to function and grow. Anti-competitive practices put market power in a handful of firms, usually linked to the state and harboring political connections, thereby discouraging formal firms' fair entry and scale-up. Addressing these challenges will require policy efforts, as discussed in detail in the WBG CPSD for Azerbaijan as well as the WBG Competition Background Note for Azerbaijan, to: (i) Strengthen competition policy's legal framework and enforcement; (ii) Promote pro-competition rules and encourage market contestability; and (iii) Foster competitive neutrality principles established via international best practices in markets.

Recommendation 10: Strengthen competition policy's legal and institutional framework, as well as enforcement. Specifically, competition law should be reformed to be applicable to all operators in a non-discriminatory manner, including natural monopolies and public operators. Secondly, existing rules on competition should be aligned with international standards (e.g., European Union), allowing business conduct that is generally innocuous for competition or pro-competitive;. In addition, current merger control proceedings should be reviewed to enhance legal certainty. Finally, the competition agency should be ensured full independence, as well as guaranteed enough budgetary and human resources for competition enforcement.

Recommendation 11: Promote pro-competition rules and encourage market contestability by reducing barriers to firm entry in specific sectors and removing market-distortionary price controls. Enhancing contestability and removing market-distortionary price controls can help increase productivity and

market efficiency. Thus, action should be taken to promote pro-competition rules and encourage market contestability. First, foreign equity restrictions imposed by the Presidential Decree dated 28 March 2000 should be limited to allow potential foreign competitors to enter and compete in key sectors, notably utilities. Second, independent sectoral regulators—statutory bodies that can be accountable to the respective line ministries—should be established for key sectors (e.g., energy, telecommunications, and transport including air, rail, road, ports) to avoid conflicts of interest between policy objectives and SOE incentives and to foster effective competition via better regulation. Third, the Law on Telecommunications should be reviewed to ensure non-discriminatory access to essential infrastructure in key sectors. In addition, price controls in industries without a clear market failure to be addressed should be gradually phased out to incentivize efficiency and encourage innovation. International experience suggests the following recommendations for Azerbaijan to phase out distortionary price controls: (i) A clear policy should designate an authority to enforce the transition; (ii) Technical capacity should be developed to identify the markets that merit price intervention; and (iii) the GoA should coordinate the removal of price controls with the promotion of public policies necessary to foster competition (e.g., enforcing antitrust laws and removing government rules that limit entry or expansion, facilitate collusion or discriminate between competitors) (World Bank, 2020a).

Recommendation 12: Foster competitive neutrality principles in markets established via international best practices. Encouraging neutral market rules that are applicable to state and private enterprises alike can reduce the risk of crowding out private investment. A clear separation between commercial and non-commercial activities of SOEs and business separation in vertically integrated SOEs should be encouraged or required. In addition, SOEs should be mandated to earn rates of return comparable to private-sector competitors. Finally, a state aid control framework should be adopted to limit the potential distortions of state support measures benefitting SOEs or other private players.

An important caveat to consider is that market contestability, by itself, may not be enough to level the playing field. Evidence from the Middle East and North Africa, a region with a significant state footprint, shows that contestability in markets might not suffice to unleash the growth potential in a given country if there is no contestability in the public square (Gatti and Lederman 2021). Their research shows that market-oriented policies are usually associated with reducing entry costs, but normally not exit costs or even with the retooling of SOEs. There is also evidence that politically connected firms respond to competition not by retooling or innovating, but by securing access to opaque forms of subsidies. Consequently, the private sector in the region continues to be dominated by incumbent firms with incentives to engage in ‘rent-seeking’ to maintain privileged positions. Deeper institutional reforms are, therefore, needed to nurture meaningful market contestability.

Policy Priority 2: Promote predictability in business and investment climate reforms

Addressing open challenges to business climate identified in firm-level surveys and increasing policy predictability can improve investor confidence by reducing investor risk. Competitive benchmarking notwithstanding, the performance of the country has been improving on a standalone basis on the WEF Global Competitiveness indices in recent years. This reflects the improvements in its institutional and regulatory framework for SME policy and reforms aimed at SMEs’ operational environment. The success can also be partly credited to a targeted analysis and monitoring unit, Center for Economic Reforms Analysis and Communication, that has been established with the mandate to improve international standings for Azerbaijan on business policy related indices. However, more remains to be done. Streamlining and increasing awareness around investment incentives and initiatives can help improve effectiveness of existing business support measures. Additionally, forward-looking prioritization of strengthening external linkages through a more open trade and investment policy should be done.

Recommendation 13: Building on existing reform momentum, establish long-term commitment to targeted business climate reforms, involving key stakeholders (public and private) to reduce market uncertainty and increase effectiveness of existing institutional and legislative support. Azerbaijan can build on existing reform momentum, with recent reforms including the introduction of investment promotion certificate for prioritized industries, the Alat Free Economic Zone, establishment of the Business Development Fund and the drafting of the new investment law. Institutional support to external trade and investment linkages is at the center of many initiatives (e.g., the One-Stop-Shop Export Support Center, the AzExport e-portal, and the Azerbaijan Investment and Export Promotion Agency) (EU, 2019). Initiatives such as these, incentive programs to attract FDI and other tangible support measures, as well as general predictability in the government's strategic priorities all help to reduce market uncertainty and are key determinants for investment decisions. Having a comprehensive legal framework for PPPs is another factor in attracting large scale investment, particularly in infrastructure projects. In 2016, the GoA passed the Infrastructure Law and the PPP Decree that provide some guidance on concessions in infrastructure. However, the regulations only cover construction and infrastructure services that fall under the Build-Operate-Transfer (BOT) model. Continued commitment to these kinds of institutional and legislative supports should be demonstrated and made more effective through ongoing business climate reforms and coordination between key stakeholders.

Recommendation 14: Strengthen institutional support for MSMEs' access to domestic and international markets by expanding and better targeting the services provided by the SME Development Agency, AzPromo, and AzExport. As highlighted in the OECD SME Policy Index Report for Azerbaijan (2021), expanding and targeting the services provided by the SME Development Agency, AzPromo, and AzExport to better connect local suppliers with foreign investors should be considered. Tailored services such as training and mentorship programs, as well as initial handholding, could be provided to enhance the export readiness of local SMEs. The government could also consider establishing mechanisms to provide export finance to SMEs. Regarding quality assurance and standardization, the government could enhance the capacity of the Azerbaijan Accreditation Centre (AzAK) and implement programs to raise SME awareness of the need for and benefits of standardization and quality control.

Policy Priority 3: Tackle persistent issues related to poor governance, particularly regarding corruption control

Good governance is characterized not only by streamlined administrative processes for the private sector, but also by the effective assurance of business continuity through a system of checks and balances. As seen in earlier evidence, Azerbaijan lags most peers across governance indicators. Moreover, not only was corruption the fourth most pressing constraint for businesses in 2019, the share of respondents citing it as the biggest bottleneck to their business operations also markedly increased between 2013-2019.

Recommendation 15: Adopt measures for furthering business integrity, incentivizing corruption reporting, and raising broader awareness through collective action among individual firms, business associations, and the GoA. Currently, company disclosures of final beneficial owners—an important element for private sector transparency—is obligatory only for financial sector firms but not for other businesses.¹²⁷ Making such a disclosure mandatory for all businesses can improve firm-level integrity and accountability. Regarding corruption reporting, despite rising demand from civil society and business associations, the government has not yet adopted whistle-blower protection legislation.¹²⁸ Through a joint collaboration between the Azerbaijan Anti-Corruption Academy and the Commission on Combating Corruption, the country has conducted several awareness-raising activities on corruption prevention in the

¹²⁷ OECD Azerbaijan Small Business Act Country Profile, SME Policy Index Eastern Partner (EaP) Countries, 2020

¹²⁸ Ibid.

public sector (e.g., the development of its National Corruption Barometer). However, there is scope to broaden awareness-raising efforts through collective action among individual firms, business associations, and the GoA.

Policy Priority 4: Building on legal and judicial reforms related to the business environment

Recommendation 16: Continue implementation of legal and judicial reforms made in recent years, and pilot additional efforts to plug the gaps in current legal architecture, including IPR-related dispute mechanisms. Reforms put in place following the Presidential Decrees in 2019 and 2014 now need to be fully implemented, and a monitoring system should be established to track and address potential vulnerabilities, particularly in the case of the electronic channels. To address IPR-related disputes, specialized courts—as were set up in the case of taxes and customs—or arrangements for ensuring judges have strong IP experience and expertise, could be explored.¹²⁹ Specifically for SMEs, having a business ombudsman mechanism can streamline potentially long and burdensome processes associated with property rights protection and grievance redressal. In addition, lessons on successes in the mediation process should be extracted from the experiences following the enforcement of the 2019 Law on Mediation, which regulates the status of mediators in commercial and administrative dispute resolution. The GoA should also maintain dialogue with firms and business associations to gauge the effectiveness of nascent alternative dispute resolution (ADR) mechanisms and to address identified gaps in a timely manner. Finally, an EU technical assistance project aimed at improving the effectiveness of international commercial arbitration procedures and ensuring the proper training of judges treating administrative disputes in taxes, customs and social insurance has been requested by the Ministry of Justice (OECD, 2020),¹³⁰ and learnings from this project should be used to better align the domestic legal and judicial systems with international best practices.

¹²⁹ Ibid.

¹³⁰

Chapter 5

Building human capital for sustained and inclusive growth



This chapter is organized as follows: Section 1 provides a brief overview of the state of Azerbaijan’s human capital, assessing the country’s record in the World Bank’s Human Capital Index (HCI) to identify areas of strengths and weaknesses relative to peers. Section 2 investigates the performance of the education system, including key outcomes such as enrollment, educational attainment, and educational quality. Section 3 focuses on skills development and assesses various aspects of the labor market, including skills supply, labor market developments and skills shortages. Section 4 examines the present capacity of the social assistance system to help mitigate income and welfare losses in the face of adverse shocks. Finally, Section 5 concludes with policy recommendations to address the key constraints to learning, skills development and social protection and support human capital accumulation needed for sustained growth in the long run.

Section 1. Azerbaijan’s human capital accumulation is constrained by low education quality

Human capital consists of the knowledge, skills, and health that people accumulate over their lives, and there are different approaches to measuring human capital. In addition to its intrinsic importance, human capital is a key driver of sustainable growth and poverty reduction. There are two broad approaches to measuring human capital (i) the first is an *indicators-based approach* that estimates human capital based on measures of population characteristics, with the World Bank’s Human Capital Index (HCI) an example of this approach, and (ii) the second is a monetary measure, such as the measure used in the World Bank’s Changing Wealth of Nations (CWON) report¹³¹. The differences and the complementarity of the HCI and CWON approaches to measuring human capital are discussed in detail in Box 5.1.

¹³¹ The measure used is the total present value of the expected future labor income that could be generated over the lifetime of the current working population.

Box 5.1. Human Capital Index and Changing Wealth of Nations' human capital

The World Bank's Human Capital Index (HCI) is an international metric measuring the human capital that a child born today can expect to attain by her 18th birthday, given the risks of poor health and poor education prevailing in her country. The HCI incorporates key dimensions of human capital: health (child survival, stunting, and adult survival rates) and the quantity and quality of schooling (expected years of school and international test scores). Using global estimates of the economic returns to education and health, these components are combined into an index that captures the expected productivity of a child born today as a future worker, relative to a benchmark of complete education and full health (World Bank 2020).

In the Changing Wealth of Nations (CWON), human capital is measured as the expected future earnings of the entire labor force. It is estimated as the total present value of the expected future labor income that could be generated over the lifetime of the current working population. In other words, human capital is considered an asset that generates a stream of future economic benefits. The CWON's measure of human capital focuses on the economic benefits that a well-educated and healthy workforce generates.

The HCI uses a broader concept of human capital than CWON, incorporating several nonmonetary indicators of health and education outcomes. Conceptually, however, the two measures share much in common, as both are anchored in the development accounting literature and measure human capital in terms of expected future earnings. The main difference between the two measures is that the HCI measures expected future earnings of a child born today, while the CWON measure estimates expected future earnings of the entire labor force. In addition, while the CWON reports estimates in monetary terms, the HCI is expressed relative to a benchmark of complete education and full health (i.e., a child born in a country with an HCI value of 0.5 will only be half as productive as a future worker as she would be if she enjoyed complete education and full health).

The CWON measure of human capital complements the HCI, using human capital outcomes that derive indirectly from factors such as educational attainment and health (probability of survival) to provide an understanding of the current stock of human capital in countries. The CWON measure also importantly accounts for labor market outcomes, such as the probability of employment and labor market premiums across countries. While the HCI does not include labor market outcomes, the 2020 update to the index introduced the Utilization-Adjusted HCI (UHCl), an analytical extension that accounts for the underutilization of human capital, based on fraction of the working age population that are employed, or are in the types of jobs where they might be better able to use their skills and abilities to increase their productivity. In Azerbaijan, the UHCl suggests that, in the long run, GDP per capita will be 2.8 higher in a world of full utilization, full health, and complete education as compared to the status quo (Pennings, 2020). The current level of underutilization of human capital is also reflected in CWON indicators, which show that in Azerbaijan the share of human capital in total wealth is only 23%, versus 56% in ECA.

The HCI constitutes one pillar of the World Bank's Human Capital Project (HCP), which aims to support countries to make effective investments in the human capital of their citizens, as a core strategy to increase productivity and foster growth. The second pillar of the HCP aims to scale up measurement and research on human capital formation and the programs and policies that support this process, while the third pillar, focused on country engagement, supports governments in identifying national priorities for human capital development and implementing policies that tackle the barriers preventing countries from reaching their goals (World Bank 2018). To this end, CWON estimates of the current stock of human capital complement the HCI forward-looking measure to further the World Bank's agenda on human capital.

Source: World Bank (2018, 2020); the Human Capital Project.

Azerbaijan's human capital has increased, but the share of wealth deriving from human capital has declined (see Chapter 1 for discussion and estimates). Per the latest CWON estimates, Azerbaijan's total human capital more than doubled since 2000 (partly reflecting population growth over the period) but has been declining since 2015. Reflecting a sharp increase in non-renewable natural capital, the share of human capital in total wealth has declined to 23 percent in 2018 from a 40 percent in 2020. This is well below the shares of human capital in global wealth (64 percent), in wealth of upper-middle income countries (64 percent) and in wealth of low-income countries (50 percent). In fact, Azerbaijan's human capital share of wealth and

human capital per capita is also below its structural resource-rich peers (see Chapter 1) and the gap has been widening.

Weak human capital accumulation is also reflected in Azerbaijan's performance in the World Bank's Human Capital Index (HCI) (see Table 5.1). The HCI for Azerbaijan in 2020 was 0.58, implying that a child born in Azerbaijan today will be only 58 percent as productive when she grows up as she could have been if she enjoyed complete education and full health. Azerbaijan's HCI score has improved from 0.50 in 2010 and is slightly higher than that of upper middle-income countries (0.56), but it remains lower than that of most structural peers and the average for Europe and Central Asia (ECA) region, including high income countries (0.69).

Table 5.1: Unpacking the Human Capital Index: Azerbaijan and structural peers¹³²

	Survival	School		Health		HCI
	Probability of Survival to Age 5	Expected Years of School	Harmonized TIMSS Test Scores	Adult Survival Rate	Fraction of Children Under 5 Not Stunted	
Indonesia	0.98	12.4	395	0.85	0.72	0.54
Azerbaijan	0.98	12.4	416	0.88	0.82	0.58
Malaysia	0.99	12.5	446	0.88	0.79	0.61
Kazakhstan	0.99	13.7	416	0.84	0.92	0.63
Chile	0.99	13.0	452	0.92		0.65
Averages						
Upper middle income	0.98	11.8	411	0.86	0.87	0.56
Europe & Central Asia	0.99	13.1	479	0.90	0.90	0.69

Note: Red color shows the lowest value within each sub-component and green color the highest one.

Source: World Bank, 2020. World Bank Human Capital Project October 2020. Washington, DC: World Bank

The key driver of a lower HCI is performance on test scores¹³³. Azerbaijan has recorded improvements in TIMSS scores compared to its scores in 2011. However, harmonized test scores are close to 416 on the TIMSS scale, below that of ECA countries, and, more importantly, a child who starts school at age 4 in Azerbaijan can expect to complete 12.4 years of school by her 18th birthday, yet when years of schooling are adjusted for quality of learning (measured as the harmonized test scores), she receives the equivalent of only 8.3 years. This represents a learning gap of 4.1 years, which is higher than peers. Weaker learning outcomes, in turn, have an impact on skills development (as discussed later in the chapter) and are reflected in the challenges that firms face in getting access to skilled labor (as noted in Chapter 4).

In addition to gaps in learning, Azerbaijan also shows high disparities in educational outcomes based on income.¹³⁴ According to the HCI, students from the poorest 20 percent of the population have lower future productivity, worse learning outcomes and less expected years of schooling compared to those from the wealthiest 20 percent. For instance, the population from the poorest 20 percent of the population have, on average, one less year of education and score 31 points less in the Harmonized Learning Outcomes scale than the richest 20 percent of the population.

¹³² The selection of structural peers is highlighted in Chapter 1.

¹³³ It should be noted that the HCI uses the TIMSS to facilitate a standard comparison across countries. Other international such as the PIRLS (on reading achievement) shows that reading skills has improved by 10 points from 462 to 472 points from 2011 to 2016.

¹³⁴ According to the Law on Education, the state guarantees access to education to all of its citizens so the disparities should be analyzed and addressed.

Other critical human capital constraints are focused on early childhood in both health and education but are not the focus of this chapter. The most critical time to nurture, shape, and inspire a healthy, productive, successful future are the years between birth and age five. Attendance at preschool education is very low in Azerbaijan, with a net enrollment rate at 39.7 percent in 2018, significantly lower than regional peers. In Azerbaijan, 98 out of 100 children born in Azerbaijan survive to age 5, which is high. However, the fraction of stunted children is high compared to most structural peers. This is an important area of study, but not the focus of this chapter.

Section 2. Current state of the education system

Azerbaijan's Vision 2030 for socioeconomic development rightly envisages an "education system in line with the requirements of the 21st century." This section analyzes the current state of the education system and the critical gaps that may be impeding the country from achieving this vision. The section first presents key inputs, such as educational expenditures; and then examines educational outcomes, such as enrollment, educational attainment, and education quality. The section then highlights critical constraints, such as low access to early childhood education and high cost of tertiary education, that hinder the education system from achieving optimal outcomes. It should be noted that the analysis is constrained by limited access to data, particularly on public education financing, which prevents a deeper analysis of the efficiency and effectiveness of current spending on education.

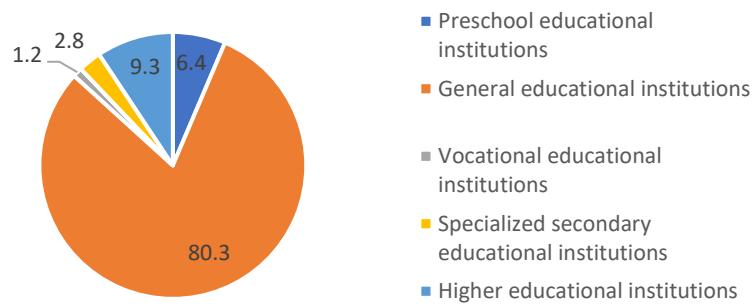
Inputs in the education system

Azerbaijan's formal education system is organized by several levels. Education is compulsory for all children between the ages of 6 and 15. The system consists of pre-school education (ages 3–5); general education, covering primary education (grades 1 to 4), basic education (grades 5 to 9), and general secondary education (grades 10–11); VET, including initial special vocational education (one year of special vocational education combined with complete general secondary education), grades 1-2 of secondary special vocational education (2 years of study) and post-secondary non-tertiary education in secondary special vocational education; and finally, tertiary education, which includes Bachelor's degree programs (4 years of study), Master's programs (2 years of study), and Doctor of Philosophy and Doctor of Science programs (3 years of study).¹³⁵

Close to two million students are enrolled in 6,305 educational institutions across the country. Of the 1,990, 035 students that attended both state and non-state educational institutions during the 2020-2021 school year, 5.9 percent attended pre-school education, 80.3 percent general secondary institutions (providing primary, basic and secondary education), 1.1 percent vocational institutions, 2.9 percent specialized secondary vocational educational institutions and 9.7 percent HEIs that provided tertiary education (Figure 5.1). An estimated 198,051 teachers (UNESCO, UIS) delivered education across all levels in 6,305 educational institutions, of which 26.8 percent were preschools, 69.7 percent were general secondary schools, 1.6 percent vocational institutions, 1 percent specialized vocational secondary institutions and 0.8 percent HEIs (Statistical Office of Azerbaijan, 2022).

¹³⁵ The mapping of Azerbaijan's education structure to the International Standard Classification of Education (ISCED) shows that basic education (grades 5 to 9) is equivalent to lower secondary education in ISCED; general secondary education (grades 10–11) to general upper secondary education; initial special vocational education and grades 1-2 of secondary special vocational education are equivalent to vocational upper secondary education. For more information visit: <http://uis.unesco.org/en/isced-mappings>

Figure 5.1: Distribution of students by type of educational institutions, percent, 2020-2021

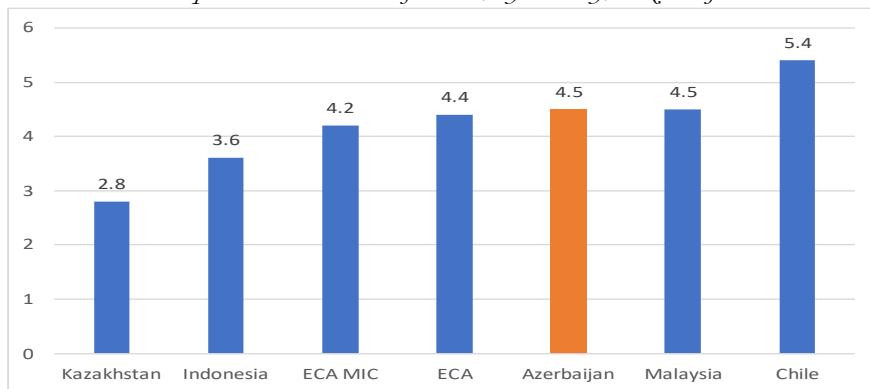


Source: World Bank calculations based on the Statistical Office of Azerbaijan (2021)

Education spending is an important indicator of how much is being invested in human capital to improve access to and quality of education. While increased spending on education alone is not sufficient to improve access and quality of education, when countries track the use of this spending, measure its impact, and adjust to different needs, more spending per child can make a meaningful and positive impact on quality, as reflected in learning outcomes (Jackson, 2018).

Azerbaijan's rate of public education spending¹³⁶ is at par with the regional averages, and its composition of education spending is skewed toward staff compensation. According to 2022 data from the Azerbaijan Statistical Committee, Azerbaijan's share of public education spending is 4.5 percent of its GDP, as compared to 4.2 percent for middle-income countries in ECA (Figure 5.2). Education expenditure as a share of the total government expenditure was only 13 percent, which is comparable to ECA average (12.7 percent). Expenditure on staff compensation has recently increased as a share of total education spending, but capital expenditures remain low (Figure 5.3). In 2018, about 70 percent of total education expenditure was devoted to staff compensation, a sharp increase from 59 percent in 2017. Capital expenditures have been below 4 percent in recent years, lagging all structural peers (5-9 percent, on average).

Figure 5.2 Government education expenditure as share of GDP, by country, Azerbaijan and ECA average, 2016 or latest

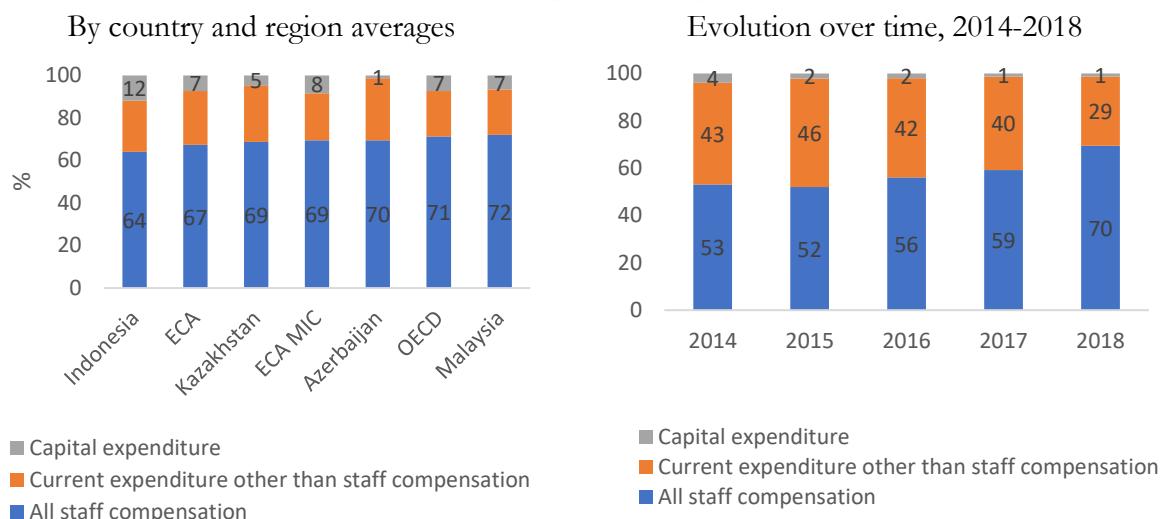


Note: Azerbaijan (2022).

Source: World Bank, based on UNESCO UIS (2020).

¹³⁶ Private education spending data is not available.

Figure 5.3 Education expenditure composition, 2016 or latest



Note: Azerbaijan (2018).
Source: World Bank, based on UNESCO UIS (2020).

Educational outcomes

The performance of Azerbaijan's education system has been mixed, and the COVID-19 pandemic may exacerbate existing challenges. Two key outcomes that gauge the education system's performance, enrollment and quality (as proxied by learning outcomes), will be explored. In general, the key findings are that: (i) enrollment rates have improved over time but remain lower than Azerbaijan's peers for pre-primary and tertiary education; and (ii) post-primary learning outcomes are low, with substantial inequity, especially by socioeconomic background. Inequities in learning outcomes are likely to be worsened by the impact of the COVID-19 pandemic.

Enrollment and educational attainment

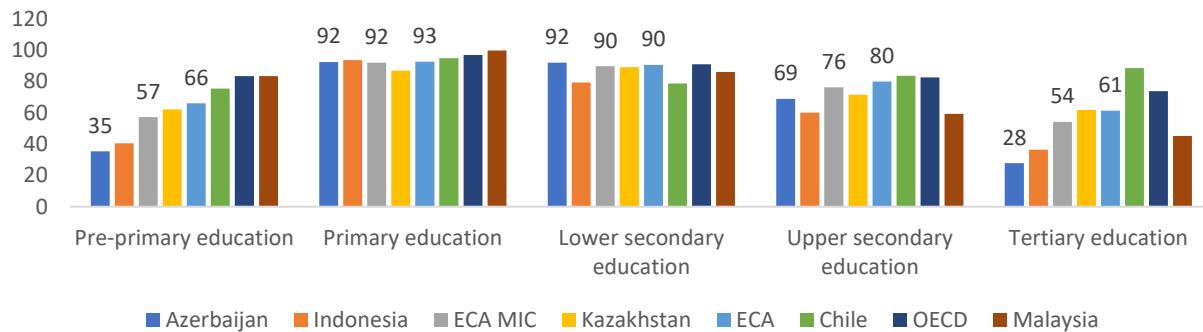
The population enjoys high levels of access to primary and lower secondary (basic) education but has comparatively low access to early childhood and tertiary education. The net enrollment rates in primary and lower secondary education are close to those of comparators, at 92 percent.¹³⁷ However, access to early childhood, upper secondary and tertiary education remains a challenge. Net enrollment rates in early childhood education have been historically low, at around 20 percent during the last 20 years. In 2017, rates substantially increased to 32 percent and peaked at 35 percent in 2018, with a noteworthy increase among 5-year-olds (from 15 percent in 2015 to 75 percent in 2018).¹³⁸ There are also several recent ECE initiatives aiming to increase the involvement of 3–4-year-olds in preschool education, and to expand school-parent, and school-community relations. Access to tertiary education is substantially lower than in peer countries, although gross enrollment rates did see a modest improvement in recent years, from 19 percent in 2008 to 28 percent in 2018 (Figure 5.4). The country's low tertiary education enrollment rate is explained by quotas, physical accessibility constraints to HEIs, and high costs (expanded later in the subsection, "Key constraints"). Besides the low levels of enrollment in tertiary education, Azerbaijan's vocational upper secondary education

¹³⁷ Net enrollment rate includes only children of the official school age, as defined by the national education system, while gross enrollment rates include students of all ages, including those whose age exceeds the official age group (e.g., repeaters).

¹³⁸ <https://www.unicef.org/azerbaijan/press-releases/azerbaijan-reports-increased-enrollment-pre-primary-education-while-global-figures>

only accounts for 53 percent of the enrollment in upper secondary education, as compared to 59 percent in CIS countries, suggesting low investment in the development of job-specific skills.

Figure 5.4. Net enrollment rates, 2016 or latest

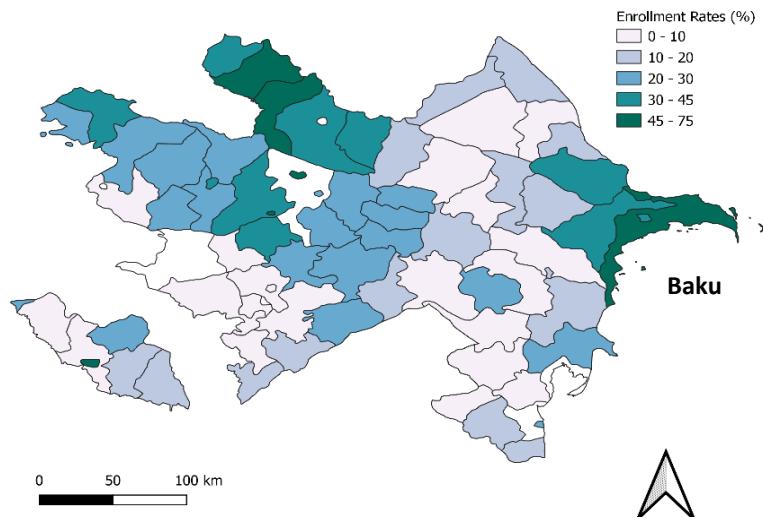


Note: Gross enrollment rates for tertiary education, Azerbaijan (2018)

Source: World Bank, based on UNESCO UIS (2020)

Differences in enrollment rates in early childhood and tertiary education emerge at the subnational level. The share of children aged 3-5 years old that attend early childhood education varies widely by district. The highest levels of attendance (above 45 percent) are registered around Baku and in districts located in the northwest of the country, especially in cities and Gakh region. In contrast, attendance is very low in districts located in the east side, except for Baku, as well as in the southwest (Figure 5.5). Disparities in access to early childhood education is attributable to both demand and supply factors (described later in the subsection, “Key constraints”). Additionally, in higher education, there are 50 HEIs, including 8 special HEIs. 9 out of 42 (21.4 percent) regular HEIs are located outside of Baku city, the country’s capital, driving spatial disparities in access.

Figure 5.5. Enrollment rates in early childhood education by district, percent, 2019



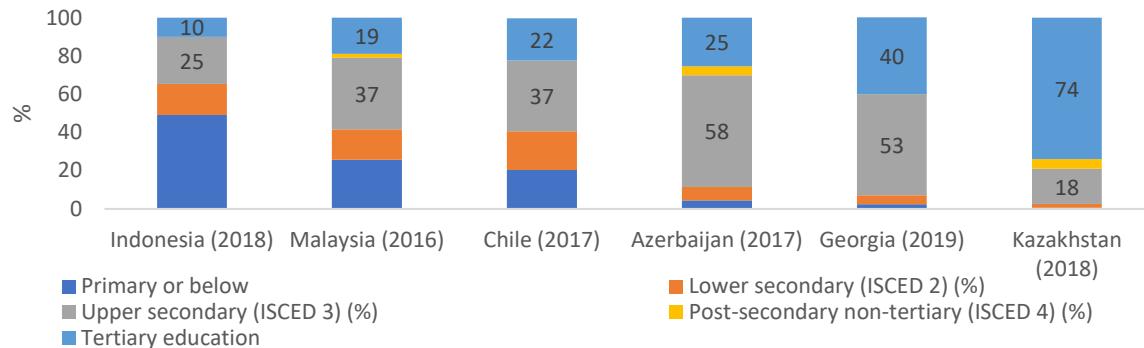
Note: Share of children aged 3-5-year-old that attend early childhood education

Source: World Bank, based on The State Statistical Committee of the Republic of Azerbaijan (2020)

Educational attainment is high but tertiary attainment could be improved. Educational attainment refers to the highest level of education completed. According to the State Statistical Committee of the Republic of Azerbaijan, more than 85 percent of the working age population has completed at least a secondary education. While Azerbaijan’s level of educational attainment is relatively high even by international standards, its composition of educational attainment is skewed toward upper secondary education. Those with

tertiary education attainment make up only about a quarter of the 25+ population in the country, which is less than peers (Figure 5.6).

Figure 5.6. Share of population by educational attainment, population 25 years and older, latest available (2017)



Source: UNESCO UIS database (2021) based on Household surveys.

Azerbaijan has recently seen rising numbers of tertiary graduates from STEM fields, a positive step toward building an innovative and competitive economy. The number of HEI graduates (in all fields) increased by just over 23 percent between 2008-2019, from approximately 36,000 graduates in 2008 to just over 44,000 graduates in 2019. In 2019, graduates from Science, Technology, Engineering and Mathematics (STEM) programs represented 26 percent of all HEI graduates, compared with 19 percent in 2008. The share of graduates from Engineering (including Manufacturing and Construction) programs increased sharply from 8 percent in 2008 to 18 percent in 2019 (Table 5.2), reflecting the fact that these sectors were the fastest growing engines of employment generation over the last decade, after agriculture, trade and repair of transport means (as discussed in Chapter 4). On the other hand, other STEM programs, such as Natural Sciences, Mathematics, and Statistics, account for a smaller share of total graduates as compared to 2008.

Table 5.2. Distribution of tertiary education graduates by field, percent, 2008-2019

	2008	2011	2015	2016	2017	2018	2019	Diff (2019-2008)
Science, Technology, Engineering and Mathematics (STEM) programs	19	16	24	25	24	24	26	7
o/w Engineering, Manufacturing and Construction	8	7	16	16	14	17	18	10
o/w Natural Sciences, Mathematics and Statistics	9	8	4	4	5	4	4	-5
o/w Information and Communication Technologies	2	1	4	5	5	3	4	2
Business, Administration and Law	19	22	22	24	24	24	24	6
Education	20	18	26	27	30	30	23	3
Arts and Humanities	20	19	9	8	8	8	8	-11
Health and Welfare	8	8	6	5	5	6	7	-1
Social Sciences, Journalism and Information	6	7	7	4	4	4	5	-2
Services	7	7	5	4	4	4	4	-3
Agriculture, Forestry, Fisheries and Veterinary	0	0	1	1	1	1	1	1
Programmes in unspecified fields	1	3	0	1	0	0	1	0

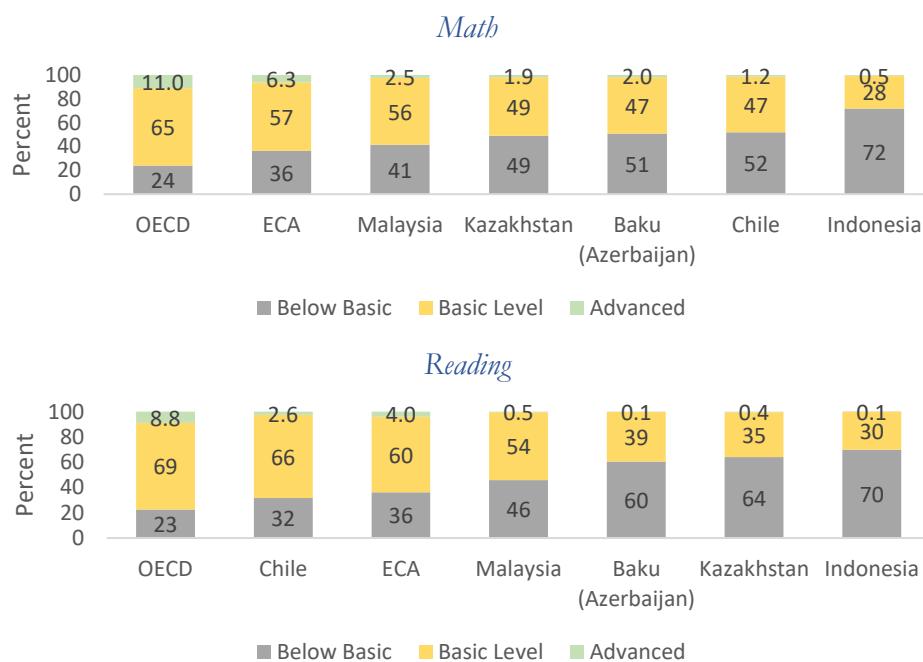
Source: UNESCO UIS (2021)

Quality of education

Low education quality hinders students' acquisition of basic knowledge and skills, and primary education learning outcomes compare poorly against international benchmarks. School performance in primary education is a strong predictor of educational outcomes in subsequent stages and thus is an important measure of education quality to follow. The Learning Poverty Index¹³⁹ produced by the World Bank, which shows the percentage of children who are unable to read and understand a simple text by age 10, was 23 percent in Azerbaijan in 2016. Learning Poverty in Azerbaijan is 10 percentage points worse than the average for the ECA region. Additionally, 19 percent of students in Azerbaijan do not achieve the minimum proficiency levels at the end of primary school. This is not only attributable to the low quality of primary education itself, but to students' low school readiness as a consequence of low enrollment rates in preschool education.

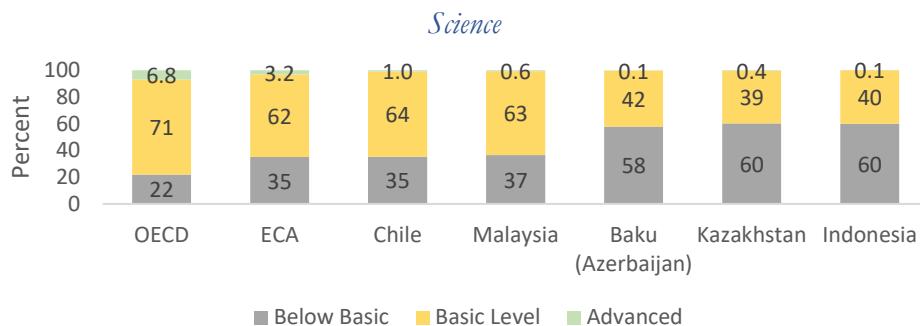
More than half of students do not attain basic levels of competencies at the secondary level. According to 2018 PISA¹⁴⁰ results (which were only implemented in Baku), students in Baku scored much lower than comparator countries. More than half of 15-year-olds did not meet the basic level of performance across all areas: Reading (60 percent), Science (58 percent) and Mathematics (51 percent). By comparison, the average share of students in ECA countries performing below basic level was around 32-36 percent. Additionally, only a negligible percentage of students in Baku were top performers: 2 percent in Mathematics and 0.1 percent in both Science and Reading, while the ECA share was between 3-6 percent on average (Figure 5.7).

Figure 5.7 Baku's performance in PISA by proficiency levels, 2018



¹³⁹ For more information on definition and methodology of Learning Poverty, please visit <https://www.worldbank.org/en/topic/education/brief/what-is-learning-poverty>

¹⁴⁰ The Programme for International Student Assessment (PISA) is a triennial survey of 15-year-old students that assesses the extent to which they have acquired the key knowledge and skills essential for full participation in a knowledge-based society. The assessment focuses on proficiency in reading, mathematics, and science.



Source: World Bank based on PISA 2018.

There are significant disparities in learning outcomes, especially by socioeconomic background. Socioeconomic background¹⁴¹ is a factor that strongly explains students' academic performance across the world. In Baku, it explained 5 percent of the variation in mathematics performance and 4 percent of the variation in science performance. However, differences in PISA performance between Azeri students in the top and bottom socioeconomic quintiles¹⁴² is equivalent to a gap of more than one year of schooling, especially in Mathematics (a gap of 57 PISA points), followed by Reading (45 PISA points) and Science (42 PISA points)¹⁴³. In Baku, boys outperformed girls in Mathematics by 8 score points (not statistically significant), and girls outperformed boys in Reading by 26 points (statistically significant) and in science by 5 points (not statistically significant) (OECD, 2019).

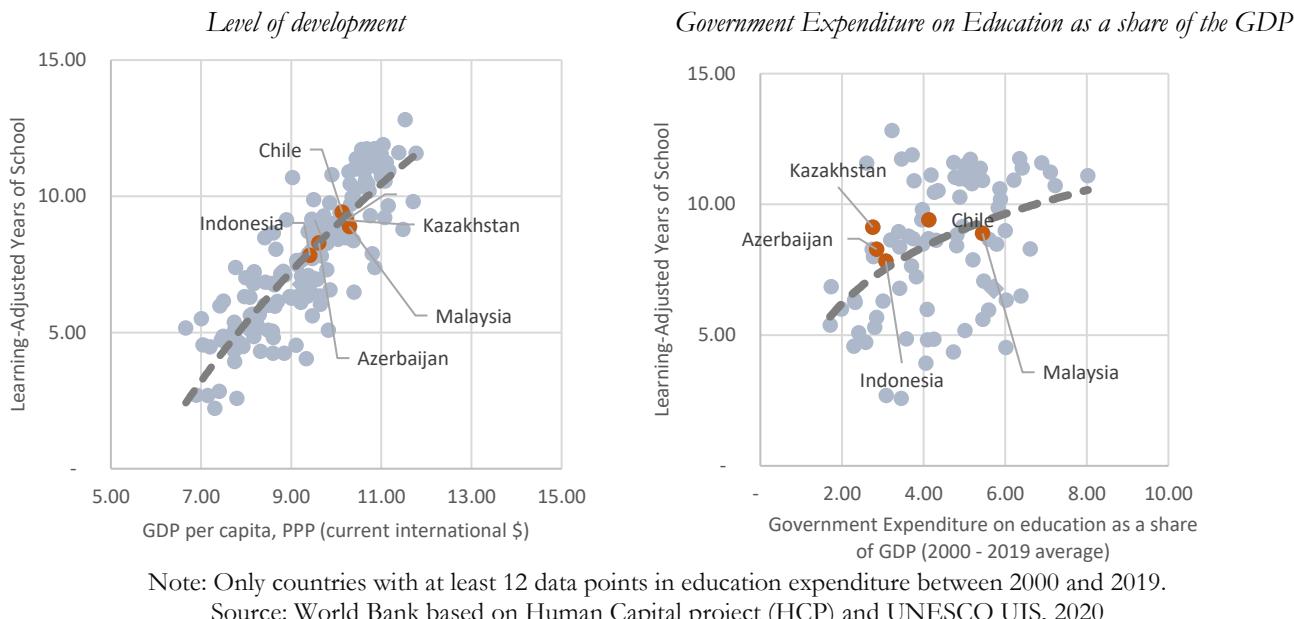
In general, Azerbaijan's educational outcomes compare favorably with peer countries with similar levels of education spending, suggesting adequate levels of spending effectiveness. First, it should be noted that a detailed spending effectiveness analysis is hindered by unavailability of critical data, such as microdata on public education financing. However, Azerbaijan's Learning-Adjusted Years of Schooling (LAYS) scores, which are a proxy for educational outcomes, are very close to that of countries with a similar level of development and slightly higher than the average of countries with similar public expenditure levels (Figure 5.8). The analysis needs to be deepened with further data at the program level, to examine spending effectiveness further such that more resources can be devoted to cost-effective programs.

¹⁴¹ The socioeconomic background is measured as the index of economic, social and cultural status. That index was created on the basis of the following variables: the International Socio-Economic Index of Occupational Status (ISEI); the highest level of education of the student's parents, converted into years of schooling; the PISA index of family wealth; the PISA index of home educational resources; and the PISA index of possessions related to "classical" culture in the family home. Source: <https://stats.oecd.org/glossary/detail.asp?ID=5401>

¹⁴² Quintiles were built based on the Index of economic, social and cultural status.

¹⁴³ 30 points in PISA scale is equivalent to 1 year of schooling.

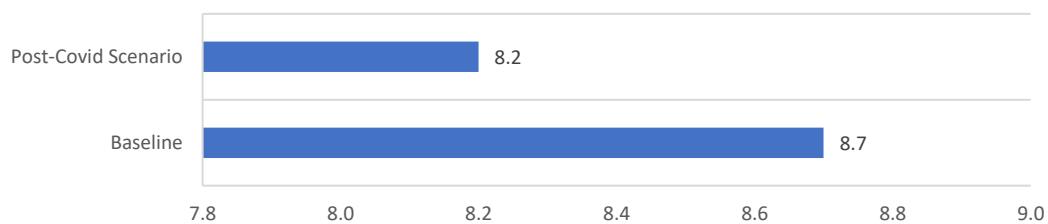
Figure 5.8 Learning adjusted years of schooling compared to level of development and expenditure on education



COVID impacts on education and simulated learning loss in Azerbaijan

The COVID-19 pandemic caused school closures and unprecedented levels of learning disruptions worldwide. The World Bank built a simulation model to estimate the learning losses for each country as a result of COVID-19. Based on the assumption that schools were closed for one year, it is estimated that Learning Adjusted Years of Schooling (LAYS) in Azerbaijan in general education would fall from their baseline of 8.7 years to 8.4 years – a loss of 0.3 years’ worth of learning. Hence, it is critical to mitigate the potential adverse impact of COVID-19 on educational outcomes by supporting teachers and students.

Figure 5.9 Change in learning-adjusted years of schooling, baseline vs. post-Covid



Source: Azevedo, et al., 2020; World Bank.

Note: Learning-adjusted years of schooling is an indicator that takes into account the average years of schooling in general education while adjusting those years by the amount of learning that takes place during them.

The effect of COVID-19 on education may lead to economic harm as well unless action is taken immediately to recover learning losses and protect human capital. Learning losses for student cohorts affected by COVID-19 are estimated to reduce their expected earnings by 4.4 percent per student. Azerbaijan, like other countries, needs to protect education spending, ensure remediation to recover learning losses, and invest in building an education system that is resilient to potential future disruptions. Supporting teachers is a critical part of these efforts. The World Bank outlines three key principles to support teachers to prepare for

challenges and disruptions related to COVID-19 both now and in the foreseeable future (Beteille, et. Al, 2020). Those principles are described in the Policy Recommendation section, as part of the suggested actions to minimize the negative impact of COVID-19 on learning.

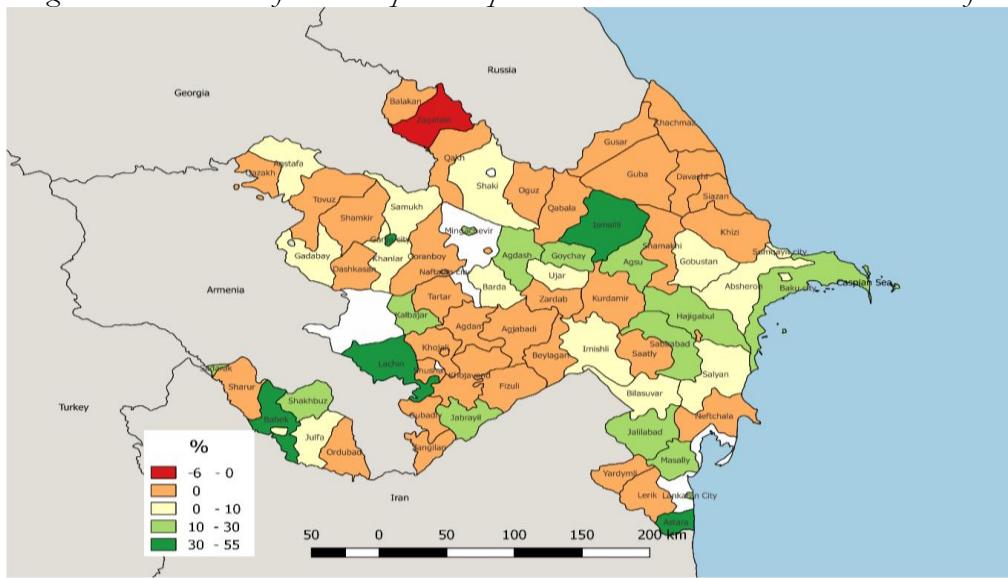
Key constraints in education system

Several constraints contribute to the underperformance of Azerbaijan's educational system. The previous section identified some key gaps in Azerbaijan's educational outcomes, specifically in the areas of early childhood education, tertiary education, and education quality. This section will briefly highlight some of the main constraints in the education system that may be driving these outcomes.

Early childhood education

Low access to preschool education made worse by subnational disparities are attributable to both demand and supply factors. From the demand side, challenges include inadequate knowledge amongst parents, especially those living outside of Baku or the northwestern districts, of the importance of preschool education for their children's development. Preschool preparation in the form of a School Readiness Program (SRP) is highly encouraged by authorities for 5-6-year-old children, but not mandatory (World Bank, 2018). Despite this, the take-up of the program among 5-year-olds is around 80 percent so making this mandatory could help Azerbaijan reach universal enrollment for this age group. From the supply side, barriers include infrastructure barriers such as physical conditions and logistical needs of schools, lack of multisectoral coordination, inadequate financial investment and limited research and data which hinders monitoring access to and quality of early childhood education.¹⁴⁴ At the subnational level, expanding early childhood education would entail investing in infrastructure development in most municipalities, but presently, capital expenses represents on average 1.7 percent of the total education spending between 2015 and 2019, much lower than in OECD countries (7 percent) (Figure 5.10).

Figure 5.10. Number of available places in preschool educational institutions as a share of total, 2017



Source: World Bank – SABER 2018

¹⁴⁴ Unicef: <https://www.unicef.org/azerbaijan/early-learning>; and World Bank (2018)

Quality of education

School-related factors, such as teacher qualifications and practices, as well as disciplinary climates, correlate with Azerbaijan' PISA Reading performance. It is well documented the role that factors such as teacher qualification (including quality of pre-service training), teacher practices (investment in in-service training, including professional development), preschool education, as well as factors affecting daily attendance play as drivers of learning. A recent econometric analysis underscores this finding in Azerbaijan (Annex 1).¹⁴⁵ It suggests that the percentage of teachers with a master's or doctoral degree¹⁴⁶ and teachers that encourage reading engagement in their students positively contribute to students' performance in reading. Azerbaijan has recently introduced systematic measures to increase the professionalism of teachers, including the introduction of a system of module-credits, competitive training for general education teachers, as well as transparent and objective competition mechanism for recruiting teachers (World Bank, 2020). Disciplinary climate is also associated to better students' learning outcomes. Preschool attendance was another significant predictor of PISA performance, but current enrollment rates are low. In Baku, 46 percent of 15-year-old students had skipped at least a day of school, and 60 percent of students had arrived late for school during that period. School absence reduces opportunities for learning; therefore, it is important to identify and address factors affecting daily school attendance to enhance quality of education.

Access to tertiary education

The quality-adjusted years of higher education is among the lowest in the region. In 2018 (the most recent year for which data is available), Azerbaijan's gross enrollment rate in tertiary education was about 28 percent, much lower than that of its structural and aspirational peers. For example, gross enrollment in tertiary education was 54 percent in middle income countries in ECA (latest year between 2017-2020). As of 2017, only a quarter of adults in Azerbaijan aged 25 and above have completed a tertiary degree, according to the World Bank Human Capital Index. Moreover, a child born today can expect to complete 0.9 years of higher education, but factoring in the quality of higher education, that figure drops to 0.7 years.¹⁴⁷ Consequently, the country's quality-adjusted years of higher education is within the bottom quartile of the world distribution.

A key barrier to access is the high cost of attending tertiary education. Around 64 percent of higher education students paid for the cost of their education in 2016, and the other 36 percent were fully subsidized by the government. The cost of private tutoring, which is essential for preparing students for university entrance examinations, is high—equivalent to an average of 30 to 50 percent of per capita income for households in the bottom three quintiles—and prevents students from poorer families from attaining the high scores required to qualify for merit-based, tuition-free places. Tuition fees for public universities are also very high, so poor students who do not qualify for funding and who have lower grades are unable to afford tuition, which can amount to 20 to 160 percent of the per capita income of the bottom quintile. To help mitigate some of this, in 2021, the Education Student Loan Fund was launched, which allowed 2,900 students to receive loans in the first semester of the 2021/2022 academic year. Additionally, a 2019 Cabinet decision allowed the admission of those who graduated from specialized secondary education institutions to universities without the examination requirement. This allowed more students to have access to tertiary education.

Access to tertiary education is made more inequitable by socio-economically driven learning disparities, admissions quotas, and physical remoteness from Higher Educational Institutions (HEI). Admission to HEIs is carried out on the basis of central examinations set by the State Student

¹⁴⁵ Results correspond to a correlation analysis. See Annex 1.

¹⁴⁶ In Azerbaijan, students studying to become teachers may enroll in Bachelor's level pedagogical education programmes for 4 years or secondary specialized level (sub-bachelor's level education) pedagogical education programmes for 2.5 years.

¹⁴⁷ https://databank.worldbank.org/data/download/hci/HCI_2pager_AZE.pdf?cid=GGH_e_hcpexternal_en_ext

Admission Commission of the Republic of Azerbaijan. However, socio-economic conditions strongly impact students' learning outcomes, as demonstrated by the 2018 PISA results, which found that socio-economically advantaged students outperformed disadvantaged students in Reading by 41 points (equivalent to more than one year of schooling). Thus, disparities in socio-economic status translate directly to disparities in admissions. In addition, access to tertiary education is further limited by tightly controlled student admissions quotas, where the number of students who can receive tuition-free tertiary education is capped by the government. It should be noted that the restrictiveness of quotas has declined, with the quota-to-applicant ratio declining since the mid-1990s, so there are more graduates now from universities and technical vocational colleges compared to previous cohorts. Finally, another barrier to access is that the majority (42 out of 52) of HEIs are situated in Baku city, the country's capital; as a result, the rural population is literally physically distanced from higher education opportunities. Presently, Azerbaijan has started implementing programs or strategies at the national level to increase access to higher education for people from the socially vulnerable groups, as evidenced by a Presidential Decree signed in June 2021 establishing an Educational Student Loan Fund targeted to low-income families.

Section 3. Skills supply, labor market trends and skills mismatches

The skills story in Azerbaijan is a multifaceted problem that involves constrained supply and low demand for high-skilled labor. The challenges identified in terms of access and quality of education, particularly regarding tertiary education and VET, are reflected in skills shortages faced by the private sector (as discussed further in Chapter 4), which is a critical impediment to the country's future growth. At the same time, the skills story in Azerbaijan is not simply that of constrained supply, but of limited demand as well. Driven by high employment in sectors with lower productivity growth, the majority of jobs in Azerbaijan are located in low productive sectors requiring low skills.

This sub-section will examine: (i) the state of the tertiary and post-secondary education systems (including VET) that serve as the pipeline for Azerbaijan's skills supply and are important for the promotion of entrepreneurship and innovation in the country; (ii) labor market trends in Azerbaijan and (iii) skills shortages perceived by the private sector. It should be noted that the analysis in this section, particularly on labor market outcomes, is constrained by lack of access to micro-data such as the Labor Force Survey (LFS).

Skills supply in Azerbaijan

While recent government initiatives are evidence of progress and a willingness to address longstanding constraints, the country's skills development infrastructure is still characterized by poor quality, limited access and inadequate funding. This sub-section will focus on Azerbaijan's system of skills suppliers, including the tertiary education system and VET and professional training programs.

Poor quality vocational education and training and lack of access to professional training result in low participation

Vocational education and training (VET) programs in Azerbaijan are characterized by very low participation and interest. Over the past five years, only 14 percent of students in secondary education went on to enroll in VET, with an even smaller share of girls (around 8 percent) in secondary education enrolling in VET. Most youth entering the labor force have either a general education diploma or a higher education diploma, as described earlier. Participation in secondary VET is vastly below the EU average and is one of the lowest rates in the ECA region. About 40 percent of students in secondary education in Moldova and Belarus,

and around 30 percent in Ukraine, enroll in secondary VET programs, compared with only 14.5 percent in Azerbaijan in 2018. According to the Ministry of Science and Education in Azerbaijan, the enrollment rates for VET has increased in 2021 by 17 percent compared to 2019 levels as there have been multiple efforts to address challenges in VET. Most students attending VET institutions are from low-income families from remote areas (Jaouani, et. al 2020).¹⁴⁸

Poor quality and lack of relevance to labor market demands are the main factors behind the low levels of interest and participation in VET programs. The low interest in VET can be seen in low enrollment numbers: in the 2018-2019 academic year, 329 state-financed places were not filled because of the unattractiveness (i.e., low quality and lack of relevance) of particular programs or because the introduction of new programs was poorly communicated. Additionally, admissions rules do not require assessment of prior knowledge, so classes are often organized for students with different skills levels, which negatively affects the learning process (Jaouani, et. al 2020).

Additionally, VET is hindered by failing infrastructure, aging capital, lack of financing options, and weak coordination with the private sector, although recent efforts have begun to address these issues. VET providers are not able to provide high-quality training in cost-intensive professional areas (welding, car mechanics, electronics, etc.) because the existing equipment is scarce or completely outdated (ETF, 2015). Furthermore, there is a lack of financial instruments in place to incentivize employers to strengthen their involvement in VET. There have been some recent efforts to address some of these issues. The VET Roadmap launched by the government in 2016 focuses on the optimization of the network of VET institutions, by reducing the number and improving quality, and the improvement of their material and technical base. The optimization process started in 2017 and to date, the number of public VET institutions has been reduced from 114 in 2016 to 76 in 2019. As part of the optimization process, twenty-four new vocational education centers were established based on 55 vocational schools and lyceums. Currently, new vocational centers offer training in 168 vocational programs, 33 of which are new (Jaouani et. al, 2020). Additionally, Azerbaijan is planning to move to per capita funding in VET and efforts to diversify VET delivery are in the process of being developed.

Employed and unemployed workers seeking post-secondary and professional training opportunities to develop or acquire new skills are often unable to access relevant programs. There are limited lifelong learning opportunities for adults in Azerbaijan, largely stemming from the lack of adequate adult training facilities and offers, especially outside bigger urban centers (Garcia and Patrinos, 2020). For example, there are only three training centers mapped to the Ministry of Labour and Social Protection of the Population (MLSPP) that have among their primary objectives to train and improve the employability of active job seekers (i.e., workers registered with SES with an “unemployed” status) and existing workers, especially those at risk of losing their jobs. Furthermore, these training centers may not meet the requirements of all employers, and there is presently limited cooperation between the training centers and private companies. However, the GoA is developing a strategy for expansion and improvement of these training centers under the World Bank “Employment Support Project” in Azerbaijan. Planned activities include curriculum development (review and development of additional or improved modules) to better align with private sector needs. Since March 2021, several short-term trainings have also been organized in vocational training institutions in areas such as ICT, Logistics, Service Sector/Finance and Industry, with 800 people accepted as participants.

¹⁴⁸ Since 2015, 4 new VET institutions were built. 3 VET institutions were renovated and 2 more are in the process of being renewed.

Higher education institutions constrained by weak quality assurance and low spending levels

Even if challenges of access, discussed in the previous section, are addressed, skills development in higher education is hindered by several other factors. A high-quality higher education is essential to equip students with the knowledge and transversal skills required to succeed after graduation. In other countries, higher education institutions often serve as drivers of research and innovation, but in Azerbaijan, HEIs lack strong linkages to industry and sufficient means and capacity to work with other actors in the economy to drive entrepreneurship and business development. Other issues that prevent HEIs from becoming reliable resources for skills development is their poor quality of education, limited financial and academic autonomy, and uneven access to higher education opportunities for skills development.

The quality of higher education is undermined by weak quality assurance, but the government has made important progress in addressing this weakness. The development of formal quality assurance systems is one of the most significant trends that have affected tertiary education systems globally over the past few decades. Azerbaijan has made important progress in this area recently, including the creation of the National Qualifications Framework and the change of status of the Accreditation and Nostrification Department of the Ministry of Education to the Agency for Quality Assurance in Education in 2019. However, the Agency still lacks full independence in designing methodologies and developing other relevant documents. Additionally, while the European Union has supported pilots to improve internal quality assurance in HEIs, few HEIs have established quality assurance departments. Other factors that also affect the quality of HEIs include too few or poorly qualified teachers, poor working conditions for teachers (e.g., low salaries).

Academic freedom at higher education institutions, including private universities, could be improved. Academic autonomy of HEIs is an important requirement of the skills development infrastructure because it provides HEIs with the flexibility to rapidly adapt curricula and staff to changing labor market demands. However, in Azerbaijan, curricula are generally designed at the national level, with the support of experts selected by the Ministry of Education, which is also responsible for approval of these curricula. Only a handful of HEIs presently have the autonomy to define their educational content, and to design their own bachelor's, master's, and doctoral programs. Policy initiatives have been undertaken to improve the autonomy available to HEIs¹⁴⁹, but more could be done in terms of reform of current practices on curricula development and approval, improving capacity at HEIs and strengthening external quality assurance mechanisms.

Spending toward higher education and financial autonomy of HEIs are also low. Current financing arrangements for higher education financing are not conducive to achieving desired national outcomes in human and knowledge capital development. First of all, per-student government expenditure in tertiary education represented around 20 percent of GDP per-capita during 2015-2018, below to that of OECD and EU averages (27 percent), which suggests that there is a need to ensure a higher level of public funding for HEIs. Furthermore, HEIs have low financial autonomy to spend their limited budgets, as the spending of public resources in HEIs is largely controlled by the Ministry of Finance. Finally, most HEIs do not have the capacity to transform what financial, administrative, and pedagogical autonomy they possess into the provision of higher quality educational services. Corruption and misuse of funds further inflame these challenges and speak to the broader set of reforms that need to take place within the existing system of tuition, endowment, and financing needs. As a positive note, one of the most important reforms recently in the sector is the introduction of a per-student formula for the allocation of the state budget (World Bank 2020).

¹⁴⁹This includes the adoption of the “Framework document of the Bachelor’s Degree (basic (higher) medical education) specialty education program” in 2020, which allows for HEIs to include additional graduate competencies, teaching and learning methods, and right to determine subjects between 60-120 credits based on the specialty.

Labor market outlook in Azerbaijan

Despite bright spots such as low unemployment and high participation rates, Azerbaijan's labor market is hampered by job creation in low-productivity sectors, socioeconomic inequities, and poor job prospects for its young workforce. This sub-section focuses on the general outlook for the labor market. Due to data constraints, it is not possible to perform an analysis on skills demand, although it should be noted that a comprehensive labor market assessment to improve the State Employment Services' (SES) capacity to detect vacancies, critical occupations, and skills most demanded by employers, is planned under the World Bank funded "Employment Support Project" for Azerbaijan.

Overall, Azerbaijan's labor market enjoys low levels of unemployment and high participation rates, but the majority of workers are employed in the informal sector and lack access to skills development opportunities as well as to retirement and social insurance schemes. Azerbaijan's unemployment rate compares favorably to the region's (at 4.8 percent in 2019 versus the ECA average of 6.8 percent), and participation rates are also high (at 67 percent in 2019 compared to 58 percent in EU27).¹⁵⁰ However, more than two-thirds of workers are in the informal sector,¹⁵¹ and about 54 percent of the labor force are considered to be "vulnerable workers".¹⁵² Of the country's 5.2 million labor force, only 1.6 million or about 30 percent are waged workers holding formal labor contracts (i.e., contracts registered with state authorities). An estimated 1.3 million workers are engaged in individual enterprises, are self-employed, or are working without formal labor contracts. Only about 30 percent of workers have a formal work contract. Lack of formal employment opportunities not only limits workers' potential for skills development and significantly constrains working conditions, but also implies that most Azerbaijan's workers (those working without formal contracts) lack access to contributory pensions and other types of social insurance that mitigate the risk of poverty at old age.¹⁵³¹⁵⁴

Azerbaijan is not able to fully deploy its human capital because its women and young workers are hindered from entering the labor market and finding good jobs. The unemployment rate for women was 5.7 percent in 2019, compared to 4 percent for men. There is also a significant gender earnings gap as well. According to the Statistical Office, the average monthly wage of men was 58 percent higher than that for women in 2020. As noted in Chapter 1, Azerbaijan is experiencing a youth bulge in the short-run, but, in the long-run, an aging population will put pressure on the labor force. The youth bulge is reflected in both the share of young people in the population's overall structure as well as the increasing share of young people in the working-age population, and this trend will continue for some years. In the period 2017-2025, more than 125,000 new workers have been expected to be entering the labor market each year, almost 2.5 times higher than the number of jobs created annually. This deficit of jobs, combined with shortage of career guidance and professional orientation services, renders the process of job searching and entering the labor market a significant challenge for young people in Azerbaijan. The youth unemployment rate (12.7 percent) is high compared to the overall unemployment rate (4.9 percent in 2018) (ETF, 2019). The situation is worse for young female workers, who experienced an unemployment rate of 14.7 percent in 2018 compared to 11.0 percent for their male peers, and who are more likely than men to be employed in vulnerable and marginal work.

Most jobs in Azerbaijan are located in low-productivity sectors. Excluding mining, the agricultural sector is the dominant source of employment in the economy, employing around 36 percent of the workforce (with

¹⁵⁰ ILOSTAT (2021)

¹⁵¹ Source: ILO

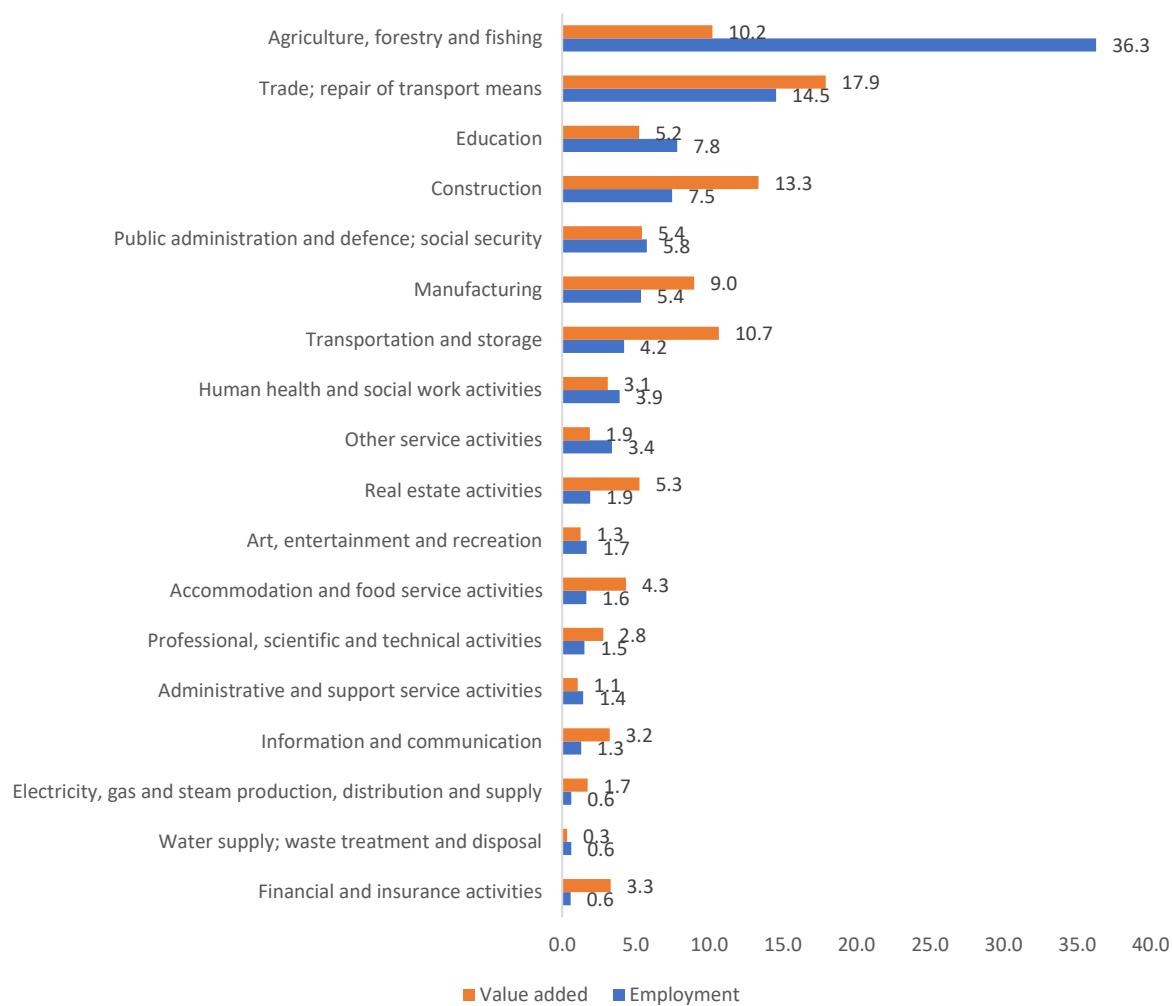
¹⁵² World Bank. 2020. World Development Indicators. Vulnerable employment, total (percent of total employment) (modeled ILO estimate). <https://data.worldbank.org/indicator/SL.EMP.VULN.ZS>

¹⁵³ Ibid.

¹⁵⁴ World Bank. 2015. Azerbaijan: Systematic Country Diagnostic. Washington, DC: World Bank.

many workers in the sector being unpaid family workers). Yet the sector generated only 10 percent of the GDP in 2019, suggesting low productivity. By contrast, the industrial sector accounted for only 5 percent of total employment in 2019 but generated 9 percent of GDP. The services sector produced 18 percent of the GDP and absorbed 15 percent of the working population in 2019 (Figure 5.11). However, services are dominated by wholesale and retail trade, which are also low productivity activities. The relatively low quality of education and low tertiary enrollment are key factors limiting the workforce from engaging in high-productivity work. Workers who do have higher levels of education often find employment in the public sector. Indeed, the public sector counts for a large share of the workforce (as discussed in Chapter 3), especially with respect to highly educated workers. According to the Statistical Office, in 2019, the share of employees in the state sector represented 55.7 percent of total number of persons engaged in economy (Statistical Office, 2021).

Figure 5.11: Distribution of employed persons and GDP by economic activity, percent, excluding mining, 2019



Source: World Bank based on the State Statistical Committee of the Republic of Azerbaijan (2021)

Job creation has also been dominated by agriculture in recent years. Between 2015 and 2019, employed persons increased by 5.7 percent (excluding mining). However, agriculture explained 1.7 percentage points of the increase, or about 30 percent of the employment growth. Additionally, manufacturing explained 0.71 percentage points of the employment growth, followed by construction (0.64 pp) and accommodation and

food service activities (0.41 pp). The number of jobs in financial and insurance activities, as well as in public administration, declined (Table 5.3)

Table 5.3. Contribution to employment growth by economic activity, 2015 and 2019

Economic activity	Contribution to employment growth
Agriculture, forestry and fishing	1.71
Manufacturing	0.71
Construction	0.64
Accommodation and food service activities	0.41
Trade; repair of transport means	0.40
Professional, scientific and technical activities	0.32
Administrative and support service activities	0.32
Art, entertainment and recreation	0.27
Other service activities	0.24
Human health and social work activities	0.23
Education	0.20
Transportation and storage	0.19
Water supply; waste treatment and disposal	0.10
Real estate activities	0.08
Electricity, gas and steam production, distribution and supply	0.07
Information and communication	0.06
Financial and insurance activities	-0.11
Public administration and defence; social security	-0.11
Total	5.73

Source: World Bank based on Statistical Office of Azerbaijan (2021)

Driven by high employment growth in sectors with low productivity, job creation in Azerbaijan has diverged from the economic growth that was generated by the oil and gas sector. Azerbaijan experienced high GDP growth between 2003-2013 of around 13 percent, which was fueled by growth in the capital-intensive oil and gas sector. Thus, GDP growth was driven by capital, not by high-skilled labor, and did not translate directly to jobs creation. Rather, employment growth rate during this period (at less than 3 percent) was largest in low-productivity sectors like agriculture. This trend is reflected in the country's weak link between GDP and employment growth, as compared to peer countries (Figure 5.12). The weak link between growth and jobs is likely a function of the undiversified economic activity driving GDP growth, with output growth dominated by the capital-intensive oil and gas sector. On a positive note, a Shapley decomposition¹⁵⁵ conducted in the “improving employment outcomes” report shows that structural transformation (i.e., intersectoral shifts) accelerated after 2010 (Ajwad, Honorati and Kerschbaumer, 2018).

¹⁵⁵ It helps separate out the various contributions to economic growth (increases in value added per capita) over time from demographics, employment, and productivity dynamics holding other factors constant.

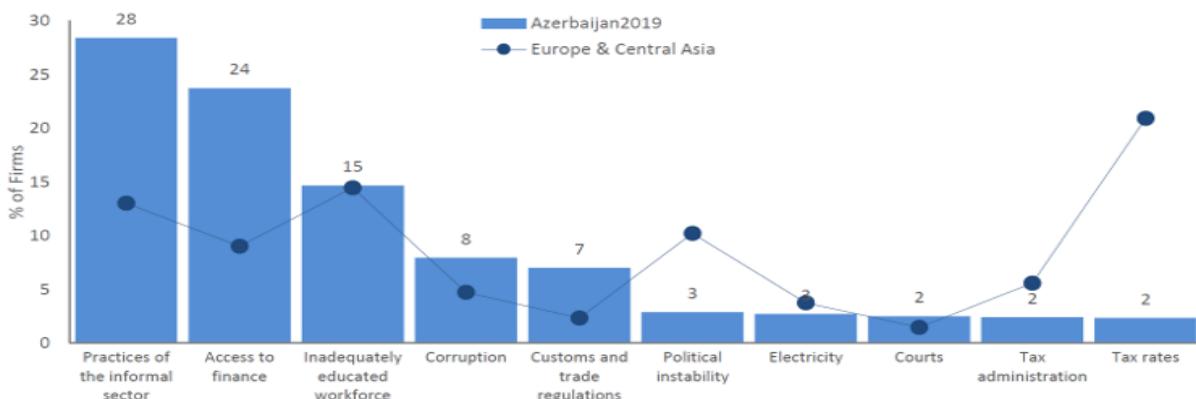
Figure 5.12: Link between employment and GDP growth, global cross-section, latest available



Skills shortages faced by private firms

Access to skilled labor is one of the most significant barriers faced by private firms in Azerbaijan. Skills mismatch is a growing concern for businesses. About 15 percent of firms report lack of skills as a major problem for their business (Figure 5.13), and larger firms are disproportionately impacted. Close to half of larger firms report access to skilled labor as their most significant barrier, compared to 5 percent of smaller firms (Enterprise Survey 2019). The poor quality and limited access of the country's skills development infrastructure, including VET and tertiary education institutions, constrains the pipeline of high-skilled workers for the labor market. The low quality of general secondary education also contributes to the skills mismatch in Azerbaijan. Basic and higher cognitive skills desired by firms, such as numeracy, literacy, critical thinking, and problem solving—skills that should be taught in secondary education—are often lacking among Azerbaijani workforce. On the Global Competitiveness Index, the country ranks 58th out of 141 countries, with particularly poor performance in ‘digital skills for active population’ and ‘ease of finding skilled employees’.

Figure 5.13. Top ten business environment constraints in Azerbaijan



Source: Enterprise Survey, 2020

Skills shortage issues are exacerbated by qualification mismatches. The qualifications mismatch affects over 44 percent of employed young people (ages 15-29), according to a 2016 study by the State Statistical Committee (SSC). Additionally, more than a third of total workers were employed in jobs not matching their qualifications. Yet good-quality retraining and upskilling opportunities, as well as internships to acquire practical experience, are relatively scarce due to the low participation of VET education (Jaouani, et. al, 2020).

Firms report having difficulty filling positions, especially in STEM areas. Firms complain about not being able to find suitable candidates for positions requiring STEM degrees. Specialized positions in the ICT sector are often filled by foreign workers, as domestic universities are unable to produce adequately trained candidates. Although shortages of qualified candidates seem to be less of an issue for non-STEM positions, lack of skilled workers are reported by firms in other sectors beyond ICT as well. Hiring is particularly difficult for positions outside of the capital (Ajwad, Honorati and Kerschbaumer, 2018).

Emigration is another significant issue firms mention while explaining job-relevant skills shortages. Firms report significant emigration of qualified young Azerbaijanis in almost all sectors, most of all in the ICT sector, where many graduates first gain a few years of work experience in the local labor market and parley this experience into a job abroad. Consultations with firms in the ICT sector suggest that the recent increase in the number of ICT graduates has only translated into limited gains for the local labor market, as about 50 percent of these additional graduates leave the country (Ajwad, Honorati and Kerschbaumer, 2018).

Limited cooperation between social partners, VET and higher education institutions, and the private sector cut off an essential pathway to addressing skills mismatches. Many countries lack active participation of social partners such as employers' and workers' organizations¹⁵⁶ that are essential to ensuring provision of relevant education and training, and that is the case for Azerbaijan. According to the STEP Skills Measurement Employer Survey of 2013-2014, few firms maintain regular contact with education institutions, and only 7 percent of firms have contacts with institutions that train highly skilled white-collar workers. Such contacts are critical for addressing skills mismatch, as via these partnerships, HEIs and VET can respond to evolving labor demands by adjusting their training curricula, strengthening internship programs, and providing career guidance (Rutkowski, 2015).

Section 4. Social protection in Azerbaijan

Social Protection is critical in reducing people's vulnerability to poverty, smooth consumption, support their ability to cope with crises and shocks, and promote employability. In Azerbaijan, the impact of transfers through social protection (comprising contributory pensions, unemployment benefits, and multiple social assistance programs) on poverty reduction had been substantial. According to an estimate, poverty rate could have been higher by 19 percentage points without pensions and by 24 percentage points without any social benefits in 2012 (vis-à-vis the observed poverty rate of 6 percent)¹⁵⁷.

In addition, when well designed and implemented, social protection system can enhance human capital and productivity, build resilience and end inter-generational cycle of poverty which would in turn affect the pace of inclusive growth. There are five main channels through which social protection policies can affect growth: (1) accumulation of productive assets; (2) preventing the loss of productive capital;

¹⁵⁶ “Independent and democratic trade unions that protect and support workers' rights and interests at the national and international level” (ILO, 2021).

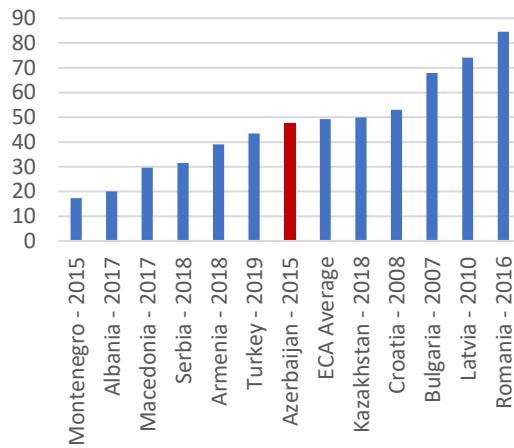
¹⁵⁷ World Bank, Azerbaijan Systematic Country Diagnostics, 2015.

(3) stimulating innovation and entrepreneurship; (4) altering labor market participation and savings; and (5) stimulating investments in human capital such as education and health.¹⁵⁸

The pandemic tested Azerbaijan's well-developed social protection system.. Social protection is a critical tool to reduce people's vulnerability to poverty, support their ability to cope with crises and shocks, smooth consumption, promote employability, and ultimately, to curb human capital disparities. Azerbaijan has a well-developed social protection system consisting of both contributory and non-contributory benefit programs. Spending on social protection is relatively low, but has increased in recent years, with most spending is on social insurance and limited spending on labor market programs. This section will explore options to strengthen the social protection system, which would enable poorer households to invest in human capital and enhance their resilience to COVID-19 and future shocks.

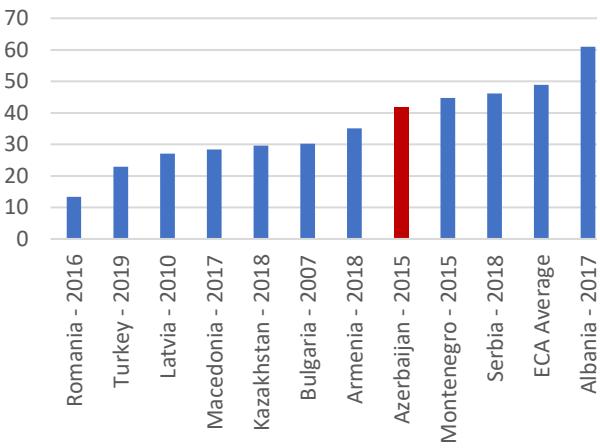
While there has been a great deal of progress in the design of the social protection system, including digitalization of data to better target beneficiaries, coverage and adequacy remains low. The coverage of social assistance programs for households in the poorest quintile is, at 48 percent, close to the ECA average. However, that still means that more than half of families in the bottom quintile do not receive social assistance; thus, coverage must be increased if these programs are to ensure equal opportunity for the poorest to lift themselves out of poverty (Figure 5.14). For instance, the Targeted Social Assistance (TSA) program, the largest social assistance program in the country, only covers around 3 percent of the population, which is substantially lower than in regional peers. And while adequacy of transfers for the bottom quintile is higher than many comparator countries, it is lower than the ECA average (Figure 5.15).

Figure 5.14: Coverage of social assistance for the bottom quintile, selected countries, latest year available



Source: World Bank SPEED Database.

Figure 5.15: Adequacy of social assistance for the bottom quintile, selected countries, latest year available



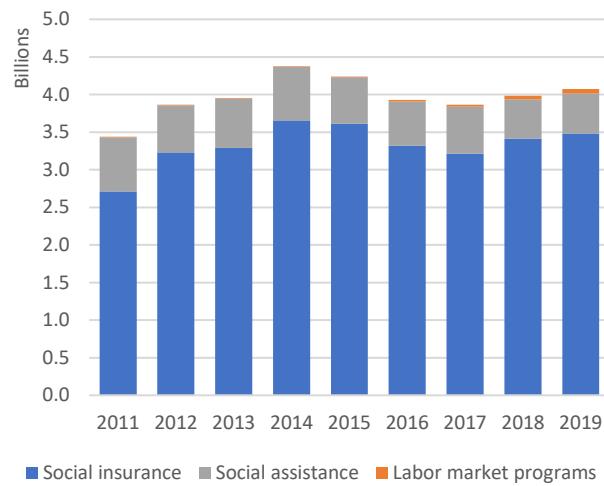
Under-coverage of social protection was partially a result of low spending, but spending has recently increased sharply. In 2019, social protection was allocated 10.3 percent of the budget (AZN 2.3 billion), or 5.3 percent of GDP, which was below the average of 8.6 percent of GDP in ECA countries and 19 percent of GDP in the EU. Spending has since more than doubled in nominal terms, to reach AZN 5.3 billion in 2022, increasing to close to 9 percent of GDP. Spending levels are now comparable to the ECA region. Spending increases reflect reforms such as increasing the coverage of the TSA and increasing the minimum wage and pension benefit amounts. Reforms have also been undertaken to improve the efficiency of social

¹⁵⁸ OECD, Can Social Protection be an Engine for Inclusive Growth? 2019.

service delivery, including the launch of the first DOST (Agency for Sustainable and Operative Social Provision) office in Baku.

Azerbaijan's social protection measures are skewed toward social insurance, with a smaller share of social assistance, and limited spending on labor market programs (Figure 5.16). Social insurance programs dominate social protection spending, accounting for over 85 percent share of spending on average over the last decade, while social assistance programs accounted for around 14 percent. Meanwhile, the share of labor market programs is extremely low, at an average of less than 1 percent of overall social protection spending between 2011-2019. Since 2019, Azerbaijan has increased spending on labor market programs, reflecting the adoption of Law of the Republic of Azerbaijan on Employment, effectiveness of the Law on Unemployment Insurance and the establishment of the Unemployment Insurance Fund.¹⁵⁹

Figure 5.16. Social protection spending by program, constant AZN (2019=100)



Social protection and labor market response to COVID-19 pandemic

Effective social protection has been crucial to safeguarding the poor and vulnerable in Azerbaijan during the COVID-19 pandemic. Recognizing the impact of the pandemic beyond the health sector, the GoA deployed a package of COVID-19 response measures totaling USD 1.16 billion (AZN 1.98 billion), which included a suite of social protection measures, including expansion of job protection support, pensions and allowances and TSA support.¹⁶⁰ In addition, the government expanded the scope of the Self Employment Program, rolled out cash assistance programs for vulnerable workers, making scholarships available and enrolling thousands in VET courses and made provisions for the payment of tuition fees for the socially vulnerable groups, which were paid from the state budget.¹⁶¹ Overall, the GoA has supported 4.8 million people (48 percent of the population) during the pandemic through employment and social welfare programs such as an expanded TSA program, the existing unemployment benefit scheme, as well as one-off payments. Further details of the programs are provided in Box 5.2.

¹⁵⁹ Most notably, the budget of the Unemployment Insurance Fund has increased by 2.5 times between 2018 and 2022.

¹⁶⁰ World Bank. 2020. Azerbaijan COVID-19 Emergency Response Project Appraisal Document.

¹⁶¹ UN. 2020. Azerbaijan Socio-Economic Assessment for COVID-19.

Box 5.2. Azerbaijan's social protection response to the COVID-19 pandemic

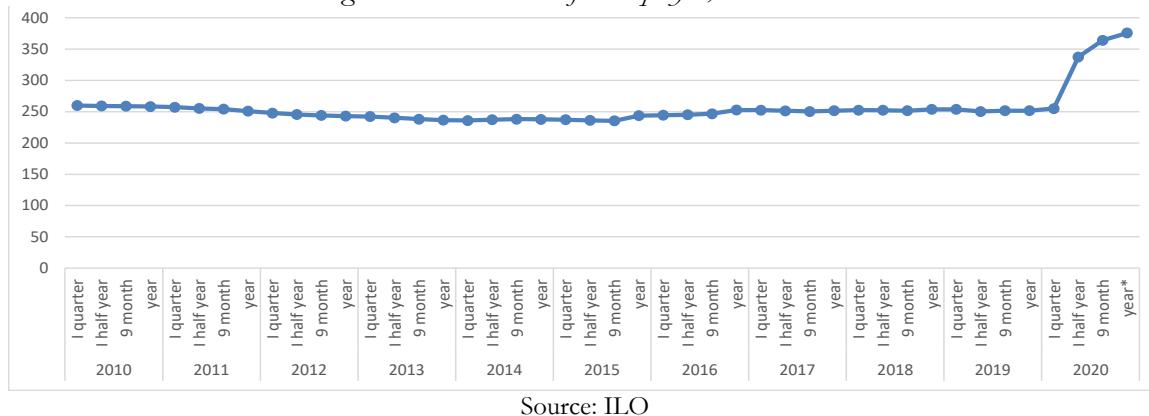
From March 2020, the GoA expanded support to provide job protection for 1.67 million people; pensions and allowances for two million people and TSA support to 350,000 people. In addition, a one-off monthly allowance of AZN 190 was allocated to 600,000 unemployed citizens from April to June 2020.

The MLSPP adapted the TSA mechanism making it more responsive to the impact of COVID-19. Application and registration procedures have since been simplified to facilitate ease of access; recertification procedures for TSA beneficiaries have been posted, allowing beneficiaries to remain in the program; and the process now requires fewer documents. Coverage was also expanded to those who did not receive social transfers prior to the pandemic, but who have become eligible for the TSA support due to COVID-19. As a result, TSA recipient numbers increased by 14 percent in April 2020 and covered around 79,500 families.

The MLSPP has also utilized the existing unemployment benefit scheme, providing citizens who were registered as unemployed with three payments of AZN 190 (approximately USD 111). Some regions (red zones) received three additional payments.

Despite these emergencies, the impact of the pandemic on the population has been significant. Unemployment sharply increased between 2019 and 2020 (Figure 5.17). Women, youth, less educated and informal workers were disproportionately impacted. The unemployment rate for women in 2020 was 8.4 percent, compared to 6 percent for men. When narrowing the scope to young workers, the rate increases to around 17 percent for women aged 15-24 and 13 percent for men in the same age bracket. Job losses are expected to have translated into income losses for many, as social insurance measures and labor market regulations may not have effectively reached a large share of informal workers.

Figure 5.17. Number of unemployed, 2010-2020



Source: ILO

Section 5. Policy recommendations

The key constraints to **learning, skills development and social protection** identified in this chapter inform the set of policy recommendations proposed below (and summarized in Table 5.4). These reforms, centered around three pillars, would help to support human capital accumulation, which, in turn, will help Azerbaijan sustain growth in the long run:

- **Pillar 1: Improving quality of basic education.** Recommendations are focused on development of basic skills among children and teenagers, such as numeracy, literacy, ICT, critical thinking and problem solving.
- **Pillar 2: Coordinating skills development based on the needs of the labor market.** Recommendations are focused on fostering the linkages between the labor market and VET and higher education.
- **Pillar 3: Strengthening social assistance.** Recommendations are focused on supporting the social assistance system to effectively reduce human capital disparities.

Table 5.4. Summary of key policy recommendations

Policy Recommendation	Sequencing	Policy Recommendation
Pillar 1: Improving Quality of Basic Education		
	Short-term	<ul style="list-style-type: none"> - Address impact of COVID-19 on learning and enrollment - Promote equitable expansion of early childhood education through increased financing
	Medium-term	<ul style="list-style-type: none"> - Use the results of national and international assessments to inform policy changes - Identify and address factors affecting daily school attendance - Review the quality and relevance of curricula at all levels based on the needs of the labor market
	Long-term	<ul style="list-style-type: none"> - Enact reforms to boost teacher effectiveness
Pillar 2: Coordinating Skills Development to Needs of the Labor Market		
Improving access to and quality of tertiary education and VET	Short-term	<ul style="list-style-type: none"> - Design mechanisms to promote equitable expansion of higher education and VET education
	Medium-term	<ul style="list-style-type: none"> - Provide more academic flexibility to higher educational institutions - Consolidate VET schools, address disparities in access for the unemployed, and improve relevance of VET curricula - Support capacity building in external and internal quality assurance
	Long-term	<ul style="list-style-type: none"> - Reform higher education financing
Linking Skills Supply to the Labor Market	Short -term	<ul style="list-style-type: none"> - Link skills development plans with broader socioeconomic goals - Implement active labor force programs and promote on-the-job training programs focusing on target groups
	Medium-term	<ul style="list-style-type: none"> - Strengthen links between training providers and firms; - Establish a dynamic skills inventory system for labor market developments and disseminate skills and occupations in demand regularly; - Establish a skills profiling system linked with the skills demand system to improve job matching; - Strengthen the capacity of the State Employment Agency (SES) under MLSPP to use the skills profiling and forecasting system for skills demand in order to deliver more efficient and effective active labor market programs in line with the skills supplied and demanded. - In the medium to longer term, establish a database to facilitate access to vocational and technical education data to facilitate efficient matching in the labor market.
	Long-term	<ul style="list-style-type: none"> - Promote public-private partnerships to integrate vocational and tertiary education with needs of the private sector.

Pillar 3: Strengthening Social Protection		
	Short-term	<ul style="list-style-type: none"> - Continue to protect the vulnerable from the impact of the COVID-19 pandemic and conduct ongoing review of efficacy of support
	Medium-term	<ul style="list-style-type: none"> - Improve linkages between social services and social assistance - Improve responsiveness and resilience of social protection delivery system to shocks - Increase coverage of social assistance programs through a stronger outreach mechanism
	Long-term	<ul style="list-style-type: none"> - Conduct deeper analysis, using micro-data, of drivers of and trends in inequality - Increase linkages of social assistance with labor market programs

Pillar 1: Basic education and quality

The critical short-term priority is to mitigate the significant learning loss due to school closures in response to the COVID-19 pandemic, building on efforts already being undertaken in Azerbaijan. Drawing on international experience, and building on policy initiatives already underway, Azerbaijan could consider: (i) continuing to support distance learning, especially for disadvantaged children in remote areas, who may have been disproportionately impacted by school closures;¹⁶² (ii) undertaking outreach activities needed to equip students for the return to schools, and particularly by providing targeted support to prevent the most at-risk students from dropping out; (iii) facilitating remedial teaching to minimize learning losses; and (iv) supporting teacher effectiveness during the pandemic and post-pandemic period (as described in Box 5.3)

Box 5.3. Three principles to support teacher effectiveness during COVID-19

Given the central role teachers play in student learning, supporting teacher effectiveness is critical through the phases of the COVID-19 response: the coping phase when schools are closed, managing continuity phase when schools reopen, and improvement and acceleration phase when long-term reform is possible. Global experience suggests three key principles to follow when supporting teachers:

Principle 1: Support Teacher Resilience to Ensure Teacher Effectiveness. COVID-19 is likely to strain the psychological reserves of all, with everyone facing increased stress due to economic uncertainty, concern for the safety of loved ones, and anxiety about what the future holds. Fostering teacher resilience will be essential for recovery. Given this, three areas require attention during the coping and managing continuity phases for teachers to remain effective: (i) protecting teacher jobs and salaries, (ii) enhancing intrinsic motivation by improving teachers' prestige and their role in managing the crisis, (iii) limiting burnout. As school systems stabilize and become ready for the improvement and acceleration phase, there will be opportunities to further build the psychological resilience of teachers.

Principle 2: Support Teachers Instructionally to Ensure Teacher Effectiveness. Teachers will return to classrooms where they must manage the potential erosion of their own skills as well as those of their students. In addition to learning loss, there will be loss in the habits of learning, made worse by the overall stress in the aftermath of the pandemic. Three strategies will be essential in the coping and managing phase to prevent further depletion of learning: : (i) build teachers' resilience by ensuring their and their students' psychosocial wellbeing and hygiene, (ii) empower and enable teachers to assess students, as teachers will need to identify what key content and skills—especially foundational ones—students have either not received or not mastered adequately and (iii) provide effective remedial education to expedite recovery, as teachers may need to prioritize students at-risk of dropping out, while ensuring other students don't lose skills. Teachers will need training support to identify at-risk students based on assessments, mitigate factors that might encourage student exit, and bring them to grade level.

¹⁶² Azerbaijan took steps to facilitate virtual learning in low performing areas through the ‘Virtual School’ project. This program could be evaluated and expanded.

Principle 3: Support Teachers Technologically to Ensure Teacher Effectiveness. COVID-19 provides an opportunity to require teachers to be technologically skilled as part of their jobs, and not view such skills as purely emergency skills. At a basic level, this requires school systems during the coping phase to: (i) provide teachers access to broadcast and digital communication channels; (ii) build teacher skills to use such channels for teaching; and (iii) encourage teachers frequent use of digital tools for managing communication and learning systems, such as in managing routine communication with the government, parents, and students—and undertaking tasks such as assessment or sharing school report cards digitally.

Source: Béteille, et. al (2020).

The other critical priority should be to increase government spending to support the equitable expansion of early childhood education to all population groups across all districts. This may require investing in infrastructure in districts/municipalities operating above capacity, as well as providing information to parents on the importance of preschool education for their children's development. This has to be considered as an immediate priority, so that it can produce effects on the quality of human capital 15-20 years in the future.

In the medium-term, the priority is to take steps to enhance the quality of education and equip youth with relevant skills for the labor market. To achieve this, Azerbaijan could consider:

- **Promoting, implementing and using the results of national and international assessments more than it is done now to inform policy changes.**¹⁶³ Globally, countries such as Poland, Portugal and Vietnam that benefited from the assessment style and results of national standardized assessments as well as international ones like PISA, TIMSS and PIRLS to improve their learning results in time.
- **Identify and addressing the factors affecting daily school attendance,** as rates of absenteeism may be negatively impacting educational outcomes.
- **Finally, to enhance the quality of education, it is critical to review the quality and relevance of curricula at all levels based on the needs of the labor market.** This process can be started by conducting a needs analysis for the general education system that focuses on asking educators, students and policymakers questions around how they think the curriculum can be improved, whether it is overloaded with too many subjects to be covered in too little time, how they think students internalize the curricular goals and how the teachers apply them, and whether the curricula is based on competencies, learning methods and content that are relevant for the productivity needs and the demographic structure of the country. The result of this needs analysis can then inform a process during which revisions to the curricula can be discussed with multiple stakeholders to plan next steps such as a regional pilot with a revised curriculum.

In the long term, the priority is to develop a skilled and effective cadre of teachers. It will be critical to improve teaching in the education system as global evidence shows that teachers are the most important drivers of learning. Teachers are successful when teacher policies are designed and implemented in a manner that attracts high-ability individuals, and prepares, supports and motivates them to become high-performing teachers. The vision should be focused on ensuring all children are taught by effective teachers, with education systems supporting teachers to do their best. Teachers are effective when they combine deep content knowledge, high-quality practices, creativity and empathy to improve student learning today and their long-

¹⁶³ Azerbaijan uses the results of international assessments through adjusting national assessment questions to reflect types of questions asked in international assessments. It is also in the process of developing new topics in the national curricula based on topics explored in PISA and TIMSS. However, these efforts must be expanded, evaluated and piloted to see success.

term readiness to learn.¹⁶⁴ Countries such as Finland, Japan and Singapore established a cadre of successful teachers using the principles described in Box 5.4.

Box 5.4. Five principles for successful teachers in middle and low-income countries

The World Bank considers it critical to observe the following principles to build cadres of effective teachers in middle- and low-income countries:

PRINCIPLE 1: Make teaching an **attractive** profession by improving its status, compensation policies and career progression structures.

PRINCIPLE 2: Improve quality of **pre-service** education and ensure that it includes a strong **practicum component** to improve its quality and to ensure teachers are well-equipped to transition and perform effectively in the classroom.

PRINCIPLE 3: Promote **meritocratic selection** of teachers, followed by a probationary period, to improve the quality of the teaching force.

PRINCIPLE 4: Provide **continuous support** and motivation, through **high-quality in-service** training, by revitalizing the professional learning system, and strong school leadership, to allow teachers to continually improve.

PRINCIPLE 5: **Use technology wisely** to enhance the ability of teachers to reach every student, factoring their areas of strength and development.

Source: Béteille & Evans, 2019

Pillar 2: Coordinating skills development in conjunction with the needs of the labor market

Ensuring that Azerbaijani youth are equipped to meet the current and future needs of the labor market is a critical component to the country's human capital accumulation efforts. Proposed are two areas of reform, which would address the skills shortage problem from opposite and complementary ends: the first is to improve the access to and quality of tertiary education and vocational education, and the second is to improve the linkages between the educational system and the labor market.

Improving access to and quality of higher education and VET

In the short-to medium-term, the priority is to design mechanisms to promote more equitable access to higher education and VET education, especially for women, and students from rural areas and disadvantaged backgrounds. This could include a focus on reducing the cost of tertiary education, by building on recent government programs that provide loans for low-income prospective students. In looking to expand access to VET, Azerbaijan could learn from the experiences of countries that have a high percentage of upper secondary students in VET programs, such as the Czech Republic (72.9), Finland (71.3), Slovenia (70.4), Croatia (70) and Slovakia (68.9).

In the medium-to-long-term, the government could consider several reforms aimed at improving the quality of higher education and VET. For example, giving HEIs more academic flexibility to define their curricula and design their higher education programs would facilitate the capacity of Azerbaijan's tertiary education system to adapt their students to changing labor market demands. In tandem, HEIs would need to be trained with new capacities to carry out these responsibilities. Career guidance counseling services could also be expanded to inform more students earlier on about employment prospects and occupations in demand, ultimately improving student choices of specializations. To address access and quality issues in VET, initiatives to support capacity building in external and internal quality assurance would help to improve the quality of

¹⁶⁴ Béteille & Evans, 2019.

vocational education and training over time. Continuing to optimize VET schools and addressing disparities in physical access to professional VET education would help to improve the accessibility of their programs for youth and employed and unemployed workers seeking new skills and training opportunities. Finally, increasing VET institutions' engagement with the private sector would help to improve the relevance of VET education and increase its attractiveness.

Linking skills supply to the labor market

In the short-term, the Government could consider further linking skills development plans with its broader strategic socioeconomic goals. Different types of jobs are demanded as a country's economy evolves over time, with the government helping to define priority areas and sectors of growth. For instance, the Korean economy was primarily based on agriculture and fisheries in the 1960s and 1970s. Prior to 1975, the Korean government began to prioritize investment in primary education. As the economy became industrialized in the late 1970s-1980s, the government gradually expanded investment to secondary education. Since the late 1990s, it has invested more in improving the quality of higher education. Another example is Vietnam, which is investing more in higher levels of education beyond primary education to develop a workforce with higher cognitive and technical skills amid the country's shift from an agriculture-based to a modern digital and information-based economy (World Bank, 2015).

In addition to this, Azerbaijan could consider specific measures to address the challenges of lower labor force participation among selected groups, and to facilitate the school to work transition. This includes implementing active labor force programs and promoting on-the-job training programs focusing on some target groups, sectors and regions in order to provide the participation of young people, women and social assistance recipients in the labor market. Some financial incentives for firms to incentivize on-the-job training could be considered, but the costs and benefits of this would need to be closely examined.

In the medium- to longer term, there is a need to improve governance in skills development and strength national mechanisms linking the labor market and the education system. For example, setting up governance arrangements to help articulate demand and supply on an ongoing basis would help to strengthen coordination among relevant actors involved in skills development. This could be achieved by:

- Strengthening links between training providers (including vocational education), businesses, and other partners;
- Establishing a dynamic skills inventory system for labor market developments and dissemination of skills and occupations in demand regularly. One potential option is to strengthen the existing "Skills Observatory";
- Establishing a skills profiling system linked with skills demand system to improve job matching; and strengthening the capacity of the State Employment Agency (SES) under MLSPP to use the skills profiling and forecasting system in order to deliver more efficient and effective active labor market programs in line with labor market conditions.
- In the medium to longer term, establishing an online job portal to facilitate access to vocational and technical education data as well as information on vacancies, wages, occupations in demand and profile of jobseekers to facilitate matching of labor supply and demand and to support individuals in their career path.

In the long-run, it will be important to strengthen public-private partnerships to integrate vocational and tertiary education with needs of the private sector, building on the efforts already underway. Azerbaijan has already taken several policy initiatives in this direction, such as the development of vocational standards to be used in vocational curricula, establishment of field commissions on skills development, development of close of 400 occupational and qualification standards, in addition to other legal and regulatory actions to strengthen VET (including the adoption of the Law of the Republic of Azerbaijan on VET in 2018).

These efforts could be strengthened further through PPPs that allow for the private sector to inform curricula design and teaching methods would help the emerging workforce to be more responsive to labor market demands. This could involve the development of a two-track higher education system that has a purely academic stream and a professionally oriented stream, responding to employers' demand for workers with better practical and job-specific technical skills (Rutkowski, 2015). Some examples of public-private partnerships are highlighted in Box 5.5.

Box 5.5. Examples of public-private partnership in education

Germany's well-known "dual system" of training is an example on how to engage the private sector with the formal education system. In this system, curriculum development and assessment are the responsibility of a coalition of labor, business, and government representatives. Learning takes place in schools and enterprises concurrently.

In India, the National Skills Development Corporation (NSDC) was created to promote employers' involvement in skills planning through the establishment of sector skills councils and provide seed money to develop occupational standards and competence-based curricula.

Elsewhere, in many low- and middle-income countries, including Turkey, Bangladesh, Tunisia, Malaysia, Mauritius, and Sri Lanka, private employers have been engaged to varying degrees to help define and introduce national qualification standards to improve quality and relevance of education.

Source: Glick, et al. (2015)

Pillar 3: Strengthening social protection

The Government is committed to investing in human capital development, including social protection, in line with the Vision 2030 agenda. The COVID-19 pandemic has further underscored the urgent need to review and adjust social protection schemes to meet the needs of the most vulnerable families.

In the short-term, the focus should continue to be on mitigating the impacts of COVID-19 and related disruptions and protecting the vulnerable from falling further into extreme poverty and food insecurity. This may entail ongoing assessments of both the welfare impacts of the shock on vulnerable households and measures undertaken by the government (including the adequacy of benefits) to respond to these shocks. Adjustments to COVID-19 support measures should be considered.

In the medium- to long-term, the COVID-19 pandemic and ensuring economic crises have highlighted certain weaknesses in the current social protection system. These weaknesses could be addressed by:

- **Improving the linkages between social services and social assistance** through increasing the number of centers of social work (DOST) and better case management techniques at these centers.
- **Improving the responsiveness and resilience of the social protection delivery system to natural disasters, displacement, economic shocks, and other crises.** This could entail: (i) reviewing the efficiency and effectiveness of social assistance system in terms of coverage and adequacy; (ii) using the review to inform changes in the social assistance mix and provision, for instance, through a scale back from cash transfers and activating referral system between social assistance and ALMPs and job placement; and (iii) introducing dedicated outreach activities to facilitate access to employment support for particularly vulnerable groups, including social assistance recipients, females, people with disabilities and youth who face higher risks of job loss during economic crises.
- **Increase the coverage of the social assistance programs to include a larger share of the poor through a stronger outreach mechanism.** While recent reforms in the Targeted Social Assistance

have improved adequacy and decreased application processing times, relatively weak outreach at the local level combined with application-based benefits are potential constraints against increasing coverage of the poor population. In addition, activation of able to work TSA beneficiaries should be ensured through stronger linkages with active labor market programs to encourage labor market entry and later on provision of time and eligibility bound social assistance benefits to formally employed (“in-work benefits”) who are in need.

- **Increasing coverage of active labor market programs to include youth, women, and informally employed and SOE workers to improve human capital/skills base of workers.** Targeted ALMPs (hiring incentives to firms and financial incentives for self-employment, additional cash benefits for mobility or child-care or going back to work) can be used to promote employment of women, transition to formal and more productive employment, upskilling and transitioning redundant SOE workers to alternative occupations, and employment of skilled and unskilled youth. Investments in targeted training, on the job training and apprenticeship programs can ease entry to the labor market for youth and less skilled jobseekers, activation of social assistance beneficiaries or inactive women and support work transitions in general.
- **Improving and expanding coverage of intermediation and employment support services through digital platforms.** State Employment Agency and Vocational Training Centers currently offer very limited services through digital platforms. COVID-19 pandemic has required some business training activities to be offered online. Intermediation services can be expanded by improving the State Employment Agency job platform to offer online job search assistance, subsidies/grants for internet connectivity and equipment (for jobseekers to participate in training or counseling sessions), and access to vacancy information and jobseeker profiles registered with the Agency.
- **Expanding coverage of unemployment insurance for unemployed to encourage formality and facilitate job transitions.** Currently, the coverage on unemployment insurance in Azerbaijan is minimal with a small share of wage employees (30 percent) having formal contracts and access to the unemployment benefits. Schemes/measures to include part-time workers, self-employed and informally employed, in particular, in agriculture and services, (e.g., voluntary savings schemes) can be devised to provide adequate social security for unemployed.

In the longer term, the focus should be on improving the social protection system such that it can support the needs of the most vulnerable, reduce human capital disparities and promote human capital accumulation. This will require deeper understanding of the roots of those disparities and vulnerabilities. To that end, the social protection system could benefit from (i) deeper analysis, using micro-data, of drivers of and trends in inequality in terms of human capital accumulation, access to opportunities and perspectives on social mobility, across socio-economic groups and from a spatial dimension; (ii) increased linkages of social assistance with labor market programs, for example, connecting beneficiaries of social assistance to active labor market programs.

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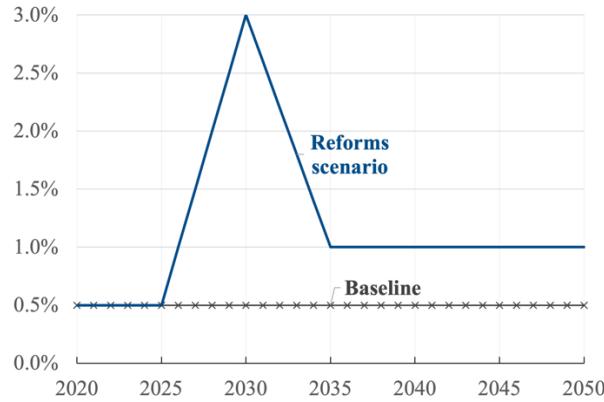
Annexes

Annex 1

Figure 1A: Reforms to Non-Energy TFP Growth

I. Simulated non-energy TFP growth

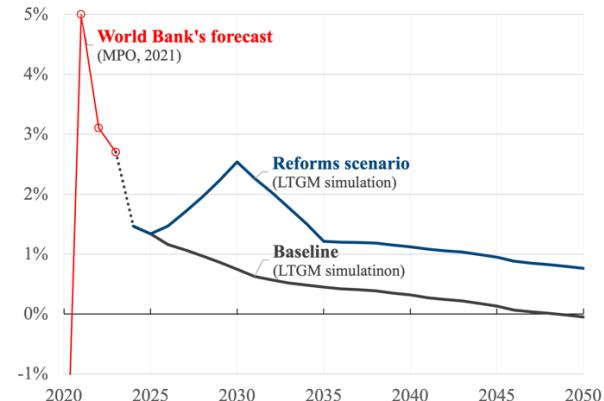
Annual growth rate, Percentage



Source: World Bank's staff estimates.

III. Headline GDP (LTGM-NR Simulation)

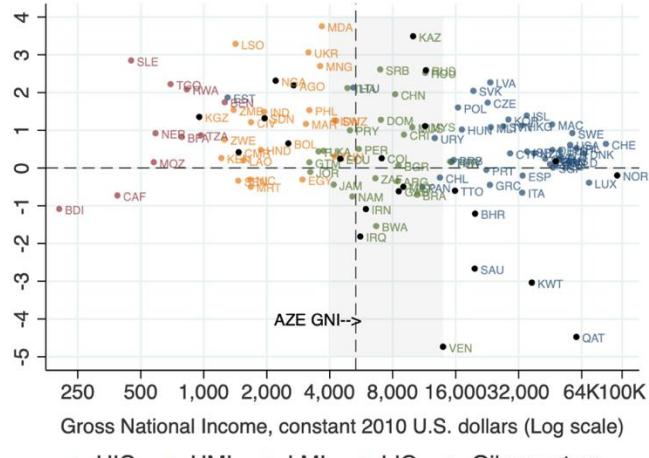
Annual growth rate, Percentage



Source: World Bank's staff estimates.

II. Cross-country TFP growth

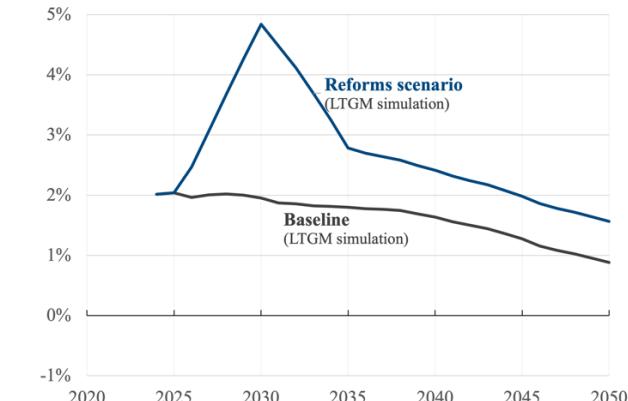
Average growth rate over 2000-2019, Percentage



Data source: Penn World Table 10.0. Dropped outliers Tajikistan and Armenia

IV. Non-energy GDP (LTGM-NR Simulation)

Annual growth rate, Percentage

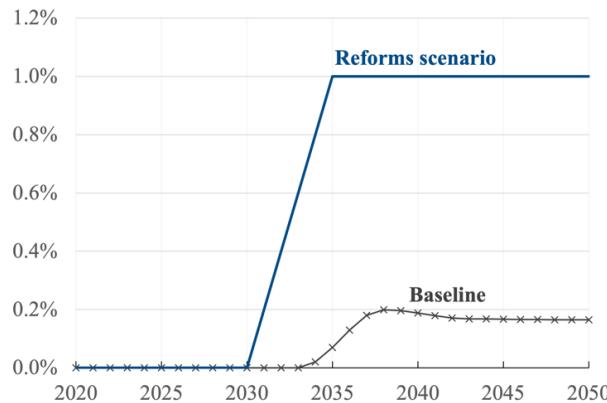


Source: World Bank's staff estimates.

Figure 1B: Reforms to Human Capital

I. Simulated human capital growth

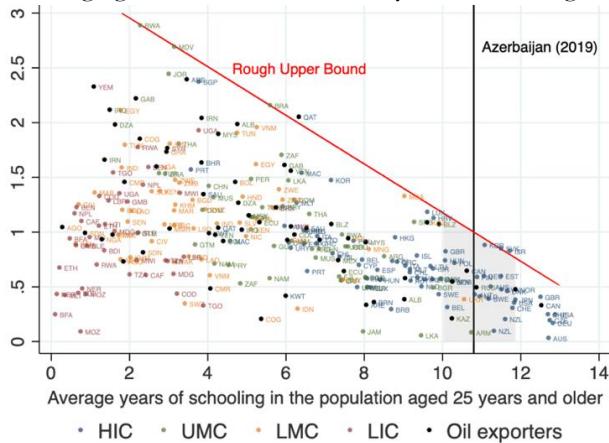
Annual growth rate, Percentage



Source: World Bank's staff estimates.

II. Cross-country human capital index

Average growth over the next 20 years, Percentage

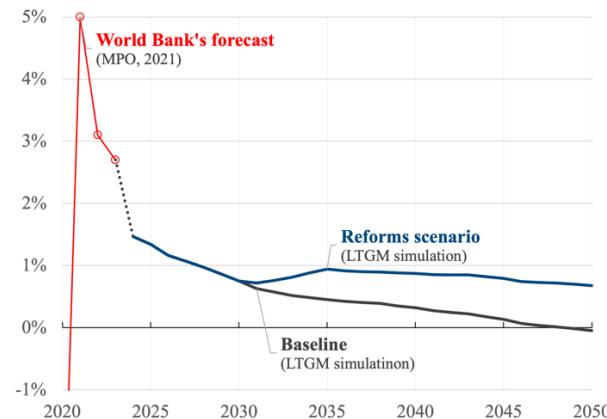


Data source: Penn World Table 10.0 and UN.

Notes: Three outliers dropped. Years schooling predates 20r average. Samples 1979-99 & 1999-2019.

III. Headline GDP (LTGM-NR Simulation)

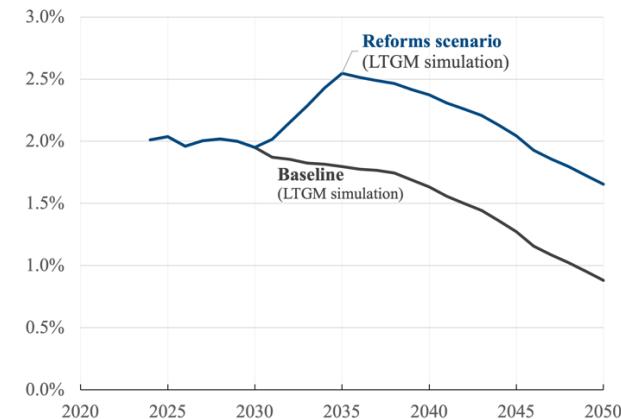
Annual growth rate, Percentage



Source: World Bank's staff estimates.

IV. Non-energy GDP (LTGM-NR Simulation)

Annual growth rate, Percentage

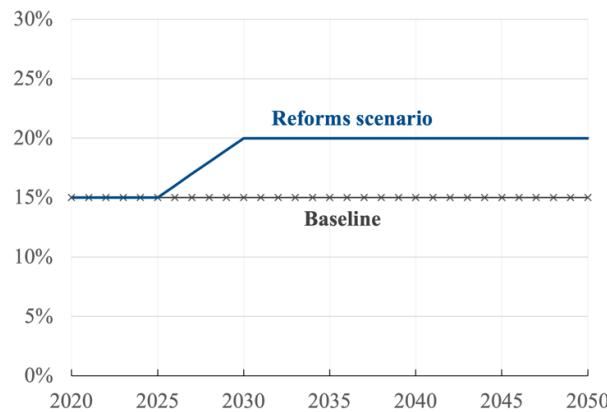


Source: World Bank's staff estimates.

Figure 1C: Reforms to Private Investment

I. Simulated private investment

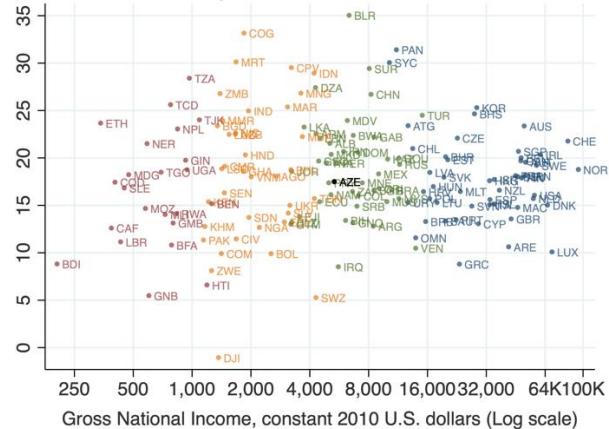
Percent of GDP



Source: World Bank's staff estimates.

II. Cross-country private investment

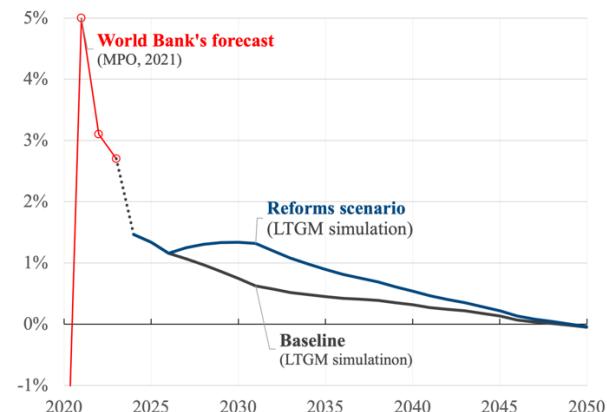
Percent of GDP, Average over 2010-2017



Source: IMF-FAD, Investment and Capital Stock Dataset

III. Headline GDP (LTGM-NR Simulation)

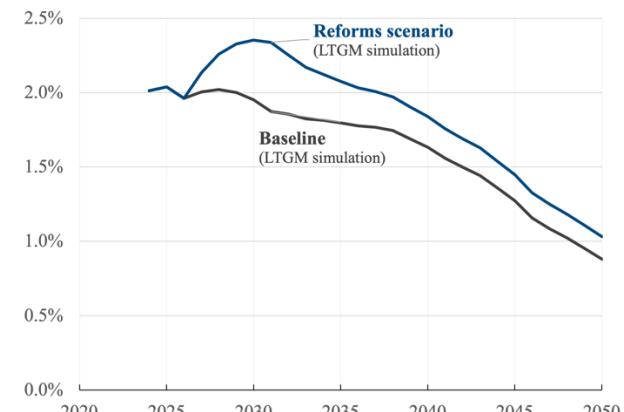
Annual growth rate, Percentage



Source: World Bank's staff estimates.

IV. Non-energy GDP (LTGM-NR Simulation)

Annual growth rate, Percentage

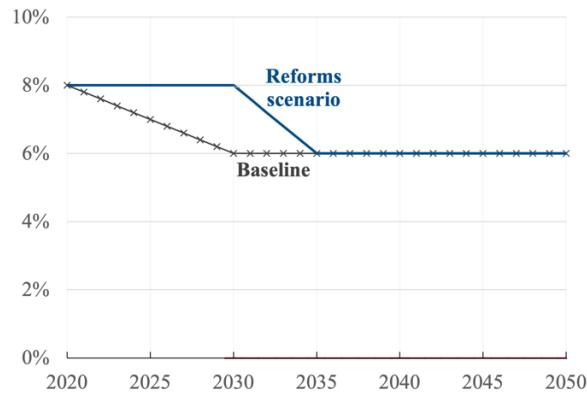


Source: World Bank's staff estimates.

Figure 1D: Reforms to Public Investment

I. Simulated public investment

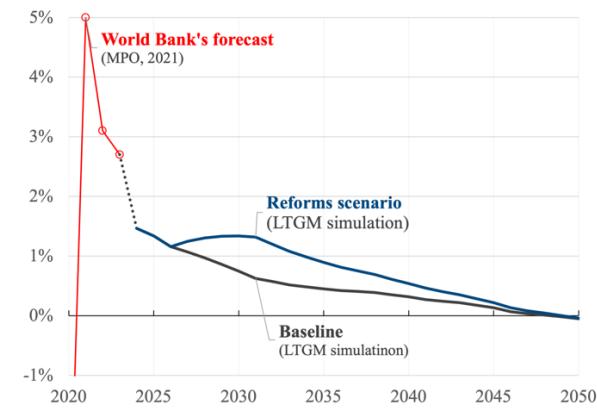
Percent of GDP



Source: World Bank's staff estimates.

III. Headline GDP (LTGM-NR Simulation)

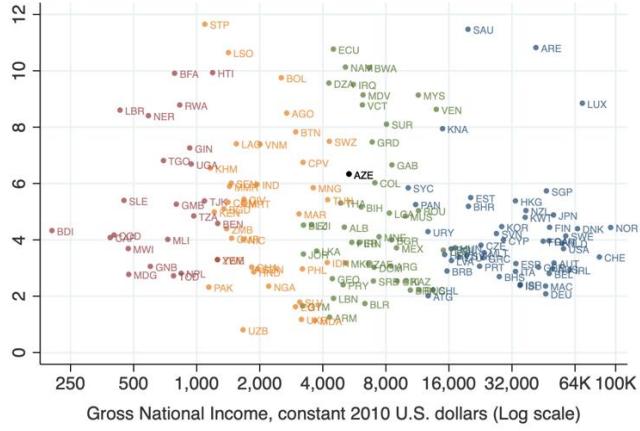
Annual growth rate, Percentage



Source: World Bank's staff estimates.

II. Cross-country public investment

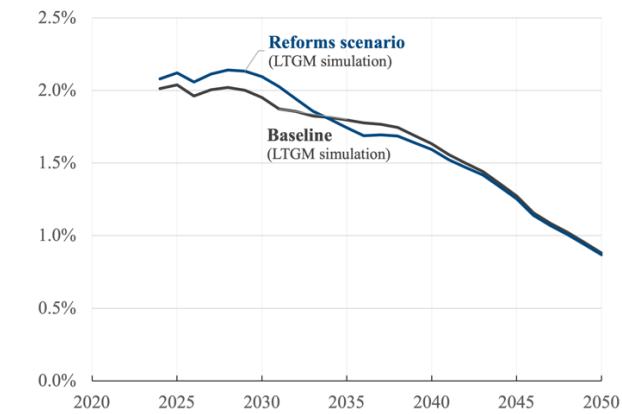
Percent of GDP, Average over 2010-2017



Source: IMF-FAD, Investment and Capital Stock Dataset

IV. Non-energy GDP (LTGM-NR Simulation)

Annual growth rate, Percentage

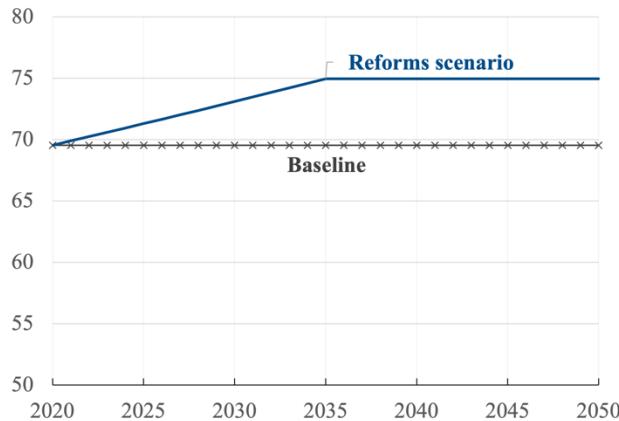


Source: World Bank's staff estimates.

Figure 1E: Reforms to Female Labor Force Participation

I. Simulated female labor force participation

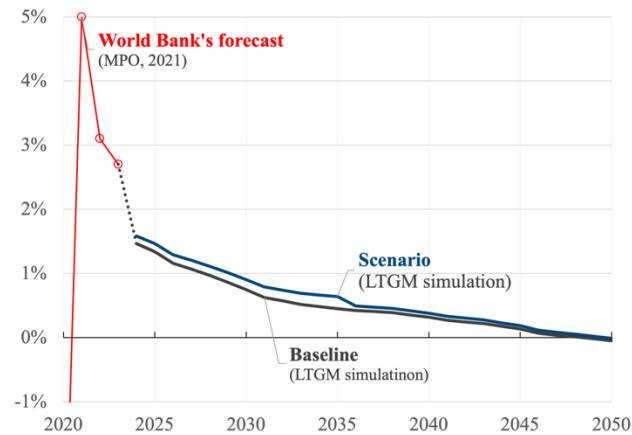
Percent of working-age population



Source: World Bank's staff estimates.

III. Headline GDP (LTGM-NR Simulation)

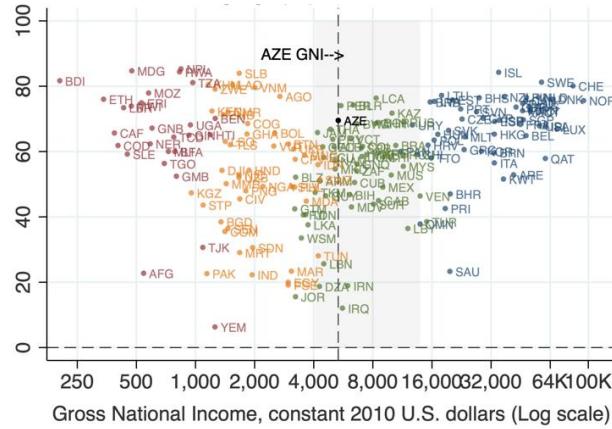
Annual growth rate, Percentage



Source: World Bank's staff estimates.

II. Cross-country female labor force

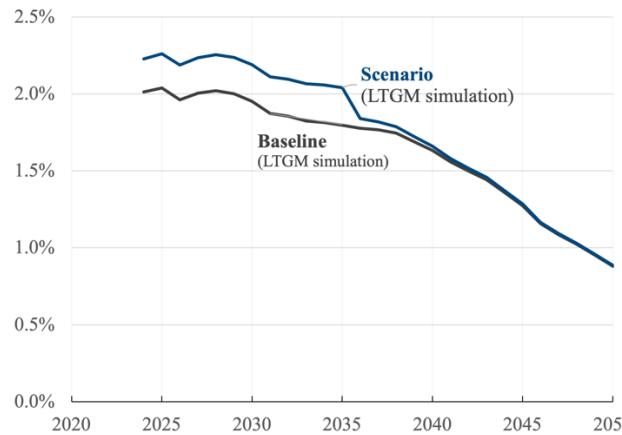
participation in 2019, Percent of working-age population



Source: World Development Indicators

IV. Non-energy GDP (LTGM-NR Simulation)

Annual growth rate, Percentage



Source: World Bank's staff estimates.

Annex 2. Long-Term Growth Model (LTGM)

The Long-Term Growth Model (LTGM) and its extensions are a set of Microsoft Excel-based tools designed to analyze future long-term growth scenarios, building on the celebrated Solow-Swan Growth Model (1956).¹⁶⁵ The LTGM tools are simple, transparent, and have low data requirements. The tools take assumptions about growth fundamentals, like future total factor productivity (TFP), investment, demographics, and schooling, to produce future paths for GDP growth. As typical of this class of growth models, the LTGM is designed to analyze long-term trends of the production potential of the economy, but is not suitable for short-term forecasting.¹⁶⁶

The CEM chapter uses the LTGM's Natural Resource Extension (LTGM-NR) to simulate Azerbaijan's economic growth trajectory in future. The NR extension is necessary because Azerbaijan is a natural resource-rich country, with the oil and natural gas sectors accounting for about 40 percent of GDP.¹⁶⁷ The NR extension allows for a disaggregation of the economy into energy (oil and natural gas) and non-energy sectors.

This Technical Appendix is separated into two sections. Section 1 provides an overview of the LTGM-NR (Sub-model 1) simplified to the Azerbaijan application.¹⁶⁸ Section 2 describes the calibration of the model to Azerbaijan.

The Natural Resource Extension of the LTGM for Azerbaijan

The LTGM-NR disaggregates the economy of Azerbaijan into energy (E) and non-energy (NE) sectors.

The non-energy sector. The structure of the non-energy sector is identical to the standard LTGM. A representative firm employs physical capital and effective labor with constant returns to scale Cobb-Douglas production function to generate the non-energy output, Y_t^{NE} ,

$$Y_t^{NE} = A_t^{NE}(h_t L_t)^{\beta}(K_{t-1}^{NE})^{1-\beta}, \quad 0 < \beta < 1 \quad \text{Eq. 1}$$

where A_t^{NE} is the TFP, K_{t-1}^{NE} is the physical capital at the end of period $t - 1$, and β is the labor share in the non-energy sector. Effective labor, $h_t L_t$, is decomposed into h_t , human capital per worker, and L_t , the labor force (number of workers). The labor force is defined as $L_t = \varrho_t \omega_t N_t$. Where N_t is total population, ω_t is the working-age to population ratio, and ϱ_t is the labor force participation (labor force to working-age population ratio). The variables A_t^{NE} , h_t , N_t , ω_t , and ϱ_t are exogenous and evolve at the following annual growth rates: g_t^{ANE} , g_t^h , g_t^N , g_t^ω , g_t^ϱ , respectively.

The energy sector. The energy sector, E , is further disaggregated into oil and natural gas industries. Each industry $i \in \{\text{oil, gas}\}$ combines capital and the stock of natural resources (proved reserves) with constant returns to scale Cobb-Douglas technology to produce good i :

¹⁶⁵ For a comprehensive description of the standard LTGM, visit the Long-Term Growth Model website: www.worldbank.org/LTGM

¹⁶⁶ The LTGM and its extensions are designed to be used for long-run simulation exercises over the next 5-30 years, but not for short-run forecasting. The models only runs at an annual frequency, does not include a Keynesian demand side and are too simple capture the multitude of shocks to short-term growth.

¹⁶⁷ See State Statistics Service of Azerbaijan.

¹⁶⁸ The LTGM-NR sub-model 1 is a simplified version of the fully-specified LTGM-NR and abstracts from some details of the public and external sectors of typical resource exporters, providing a user-friendly tool for analyzing growth scenarios.

$$Q_t^i = A_t^i (K_{t-1}^i)^{1-\gamma_i} (R_{t-1}^i)^{\gamma_i}, \quad 0 < \gamma_i < 1 \text{ and } i \in \{oil, gas\} \quad \text{Eq. 2}$$

where A_t^i is the TFP in industry i and period t , K_{t-1}^i is capital in industry i at the end of period $t - 1$, R_{t-1}^i is the stock of natural resources in industry i at the end of period $t - 1$, and γ_i is the resource rents share in industry i (consequently $1 - \gamma_i$ is the capital share in industry i).

In each industry, the dynamics of reserves follows the equation below:

$$R_t^i = R_{t-1}^i - Q_t^i + D_t^i, \quad i \in \{oil, gas\} \quad \text{Eq. 3}$$

where D_t^i is an exogenous path for discoveries of resource i . Note that reserves in industry i at the end of period t increases with an exogenous stream of discoveries, but is endogenously depleted by the production of good i .

The rationale behind the production function of industry i (Eq. 2) is that increasingly scarce reserves requires more capital and technology to produce one unit of the resource good i , since firms are forced to drill further underground or in less accessible locations (as in Hansen and Gross 2018 and Arezki et al. 2017).¹⁶⁹

Eq. 4 describes the evolution of physical capital in the non-energy sector and in the oil and natural gas industries. Eq. 5 describes the dynamics of aggregate capital:

$$K_t^j = (1 - \delta)K_{t-1}^j + X_t^j, \quad j \in \{NE, oil, gas\} \quad \text{Eq. 4}$$

$$K_t = K_t^{NE} + K_t^{oil} + K_t^{gas} \quad \text{Eq. 5}$$

where δ is the annual depreciation rate, X_t^j is investment in activity j , and K_t is the aggregate capital at the end of period t .

National income and international trade. The model economy represents a small, price taking, commodity exporter. One unit of the non-energy good can be either absorbed domestically (via consumption or investment), or exported at constant one dollar. All the proceeds from the resource sector are exported at exogenous international prices. The following expressions define Gross Domestic Income (GDI) at the three levels of aggregation:

$$Y_t = Y_t^{NE} + Y_t^E, \quad Y_t^E = Y_t^{oil} + Y_t^{gas}, \quad Y_t^i = p_t^i Q_t^i \quad i \in \{oil, gas\} \quad \text{Eq. 6, Eq. 7, Eq. 8}$$

where Y_t is total GDI, Y_t^E is energy GDI, and Y_t^i is GDI at the industry level. The variable p_t^i is the price of energy good i denominated in real dollars of 2010. Henceforth, let lower-case characters denote variables *as a share of GDI* (e.g., $z_t \equiv Z_t/Y_t$).

Gross Domestic Product (GDP). Although GDP and GDI are equivalent in a closed economy, they can differ significantly in open economies.¹⁷⁰ The difference is particularly important in open economies with a large natural resource sector and volatile commodity prices. GDI, as a measure of income, is directly affected

¹⁶⁹ Alternatively, R_t^i can be interpreted as a quality-adjusted index of reserves that takes into consideration geological factors such as ore grade (for minerals) or the composition of hydrocarbons (for petroleum and natural gas). As the highest quality mines and oil fields tend to be explored first, further extraction and depletion reduces the quality of the remaining reserves, scaling down the industry marginal product of capital (see Cochilco 2017).

¹⁷⁰ See Kehoe and Ruhl (2008) for a comprehensive discussion about the methodological differences between GDP and GDI.

by a change in the price of resource goods. As shown in Eq. 6, GDI is computed using current real prices, p_t^l . GDP, as a measure of production, is computed using prices in the base year 2010, and, hence, it is not directly affected by price changes:

$$GDP_t = Y_t^{NR} + p_{2010}^{oil} Q_t^{oil} + p_{2010}^{gas} Q_t^{gas} \quad \text{Eq. 9}$$

Investment. As in the standard LTGM, capital accumulation is the main driver of endogenous growth in the NR extension. As such, investment is a key macroeconomic variable for policymaking. To analyze the effect of different fiscal frameworks on the dynamics of growth in resource-rich countries, the NR extension decomposes aggregate investment into private and public investment (which are assumed to be perfect substitutes: $x_t^{total} = x_t^{private} + x_t^{public}$).

Analogous to sub-model 1 of the standard LTGM, the NR extension assumes that private investment as a share of GDI is exogenous. On the other hand, public investment has an exogenous and an endogenous component. The endogenous component responds to fluctuations in resource revenues driven by commodity prices according to a simple fiscal rule. However, in Chapter 1 of the CEM, oil and natural gas prices are assumed constant so that the path of public investment is purely exogenous.¹⁷¹

Total investment must be allocated across sectors and industries of the economy:

$$x_t = x_t^{NE} + x_t^{oil} + x_t^{gas} \quad \text{Eq. 10}$$

To keep the model simple (so can be implemented in a Microsoft Excel spreadsheet), the NR extension uses a simple rule of thumb that allocates investment across the economy's activities proportionally to (i) the marginal efficiency of capital and (ii) the sector's relative size (in terms of capital shares),

$$\frac{x_t^i}{x_t} = \left(\frac{k_{t-1}^i}{k_{t-1}} \right) \left(\frac{mrpk_t^i}{mrpk_t} \right)^\mu, \quad \text{for } i \in \{oil, gas\} \quad \text{Eq. 11}$$

$$mrpk_t^j = \gamma_j y_t^j / k_{t-1}^j \quad \text{for } j \in \{NE, oil, gas\} \quad \text{Eq. 12}$$

$$\overline{mrpk}_t = \left[\left(\frac{k_{t-1}^{NE}}{k_{t-1}} \right) (mrpk_t^{NE})^\mu + \left(\frac{k_{t-1}^{oil}}{k_{t-1}} \right) (mrpk_t^{oil})^\mu + \left(\frac{k_{t-1}^{gas}}{k_{t-1}} \right) (mrpk_t^{gas})^\mu \right]^{1/\mu} \quad \text{Eq. 13}$$

where $mrpk_t^j$ denotes the marginal revenue product of capital (the dollar value of the marginal product of capital) in activity j , $\gamma_{NE} \equiv 1 - \beta$, and \overline{mrpk}_t is a Dixit-Stiglitz aggregator of the MRPK across activities. The aggregator weights each activity by their capital shares, k_{t-1}^j / k_{t-1} .

Although the rule of thumb (Eq. 11–Eq. 13) is not derived from the optimizing behavior of private agents, it entails two appealing properties. First, across same-size industries, if activity i is 1% more efficient than activity j , it receives $\mu\%$ more investment (i.e., $k_{t-1}^i = k_{t-1}^j \rightarrow \ln(x_t^i/x_t^j) = \mu \ln(mrpk_t^i/mrpk_t^j)$). Second, investment is allocated so that capital shares remain constant across firms with the same marginal efficiency of capital (i.e., $mrpk_t^i = mrpk_t^j \rightarrow k_t^i/k_t^j = k_{t-1}^i/k_{t-1}^j$).

Equilibrium. An equilibrium is defined as a collection of 13 endogenous trajectories $\{Y_t^{NE}, Q_t^i, R_t^i, K_t, K_t^j, Y_t^E, Y_t^i, GDP_t, x_t^{NE}, x_t^i, mrpk_t^j, \overline{mrpk}_t\}$ with each endogenous variable specified as a

¹⁷¹ Hence, for simplicity, this Appendix skips the description of how simple fiscal rules determines the endogenous component of public investment.

function of the exogenous paths $\{g_t^{ANE}, g_t^h, g_t^N, g_t^\omega, g_t^\varrho, D_t^i, p_t^i, x_t\}$ and initial conditions $\{GDP_0, GDP_0^{NE}, GDP_0^i, K_0, K_0^{NE}, K_0^i, R_0^i, p_{2010}^i, N_0, \omega_0, \varrho_0\}$ that satisfies the set of equations Eq. 1- Eq. 13 for every period t .

Baseline Calibration and Data

This section describes how the LTGM-NR is calibrated to Azerbaijan. The first year of the simulation is 20, so the model can only be fed with data up to 2. Table I summarizes the data and assumptions taken to set-up selected key parameters, initial conditions, and the trajectory of exogenous variables over the forecast horizon (from 2021 to 2050). The model is specified in annual frequency. The general approach is to set-up parameters and flow variables to match their empirical counterparts averaged over 2000-2019 (or until the most recent available year). This approach captures recent trends and smooths out influential and outlier years. Slow-moving stock variables—such as capital and reserves of natural resources—are set to the most recent data point available. All monetary values in this section are expressed as real 2010 U.S. Dollars.

Parameters. Panel A of Table I summarizes the data used to calibrate the main parameters of the LTGM-NR to Azerbaijan. The labor share in the non-energy sector, β , is set to match the average share of labor compensation in non-energy GDP over 2000-2019. In the standard LTGM, the labor share is set to match the share of labor compensation in GDP from the Penn World Table 10.1 (PWT10). However, in the NR extension, labor is only employed in the non-energy sector, so it is necessary to scale the PWT labor compensation by the share of non-energy GDP in total GDP, as below:

$$LABSH_t^{NE} = LABSH_t^{PWT} \times GDP_t / GDP_t^{NE}$$

where $LABSH_t^{PWT}$ is the share of labor compensation in total GDP in period t , taken from PWT10 (adjustments 3 and 4). The baseline sets the parameter β to 0.7 which is similar to the average of $LABSH_t^{NE}$ over 2000-2019. The data used to set GDP_t^{NE} and GDP_t are explained in the next subsection.

The parameters γ_{oil} and γ_{gas} are set to 0.3 which are the average of oil and natural gas rents shares in Azerbaijan over 2004, 2007, 2011, and 2014 (Global Trade Analysis Project (GTAP)).¹⁷² The physical capital annual depreciation rate, δ , is set to 5.6 percent, which was the average depreciation rate observed in Azerbaijan from 2000 to 2019 (PWT10).

Initial conditions. Panel B of Table I summarizes the initial conditions. The model requires data on initial GDP per capita at the three levels of aggregation: total, non-energy, and oil and gas industries. Total GDP per capita is set to USD 5,880 which is the 2019 (most recent) value reported by the World Bank's World Development Indicators (WB-WDI). Oil and natural gas GDP are set to account for 33 and 7 percent of GDP in 2020. These numbers correspond the shares of oil and natural gas in Azerbaijan's value-added in 2020, reported by the System of National Accounts (SNA) and the Ministry of Economy (MoE). Consequently, the non-energy sector is set to account for 60 percent of Azerbaijan's initial GDP.

¹⁷² GTAP defines the resource rent as the total revenue that can be generated from the extraction of oil and natural gas less the cost of extraction (including the return capital employed on the extractive activity).

The initial capital to GDP ratio is set to 1.92, which is the value implied by PWT10 data for 2019.¹⁷³ The initial capital stock is split across activities to equalize the initial marginal revenue product of capital. The resulting initial capital-to-GDP stock in non-energy, oil, and natural gas are 0.83, 0.81, and 0.28, respectively.¹⁷⁴

BP-Energy Dataset provides data on reserves of oil and natural gas in Azerbaijan from 1990 to 2017. The baseline sets initial oil reserves of 7 billion barrels and initial gas reserves of 46 billion MMBtu. These values correspond to the most recent observation (2017).

Trajectory of exogenous variables. Panel C of Table I summarizes the assumed trajectories of the main exogenous variables from 2021 to 2050. The baseline simulation assumes that no major shocks or reforms will affect the economy so that current trends can be extrapolated into the future. The prices of oil and natural gas are set to USD 60/barrel and USD 5/MMBtu, respectively, which are the estimated unconditional average from 1960 to 2020.

Information on discoveries of oil and natural gas are inferred from annual data on production and reserves from the BP-Energy. More specifically, oil/gas discoveries are computed as the annual change in reserves plus production (this can be seen by rearranging Eq. 3). The baseline sets one billion MMBtu discoveries of natural gas per year until 2050, which is close to the average yearly discovery since 2008 (excluding major discoveries in 2013). Based on country-experts information, the baseline assumes no further discoveries of oil until 2050.

Public investment is expected to remain high in the medium-term due to post-war reconstruction efforts but to converge to its long-term level over the years (see IMF Article IV). The baseline assumes public investment starts at 8 percent of GDP in 2020, slowly converging to 6 percent by 2030. Baseline private investment is assumed to be constant at 15 percent of GDP from 2020 to 2050, which is similar to the historical average, after excluding the exceptional 1995-2005 boom related to oil construction (FAD-IMF).

PWT does not report TFP or human capital for Azerbaijan. Due to this lack of data, the baseline relies on cross-country experience to set TFP growth in Azerbaijan. The annual growth rate of non-energy TFP is set to 0.5 percent from 2023 to 2050 to match the median growth rate of upper-middle income countries from 2021 to 2050. There is some international evidence of declining TFP in energy and mining activities so TFP growth in oil and natural gas are set to -1 percent (see Cochilco, 2017).

Although PWT does not report human capital for Azerbaijan, UN reports flat schooling completion rates by age cohort, suggesting human capital growth will be close to zero over the next decade or so. Alternatively, the World Bank reports a small increase in today's children's schooling. As a compromise, the baseline simulation assumes no human capital until 2035, and then a small boost to 0.2 percent when today's children join the workforce.

Finally, the baseline simulation incorporates UN's International Labor Organization (ILO) of demographic trends for Azerbaijan. The UN's forecast suggest that population growth is on a declining path from 0.9 percent in 2020 to zero by 2050. The working-age population share (those aged 16 to 64) is also shrinking from 70 percent of total population in 2020 to 65 percent by 2050. Based on recent trends, the labor force

¹⁷³ Using PWT10's terminology, the capital to output ratio is computed as rkna/rgdpna where rkna denotes "Capital stock at constant 2011 national prices (in mil. 2015US\$)" and rgdpna denotes "Real GDP at constant 2015 national prices (in mil. 2015US\$)".

¹⁷⁴ More specifically, the initial capital-to-GDP ratio in activity j must satisfy the following equations,

$$KY_{-1}^{NE} = \frac{(1 - \beta)GDP_0^{NE}}{(1 - \beta)GDP_0^{NE} + \gamma_{oil}GDI_0^{oil} + \gamma_{gas}GDI_0^{gas}} ; KY_{-1}^i = \frac{\gamma_j GDI_0^i}{(1 - \beta)GDP_0^{NE} + \gamma_{oil}GDI_0^{oil} + \gamma_{gas}GDI_0^{gas}} \quad i \\ = \{oil, gas\}$$

where $GDI_0^{oil} \equiv (p_t^{oil}/p_{2010}^{oil}) \times GDP_0^{oil}$ denotes real oil GDI (analogous for gas GDI).

participation rate is set constant from 2020 to 2050 at 70 percent of the working-age population (World Development Indicators, WDI).

Table I. Baseline Set-up of the LTGM-NR to Azerbaijan: Selected Parameters, Initial Conditions and Trajectories of Exogenous Variables

(All monetary values expressed in real 2010 U.S. Dollars)

	Value	SOURCE	TIME SERIES
<i>A. Parameters</i>			
Depreciation rate (δ)	5.6%	PWT10	2000–2019 average
Labor share, NE sector (β)	0.7	PWT10	2000–2019 average
Resource rents (γ)	0.3	GTAP	2004, 2007, 2011, 2014 average
<i>B. Initial conditions (2020)</i>			
GDP per capita:	US\$5,880	WB-WDI	2019 (Most recent)
Non-energy	60% of GDP	AZE-SNA	2020 (Most recent)
Oil	33% of GDP	AZE-SNA	2020 (Most recent)
Natural gas	7% of GDP	AZE-SNA	2020 (Most recent)
Capital to GDP ratio:	1.92	PWT10	2019 (Most recent)
Non-energy	0.83	Endogenous	Equalize initial MRPK
Oil	0.81	Endogenous	Equalize initial MRPK
Natural gas	0.28	Endogenous	Equalize initial MRPK
Reserves:			
Oil	7Bn barrels	BP-Energy	2017 (Most recent)
Natural gas	46Bn MMBtu	BP-Energy	2017 (Most recent)
<i>C. Trajectory of exogenous variables, 2021–2050</i>			
Commodity prices:			
Oil	US\$60/barrel	WB-CPD	Median price distribution over 1960–2020
Natural gas	US\$5/MMBtu	WB-CPD	Median price distribution over 1960–2020
Discoveries:		BP/USGS	Most recent or 2000 – 2017 average
Oil	Zero	-	Country-specific information
Natural gas	1Bn MMBtu/year	-	Country-specific information
Investment:			2000 – 2017 average (or most recent)
Private	15 % of GDI	IMF-FAD	1990-2017 average (excl. oil boom)
Public	8%→6% of GDI	IMF-FAD	Country-specific information
Total factor productivity:			
Non-energy	0.5% growth rate	PWT10	Median UMCs over 2000-2019
Oil	-1% growth rate	-	Similar to median in oil/gas exporters
Natural gas	-1% growth rate	-	Similar to median in oil/gas exporters
Human capital	≈0% growth rate	UN	Based on WB-HCI
Demographics:			
Population	0.8%→0% growth	ILO	Forecast over 2018–2050
Working-age population	70%→65% of pop.	ILO	Forecast over 2018–2050
Participation rate	72% of WAPOP	ILO	Forecast over 2018–2050

Annex 3. Changing Wealth of Nations (CWON) 2021 Methodology

The CWON 2021 methodology builds on the foundation laid in previous works by the World Bank, including *Expanding the Measure of Wealth* (World Bank 1997), *Where Is the Wealth of Nations?* (World Bank 2006), and *The Changing Wealth of Nations* (World Bank 2011 and Lange et al 2018). The innovation in this edition includes the addition of blue natural capital (mangroves and fisheries) and improvements upon the measurements of other assets.

Below is an overview of the methodology and data sources for estimating each wealth component. Detailed documentation of the data and methodology, and the technical studies and background papers that underlie the updated methodology, are available on the wealth accounting page of the World Bank website.

Data are reported in constant 2018 US dollars, at market exchange rates.

Total wealth

A nation's wealth consists of a diverse portfolio of assets, which together form the productive base of the national economy. These assets include

- *Renewable natural capital*—including forests (timber and ecosystem services), mangroves, fisheries, agricultural land (cropland and pastureland), and protected areas
- *Nonrenewable natural capital*—including fossil fuel energy (oil, natural gas, and coal) and 10 metals and minerals
- *Produced capital*—including machinery, structures, equipment, and urban land
- *Human capital*—including the knowledge, skills, and experience embodied in the workforce
- *Net foreign assets*—including portfolio equity, debt securities, foreign direct investment, and other financial capital held in other countries.

Total wealth is calculated by summing up each component of wealth:

$$\begin{aligned} \text{Total wealth} = & \text{Renewable natural capital} + \text{Nonrenewable natural capital} \\ & + \text{Produced capital} + \text{Human capital} + \text{Net foreign assets} \end{aligned}$$

A few methodological concepts and assumptions should be highlighted up front, as they are applied broadly to renewable and nonrenewable natural capital. The general concept of asset valuation is that the value should equal the discounted sum of net benefits an asset is expected to generate over its lifetime. For natural capital, the net benefits are the resource rents which is the total value of production (or revenues) minus the total cost of production. In calculating the net present value for renewable and nonrenewable natural capital, a discount rate of 4 percent¹⁷⁵ is used across all resources and years (as in the previous wealth reports). The lifetime of the resource for renewable natural capital is capped to 100 years, following the practice of the UK Office of National Statistics, while the lifetime for nonrenewable natural capital is estimated directly based on reserves and extraction paths. Resource rents are smoothed as a lagged five-year average, to avoid year-to-year price fluctuations. Resource rents for the core wealth accounts are assumed to remain constant in future years unless otherwise specified. This approach is supported by the System of Environmental-Economic Accounting (EC et al 2014) in the absence of the ability to project future prices and extraction paths.

A country-specific GDP deflator is used for all the natural capital components to bring the nominal values to constant 2018 US dollars at market exchange rates. The GDP deflator is a broad deflator that reduces price effects but may not eliminate all capital gains (or losses) that would be captured if a commodity-specific price deflator were to be applied.

¹⁷⁵ The 4 percent discount rate is the long-term (100 years or more) real return on financial assets globally, derived from Credit Suisse data.

Finally, the comprehensive wealth database generally draws on publicly available, global data sets. Although this approach has its limitations compared with country-specific assessments, it allows for consistency in cross-country analyses. Also, to maximize country coverage and gap-fill missing data, regional or income group averages are often applied. Countries that experienced economic and social crises including population exodus during the period of study typically have limited or unreliable macroeconomic and population data series which require significant gap-filling. An example is Venezuela, where several key variables have an incomplete series. Missing values are filled by linearly extrapolating from past trends, an approach that may be sensible in countries with more stable macroeconomic and social environment, but less so in countries such as Venezuela.

Renewable natural capital

Timber. The predominant economic use of forests has been as a source of timber. Timber resources are valued according to the present discounted value of rents from the production of timber over the expected lifetime of standing timber resources. Unlike fossil fuel energy and other nonrenewable resources, timber is a renewable resource, so the concept of sustainable use of forest resources is introduced when estimating how many years the current forest can generate timber rents. The lifetime of timber resources is determined by the rate of timber extraction (Q) relative to the rate of natural growth (N). If $Q > N$, then current rates of extraction are unsustainable, and the lifetime of the resource is limited. If $Q \leq N$, then extraction is assumed to be sustainable, and the lifetime of the resource is taken as 100 years. Starting with CWON 2021, the area of timber forest (used in the calculation of annual natural growth) is estimated by subtracting from the total forest area those forests located within protected areas, excluding protected area categories that could be used for sustainable timber production (i.e., protected areas in IUCN categories V and VI). The resulting timber forest area is broader than the more narrowly defined productive forest area used in CWON 2018 and previous data editions.

Rents from timber in a given year are calculated as the rental rate times total revenue, where total revenue is unit price times the quantity of timber extraction. Data sources for estimating timber wealth are described in table A.1.

Table A.1 Data sources for forest timber resources

Indicator	Data sources and notes
Production	<ul style="list-style-type: none"> UN Food and Agricultural Organization (FAO), FAOSTAT database <i>Timber production is the sum of coniferous industrial roundwood, nonconiferous industrial roundwood, and woodfuel.</i>
Unit price	<ul style="list-style-type: none"> FAOSTAT database <i>Unit price is proxied by export unit value. Regional averages are then used to help correct the observed volatility in prices at the country level.</i>
Rental rate	<ul style="list-style-type: none"> Estimates by Applied Geosolutions (2015) <i>A regional rental rate is applied to total revenues in the absence of country-specific production cost data. This rental rate additionally accounts for the price differential between export prices and domestic stumpage prices.</i>
Life of resource	<ul style="list-style-type: none"> FAO, <i>Global Forest Resources Assessment</i> for data on total forest area and its breakdown, net annual increment, and growing stock of timber

Ecosystem services. Timber revenues are not the only contribution forests make. Nontimber forest benefits—ecosystem services—such as minor forest products, hunting, recreation, and watershed protection are significant benefits not usually accounted for, which leads to the undervaluation of forest resources. This edition of *The Changing Wealth of Nations* builds upon the forest ecosystem services wealth introduced in the previous wealth report, and presents results from the updated meta-analysis study that predicts annual, per hectare values for each service category per country based upon a spatially explicit meta-regression model (Siikamäki et al. 2021). Compared to the previous report, this updated study broadens the coverage of forest

ecosystem service values and employs machine learning algorithms in its predictive models. Additionally, the study now provides a time series of ecosystem services values.

The annual value of forest ecosystem services is estimated by multiplying total forest area in a given year by the sum of the per hectare monetary values for the three benefit categories (nonwood forest products; recreation, hunting, and fishing; and watershed protection). The capitalized value of forest ecosystem services is equal to the present value of annual services, discounted over 100 years. No distinction is made between natural and planted forest. Monetary values are adjusted for inflation using country-specific GDP deflators. Also, values are estimated for the given year's forest area, assuming no change in forest cover in the future. See table A.2.

Table A.2 Data sources for forest nontimber resources

Indicator	Data sources and notes
Total forest area	<ul style="list-style-type: none"> UN Food and Agricultural Organization, <i>Global Forest Resources Assessment</i>
Annual service values per hectare of forest	<ul style="list-style-type: none"> Unit values are as estimated by Siikamäki, J., et al (2021) <p><i>Annual values equal the sum of recreation, hunting, and fishing; nonwood forest products; and watershed protection.</i></p>

Mangroves. The asset value of mangroves is explicitly included in the World Bank's core wealth accounts for the first time in this wealth edition. As a type of forest, partial mangrove asset values are implicitly included in the forest asset accounts already. However, forest asset value is based only on value for timber, non-timber forest products, watershed services and recreation services. Mangroves also provide a critical ecosystem service that is not currently included: protection from coastal flooding.¹⁷⁶

The value of mangroves for coastal flood protection was estimated in several steps, which are further elaborated in (Beck et al 2021). First, a combined set of process-based storm and hydrodynamic models are applied: (i) to identify the area and depth of flooding; (ii) using model scenarios with and without reefs and mangroves; (iii) for five storm frequency events, 1 in 5, 10, 25, 50, 100-yr driven by local storm data. These flood extent and depth data are then overlaid on historical data on populations and the value of CWON produced capital assets, downscaled to 90 x 90 meters to identify a probabilistic distribution of flood damages (risk) and avoided damages (habitat benefits). All models were run for three years with data on the historical distribution of mangroves (1996, 2010, 2015), aggregated to the national level, then extrapolated/interpolated to provide annual values for 1995 to 2018.

Coastal flood risks and mangrove benefits were estimated for more than 75 nations covering approximately 700,000 km of (sub) tropical coastlines. Countries with less than 100 hectares of mangrove cover were dropped, and average values per hectare were capped at USD50,000/hectare (to eliminate outliers). See table A.3 for data sources.

Table A.3 Data sources for mangroves

Indicator	Data sources and notes
Total mangrove area	<ul style="list-style-type: none"> Global Mangrove Watch
Coastal assets at risk	<ul style="list-style-type: none"> Coastal population: GHS-POP GRID dataset, from the European Commission Coastal produced capital: Penn World Table version 9.1 produced capital data, spatialized using coastal population
Annual service values per hectare	<ul style="list-style-type: none"> Modelled by Beck et al. 2021.

Fisheries. The asset value of marine fisheries is included in the World Bank's core wealth accounts for the first time in this wealth edition. Fisheries wealth is calculated as the discounted value of the stream of rents expected over the lifetime of the asset. Landed value is based on estimates of the Sea Around Us (SAU)

¹⁷⁶ Mangroves also provide protection from coastal erosion, but that value is not yet included.

project, which is more comprehensive and detailed than FAO's fisheries data. SAU also has calculated fishing costs and subsidies, which are used to estimate financial and economic rent.

For the core wealth accounts, the lifetime of fisheries stock is set to 100 years, as with other renewable natural capital. Indicators of fish management status are estimated and will be incorporated in future work to reassess assumptions about the lifetime of fish stock. The impact of two scenarios about climate change on fish abundance, spatial distribution, and maximum catch potential (MCP) are estimated using an Integrated Assessment model developed for IPCC. The estimated MCP is linked to a bioeconomic model to assess the impact on landed value, rents and asset value.

The calculation of fisheries wealth requires data on marine fisheries production (catch), ex-vessel price of each exploited species, and fishing costs. The data sources for each indicator are included in table A.4. For the detailed methodology for calculating fisheries wealth, please refer to the blue natural capital chapter in this report and supporting technical documents by Lam and Sumaila (2021).

Table A.4 Data sources for fisheries

Indicator	Data sources and notes
Catch	<ul style="list-style-type: none"> Sea Around Us (SAU) database (www.searroundus.org) <i>Data are collected on marine capture production (tonnes) of each country from 1991 to 2018 at species group level and spatialized.</i>
Ex-vessel price and landed values	<ul style="list-style-type: none"> Sea Around Us (SAU) <i>Ex-vessel prices are the prices that fishers receive directly for their catch, or the price at which the catch is sold when it first enters the supply chain.</i>
Fishing costs and subsidies	<ul style="list-style-type: none"> Fisheries Economic Research Unit (FERU) at the UBC, updated to cover years 1991 to 2018
Fisheries management status	<ul style="list-style-type: none"> Fisheries Economic Research Unit (FERU) at the UBC, updated to cover years 1991 to 2018

Agricultural land. Agricultural land constitutes a considerable portion of total wealth in developing countries, particularly in the low-income group. For the purposes of the World Bank wealth accounts, agricultural land is conceptually divided into cropland and pastureland. There are potentially two alternative methods for estimating land wealth. The first method uses information from sales of land. The second method uses information on the annual flow of rents the land generates from crop and livestock production and takes the present value of such rents in the future. Given that information on land transactions is often missing, the second method is used. The value of cropland and pastureland is calculated as the present value of crop and pasture rents, discounted over 100 years.

For the first time, this wealth report accounts for the impact of soil degradation and climate change on future crop yield growth rates. Gerber et al. (2021) generated new country-specific crop yield growth rates estimated at the grid-cell level, accounting for the impacts future changes in precipitation, temperature, and degradation (driven by salinization, unsustainable irrigation, and erosion). This is an improvement over CWON 2018, which assumed fixed crop production growth rates. Future crop production is based on projections of the yields of 10 major crops which together comprise 83 percent of calories produced on cropland.

For livestock products, future rents are assumed to grow at a fixed annual rate of 1.475 percent for low- and middle-income countries and 0.445 percent for high-income countries.

The area of agricultural land is assumed to be constant; that is, wealth is estimated for the current area of land, not taking into account changes in the area of land that may affect rents in the future. See table A.5 for production and price data sources.

Table A.5 Data sources for cropland and pastureland

Item	Indicator	Data sources and notes
Primary crop and livestock	Production	<ul style="list-style-type: none"> FAO, Production, FAOSTAT database <p><i>Crop products span the categories of cereals, fibers, fruits, nuts, oil crops, pulses, roots, spices, stimulants, sugar, and vegetables. Livestock products span the categories of meats, milks, and other (for example, hides).</i></p>
Primary crop and livestock	Prices	<ul style="list-style-type: none"> FAO, Value of Agricultural Production, Production, FAOSTAT database FAO, Producer Prices – Annual, Prices, FAOSTAT database <p><i>Unit prices as reported in the FAO's estimates of the value of agricultural production are given priority, followed by the FAO estimates of producer prices. If country-specific data on prices are unavailable for a certain product, then regional or world averages are applied. Regional and world averages are weighted by production.</i></p>

Cropland rents are estimated per crop product as production multiplied by the unit price multiplied by the rental rate. For crops, the rental rates are constant over time and crop products and are region-specific (Evenson and Fuglie 2010).

Pastureland rents are also estimated per livestock product as production multiplied by the unit price multiplied by the rental rate. However, rents from livestock products are different for livestock raised in extensive versus intensive production systems. Intensive systems are characterized by high output of animal products per unit surface area, and extensive systems use land areas of low production and under conditions of moderate grazing. For livestock raised in extensive production systems, the rental rate is assumed to be twice that for intensive systems.¹⁷⁷ The same regional rental rates assumed for crop products are assumed for livestock products in intensive systems. Therefore, when calculating pastureland rent, the rent is weighted according to the country's share of livestock production in extensive systems and intensive systems.

The share of livestock produced in extensive versus intensive systems is apportioned according to the percentage of ruminant meat produced in grazing systems, as estimated by the FAO for its Global Livestock Environmental Assessment Model.¹⁷⁸ The FAO estimates the percentage of meat produced in grazing systems for 228 countries and other administrative regions. Where country-level estimates of meat production in grazing systems by the FAO are not available, regional averages are applied (weighted by the total area of pastureland).

Protected areas. Areas protected for conservation and preservation of ecosystems provide a range of services to the country. For instance, wildlife reserves can generate significant revenues for developing countries, in particular from international tourism activities. And about one-third of the world's big cities get their drinking water from sources in or downstream of protected areas, saving billions of dollars in supply and treatment costs thanks to forests and wetlands that regulate the flow of water and remove contaminants (Dudley et al. 2010). Valuing such ecosystem services on a global basis, however, is difficult. For this reason, protected areas are valued in the World Bank wealth accounts using a simplified approach. Under this approach, the quasi-opportunity cost of protection per unit area of land contained in terrestrial protected areas is estimated as the lower of cropland and pastureland's wealth per ha. This value per ha is then multiplied by the country's total terrestrial protected area, to arrive at the asset value of protected areas. This is likely to be a lower bound on the true value of protected areas.

Nonrenewable natural capital

Fossil fuel energy and mineral resources. Nonrenewable natural capital valued in the World Bank wealth accounts include fossil fuel energy and mineral resources. The value of a nation's stock of a nonrenewable

¹⁷⁷ As recommended by Pierre Gerber, Senior Livestock Specialist, World Bank, April 2016.

¹⁷⁸ See FAO, Global Livestock Environmental Assessment Model (GLEAM), <http://www.fao.org/gleam/en/>.

resource is measured as the present value of the stream of expected rents that may be extracted from the resource until it is exhausted. The present value of rents from fossil fuel energy and mineral resources is estimated under the restrictive assumption that rents remain constant in future years.

The fossil energy resources valued in the World Bank wealth accounts are petroleum, natural gas, and coal. Metals and minerals valued in the wealth accounts comprise bauxite, copper, gold, iron ore, lead, nickel, phosphate rock, silver, tin, and zinc.

Calculating the present value of future rents of nonrenewable natural capital requires data on annual production, prices, production costs, and proven reserves. From existing reserves and current rates of production, the time to exhaustion of the resource is assumed. Data sources for implementing and estimating each of these elements are listed in table A.6, and users should refer to the technical documentation for more detailed information.

Table A.6 Data sources for fossil fuel energy and mineral resources

Resource	Indicator	Data sources and notes
Oil and natural gas	Production	<ul style="list-style-type: none"> • Rystad Energy, UCube (upstream database) • International Energy Agency (IEA), “World Energy Statistics,” IEA World Energy Statistics and Balances database • IEA, “World Conversion Factors,” IEA World Energy Statistics and Balances database • BP, Statistical Review of World Energy • US Energy Information Administration, International Energy Statistics • UN Statistics Division, UN Monthly Bulletin of Statistics <p><i>Production data from different sources are selected following a few decision rules, such as best coverage over time and median values among estimates.</i></p>
Oil and natural gas	Unit rent	<ul style="list-style-type: none"> • Rystad Energy, UCube (upstream database) <p><i>Country data from Rystad Energy on unit revenues and costs for oil and natural gas are used to calculate average rental rates by region. Average rental rates are weighted by production.</i></p>
Oil and natural gas	Proven reserves	<ul style="list-style-type: none"> • BP, Statistical Review of World Energy • US Energy Information Administration, International Energy Statistics
Coal	Production	<ul style="list-style-type: none"> • IEA, World Energy Statistics • US Energy Information Administration, International Energy Statistics • UN Statistics Division, UN Monthly Bulletin of Statistics <p><i>Coal production is standardized on the basis of heat content and is broken down into two general categories: hard coal and brown coal.</i></p>
Coal	Unit cost	<ul style="list-style-type: none"> • Wood Mackenzie, Global Economic Model database • Case studies from various sources • World Bank, Manufactures Unit Value Index, Global Economic Monitor Commodities database
Coal	Unit price	<ul style="list-style-type: none"> • World Bank, Global Economic Monitor Commodities database • Government of Australia, Office of the Chief Economist, Department of Industry, Innovation and Science, “Resources and Energy Quarterly” • IEA, <i>Coal Information</i> (Paris, OECD: various years) <p><i>Country-level estimates of unit production costs and prices are used to calculate average rental rates by region for thermal and metallurgical (coking) coal. Average rental rates are weighted by production.</i></p>
Coal	Proven reserves	<ul style="list-style-type: none"> • US Energy Information Administration, International Energy Statistics • BGR (German Federal Institute for Geosciences and Natural Resources), “Reserves, Resources, and Availability of Energy Resources”
Metals and minerals	Production	<ul style="list-style-type: none"> • US Geological Survey (USGS), Minerals Yearbook and Mineral Commodity Summaries • British Geological Survey, World Mineral Statistics

Resource	Indicator	Data sources and notes
Metals and minerals	Unit cost	<ul style="list-style-type: none"> • S&P Global Market Intelligence for copper, gold, iron ore, lead, nickel, silver, and zinc • Country-specific case studies from various sources (assumed to be representative for the region) and cost index based on global average production costs from S&P for bauxite, phosphate rock, and tin.
Metals and minerals	Unit price	<ul style="list-style-type: none"> • World Bank, Global Economic Monitor Commodities database
Metals and minerals	Proved reserves	<ul style="list-style-type: none"> • USGS, Mineral Commodity Summaries and Minerals Yearbooks, various years

Produced capital

Produced capital consists of manufactured or built assets such as machinery, equipment, and physical structures. Estimates of produced capital stocks in the World Bank wealth accounts also include the value of built-up urban land, which is valued as a mark-up on other produced assets.

Several estimation procedures can be considered for the calculation of physical capital stocks. Some of them, such as the derivation of capital stocks from insurance values or accounting values or from direct surveys, entail enormous expenditures and face problems of limited availability and adequacy of data. Other estimation procedures, such as accumulation methods and, in particular, the perpetual inventory method, are cheaper and more easily implemented since they require only investment data and information on the assets' service lives and depreciation patterns. These methods derive capital series from the accumulation of investment series and are the most popular. The perpetual inventory method is, indeed, the method adopted by most Organisation for Economic Co-operation and Development (OECD) countries that estimate capital stocks (Bohm et al. 2002; Mas, Perez, and Uriel 2000; Ward 1976). This method is also used in the estimates of capital stock.

For most countries, estimates of physical capital are obtained directly from the Penn World Table 9.1 database (Feenstra, Inklaar, and Timmer 2015). The Penn World Table authors use the perpetual inventory method to estimate produced capital stocks for 182 countries between 1950 and 2017. For the World Bank wealth accounts, the PWT capital stock data are expressed in constant 2018 USD at market exchange rates, using the PWT's asset-specific investment deflators to bring the data to real terms. The value for 2018 (not included in PWT 9.1) is estimated using 2018 investment data from the World Bank's WDI and depreciation rates from PWT 9.1.

The physical capital estimates include the value of structures, machinery, and equipment, since the value of the stocks is derived (using the perpetual inventory method) from gross capital formation data that account for these elements. In the investment figures, however, only land improvements are captured. Thus, the final capital estimates do not entirely reflect the value of urban land.

Drawing on Kunte et al. (1998), urban land is valued as a fixed proportion of the value of physical capital. Ideally, this proportion would be country specific. In practice, detailed national balance sheet information with which to compute these ratios was not available. Thus, as in Kunte et al. (1998), a constant proportion equal to 24 percent is assumed; therefore, the value of urban land is estimated as 24 percent of produced capital stock (machinery, equipment, and structures) in a given year.

Human capital

The estimates of human capital follow the lifetime income approach developed by Jorgenson and Fraumeni (1989, 1992a, 1992b). According to this approach, human capital is estimated as the total present value of the expected future labor income that could be generated over the lifetime of women and men currently living in a country. Human capital is estimated by gender and type of employment (employed or self-employed).

The implementation of the lifetime income approach for estimating human capital requires data by age and gender on population, employment and labor force participation, education, earnings profiles, and survival rates. The data sources for each variable are included in table A.7. For the detailed methodology of calculating human capital, please refer to the human capital chapter in this report and supporting technical documents.

Table A.7. Data sources for human capital calculations

Indicator/Variable	Data Sources	Notes
Annual Earnings	International Income Distribution Database (I2D2)	Annual earnings are calculated utilizing the Mincerian regression results. The (relative) earnings profile by age, education and gender are derived for each country/year given the corresponding data availability.
Education attainment	International Income Distribution Database (I2D2)	Years of education by age and gender are derived for each country/year.
Employment rates	International Income Distribution Database (I2D2)	The employment rate and self-employment rate by age, gender and education level are calculated for each country/year. These rates have to be calculated by the employed (or self-employed) persons divided by the whole population that includes the employed, self-employed, unemployed, and the people out of the labor force.
School enrollment rates	International Income Distribution Database (I2D2)	Whether an individual by age, gender, education is enrolled in school or not; used for the probability of remaining employed in future years.
Employment	International Labor Organization	The ILO employment data are used as control totals for scaling up employment from the I2D2 database. ILO employment data are also used for filling data gaps when necessary.
Compensation of Employees, GDP	United Nations National Accounts database	The Compensation of Employees data are used as input to control totals for scaling up annual earnings estimates from the I2D2 database and for filling the data gaps. In addition, the GDP data are used for expressing variables as a percent of GDP.
Labor share of earnings of the self-employed	Penn World Table database	Penn World Table estimates of the labor component of the earnings of the self-employed out of total earnings of the self-employed. Used as input to control total, Total labor earnings.
Total labor earnings	United Nations National Accounts database and Penn World Table database	Compensation of Employees + Labor earnings of the self-employed. this combined Labor earnings estimate is used as control total for scaling up earnings estimates from I2D2 to national level.
Population	United Nation's World Population Prospects	By sex and age groups. The distribution of workers from the I2D2 database is scaled up using the population data.
Survival rates	Global Burden of Disease Study from the Institute for Health Metrics and Evaluation	Survival rates are calculated utilizing the death rates obtained from the Global Burden of Disease Study (GBD). The GBD database includes global, regional, and national age-sex-specific mortality for 369 diseases and injuries in 204 countries and territories.

Net foreign assets

Net foreign assets (NFA) are a measure of the cross-border assets and liabilities held by a country's residents. A country's external asset position, or *NFA*, is calculated as

$$NFA = FA - FL$$

where *FA* are total foreign assets and *FL* are total foreign liabilities. Total foreign assets are

$$FA = equity_a + FDI_a + debt_a + derivatives_a + forex$$

where $equity_a$ is portfolio equity assets, FDI_a is foreign direct investment assets, $debt_a$ is debt assets, $derivatives_a$ is financial derivatives assets, and $forex$ is foreign exchange reserves (excluding gold). Similarly, total foreign liabilities are

$$FL = equity_l + FDI_l + debt_l + derivatives_l$$

where $equity_l$ is portfolio equity liabilities, FDI_l is foreign direct investment liabilities, $debt_l$ is debt liabilities, and $derivatives_l$ is derivatives liabilities.

The primary data source for NFA is the updated and extended version of the External Wealth of Nations Mark II database developed by Lane and Milesi-Ferretti (2007). The Lane and Milesi-Ferretti database, last updated in early 2020, provides estimates of NFA for 1970–2019 for 214 economies. Where estimates of NFA and its components are not available in the Lane and Milesi-Ferretti database, additional data are obtained from various sources to extend the country coverage.

Adjusted net saving

Table A.8 provides a brief overview of the underlying components of the adjusted net saving (ANS) indicator and their primary data sources.

Table A.8 Adjusted net saving's components and primary data sources

Component	Description	Primary data sources
Gross national saving (GNS)	Calculated as gross national income less total consumption, plus net transfers, a standard item in the System of National Accounts.	World Bank, <i>World Development Indicators</i>
Consumption of fixed capital (CFC)	Calculated as the replacement value of capital used up in the process of production, also a standard item in the System of National Accounts.	United Nations, OECD, and Penn World Table, with missing data estimated by World Bank staff
Current public expenditure on education (EDU)	Standard savings measures only count as an investment that portion of total expenditure on education (usually less than 10 percent) that goes toward fixed capital such as school buildings; the rest is considered consumption. Within the ANS framework, which considers human capital to be a valuable asset, expenditures on its formation cannot be labeled as simple consumption. As a lower-bound first approximation, the calculation thus includes current operating expenditures in education, including wages and salaries and excluding capital investments in buildings and equipment.	UNESCO; data are extrapolated from the most recent year available
Net forest depletion (NFD)	Calculated as the product of unit resource rents and the excess of roundwood harvest over natural growth. If growth exceeds harvest, this figure is zero.	See above section on “Forest resources: Timber”
Depletion of fossil energy resources (END)	Calculated as the ratio of the value of the stock of energy resources to the remaining reserve lifetime. It covers coal, crude oil, and natural gas.	See above section on “Fossil fuel energy and mineral resources”
Depletion of metals and minerals (MID)	Calculated as the ratio of the value of the stock of mineral resources to the remaining reserve lifetime. It covers bauxite, copper, gold, iron ore, lead, nickel, phosphate rock, silver, tin, and zinc.	See above section on “Fossil fuel energy and mineral resources”
Carbon dioxide damage (CO₂)	Cost of damage due to carbon dioxide emissions from fossil fuel use and the manufacture of cement, estimated to be USD40 per ton of CO ₂ (the unit damage in 2017 US	World Bank, <i>World Development Indicators</i>

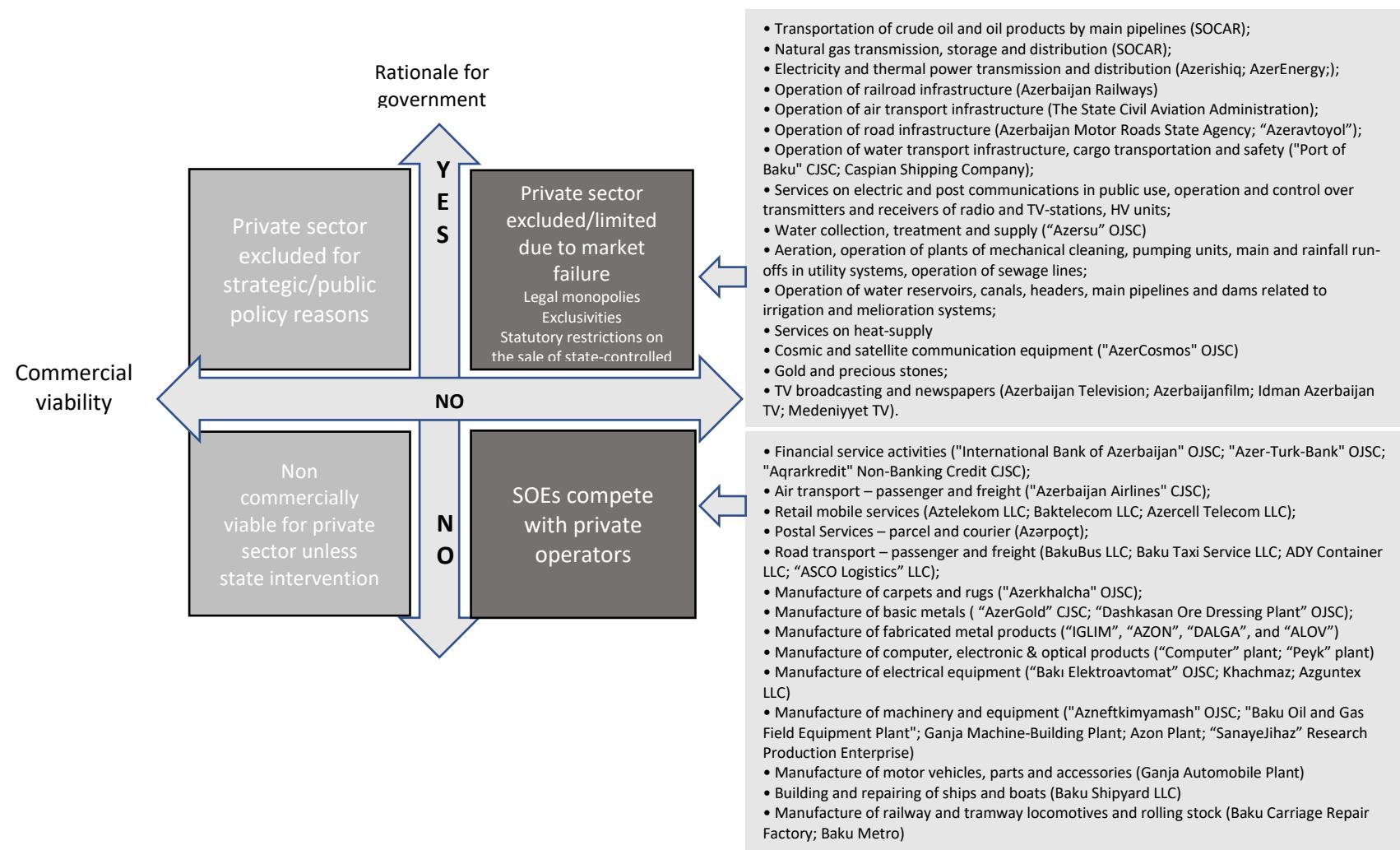
	dollars for CO ₂ emitted in 2020) times the number of tons of CO ₂ emitted.	
Air pollution damage (POL)	Cost of damage due to exposure of a country's population to ambient concentrations of particulates measuring less than 2.5 microns in diameter (PM _{2.5}), indoor concentrations of PM _{2.5} in households cooking with solid fuels, and ambient ozone pollution. Damages are calculated as foregone labor income due to premature death from pollution exposure.	Data on health impacts from pollution exposure are from the Institute for Health Metrics and Evaluation's Global Burden of Disease Study
Adjusted net saving (ANS)	ANS = GNS – CFC + EDU – NFD – END – MID – CO ₂ – POL	

Note: OECD = Organization for Economic Co-operation and Development; UNESCO = United Nations Educational, Cultural, and Scientific Organization.

Annex 4: Key SOEs analyzed in this note (2019 data)

	SOE	Sector	Total Assets (AZN million)	Number of employees
1	State Oil Company of Azerbaijan Republic (SOCAR)	Natural Resources (Oil and Gas)	65,375	50,310
2	Azerbaijan Airlines CJSC	Infrastructure (Air Transport)	No data	8,039
3	Azerbaijan Railways CJSC	Infrastructure (Railways)	4,857	16,049
4	Azerbaijan Caspian Shipping Company CJSC	Infrastructure (Maritime Transp.)	1,212	8,257
5	Baku Metropolitan CJSC	Infrastructure (Metro Transport)	2,452	5,238
6	AzerGold JSC	Natural Resources (precious metals)	187	No data
7	Azerenergy OJSC	Energy generation and transmission	3,923	6,417
8	Azersu OJSC	Utilities (Water)	912	13,488
9	Azerishig OJSC	Utilities (Energy Distribution)	2,321	12,764
10	Azerbaijan Irrigation and Water Operations OJSC	Agriculture	3,102	23,304
11	Azerkosmos OJSC	Aerospace	629	130
12	Azeristiliktechizat OJSC	Utilities (Heating)	No data	2,773
13	Tamiz Shahar JSC	Utilities (waste management)	No data	No data
14	Baku International Sea Trade Port CJSC	Infrastructure (Port)	No data	625
15	Aztelekom Production Association	Communications	217	6,262
16	AzinTelekom LLC	Communications	1,464	No data
17	Azerpost LLC	Post services	186	5,709
18	Baku Telephone Communications LLC	Communications	127	2,531
19	Baku Bus LLC	Infrastructure (Public Transport)	No data	No data

Annex 5: Azerbaijan SOEs across sectors by commercial viability and rationale for government intervention



Source: WBG Competition Policy Team analysis based on data from OECD-WBG Product Market Regulation database 2013-2017, web searches on SOEs in Azerbaijan at August 2020.

Annex 6: Degree of Government participation in network industries

National, state or provincial governments hold equity stakes in the largest firm in the sector	Yes	No	Gov't share in the largest firm in the sector	Number of companies operating in the market	Market share of the largest company in the sector
Network/regulated sectors					
Electricity					
Electricity generation, import and transmission	X		100%	>3	≈85%
Electricity distribution and supply	X		100%	>4	≈99%
Gas					
Gas production, import and transmission	X		100%	1	100%
Gas distribution and supply	X		100%	1	100%
Telecom					
Fixed-line network	X		100%	>5	50%
Fixed-line services	X		100%	>5	50%
Mobile services	X		51%	>5	49%
Internet services	X		51%	40	49%
Postal services					
Post - basic letter and parcel services	X		100%	33	100%
Post - courier services	X		100%	33	
Transport					
Railways - passenger transport	X		100%	1	100%
Railways - freight transport	X		100%	1	100%
Railways - operation of railroad infrastructure	X		100%	1	100%
Water - freight and passenger transport	X		100%	1	100%
Water - operation of water transport infrastructure	X		100%	1	100%
Air - passenger and freight transport, domestic and international traffic combined	X		100%	>37	44%
Air - operation of air transport infrastructure	X		100%	1	100%
Road - passenger and freight transport	X		100%	>42	
Road - operation of road infrastructure	X		100%	1	100%
Water					
Water collection, treatment and supply	X		100%	1	100%
Non-regulated sectors					
Manufacture					
Tobacco products	X		0%	>27	
Refined petroleum products	X		100%	1	100%
Basic metals	X				
Fabricated metal products, machinery and equipment	X				

Building and repairing of ships and boats	X	91%	1	100%
Railway and tramway locomotives and rolling stock	X		3	
Aircraft and spacecraft	X	100%	2	
Services				
Construction	X		>32	
Wholesale trade, incl. of motor vehicles	X			
Retail trade, incl. of motor vehicles	X			
Accommodation, food and beverage service activities	X			
Financial service activities	X	91%	30	40%
Insurance, reinsurance and pension funding	X	0%	2`	45%
Other business activities	X			

Source: WBG Competition Policy Team analysis based on desk research for Azerbaijan following the OECD and OECD – WBG PMR 2013 methodology.

Annex 7: Selected features of the SOE legislative framework

The largest SOEs have been corporatized and basic elements of the corporate governance structure are in place. SOEs are commonly incorporated in the following three legal forms: (i) a joint-stock company (JSC); (ii) a limited liability company (LLC); or (iii) a special legal form. JSCs are the primary form used to incorporate major SOEs in key sectors of the economy, while special legal forms still exist. This special form covers: several Production Associations (remnants of the Soviet System) and one state enterprise - the State Oil Company of Azerbaijan Republic (SOCAR), which represents a quasi-governmental company wholly owned and governed by the State.

All Azerbaijan SOEs operate under general legislation, while special regulations and resolutions exist applicable only to specific SOEs. The Civil Code of the Republic of Azerbaijan applies to all entities - private- and state-owned. Other legislation may have certain provisions specific to SOEs, such as the Law on Accounting and the Law on Internal Audit. Strategic guidance on additional measures to promote the efficiency of SOEs is provided by the Decree of the President of Azerbaijan, and comprehensive guidance is provided in Azerbaijan Corporate Governance Standards, voluntary for implementation by all entities in the country, regardless of the ownership or legal form. Overall, legislative framework is somewhat fragmented and can be streamlined.

In addition to the general legislation, there are several Decrees issued by the President, establishing individual rules of inception, operations and reporting lines for individual SOEs. In fact, more than half of the largest SOEs in Azerbaijan were established and currently operate under the individual Decrees of the President. For such SOEs, the President of Azerbaijan has a direct power of appointing General Director (CEO) and his deputies (for instance, this is the case in SOCAR, AZAL and Caspian Shipping Company). Sometimes, the President only appoints CEO, who in turn appoints other senior management, or CEO appointment may be delegated to the board. These Decrees set out different reporting lines for respective SOEs and dilute the accountability lines between SOEs management and their board of directors.

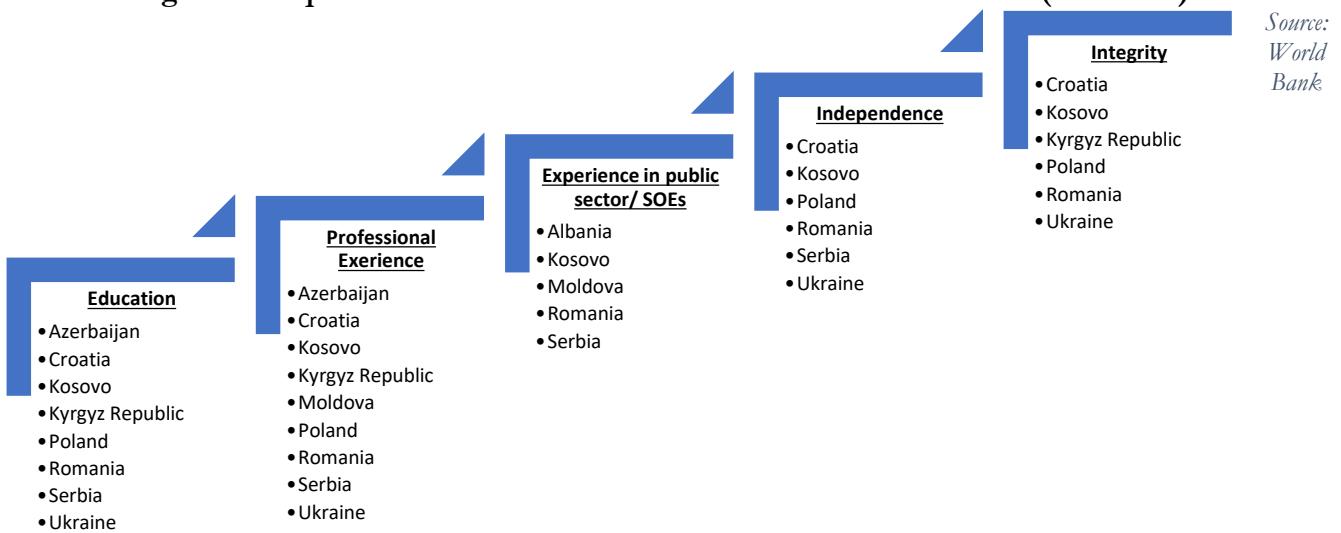
State representation on SOE boards is justified when SOEs are charged with important public policy objectives, yet, it is becoming a good practice, especially among the OECD member countries, to reduce undue state influence by limiting the number of public servants who may serve at SOE board. There is growing consensus among the OECD member countries that ministers, state secretaries, or other direct representatives of the executive power should not be represented on SOE boards. In addition to the implied conflict of interest between the policy objectives and the best interests of the SOE, Government representatives may lack the necessary qualifications, industry experience, and even time to be effective board members. SOE board members with professional qualifications and relevant industry experience contribute to stronger SOEs. In combination with independence and ethic requirements, board members' financial competencies, professional qualifications and skills are critical for the board to effectively carry out its mandate.

Boards play a central role in the corporate governance of SOEs and are an integral part of the SOE financial accountability, controls, and transparency framework. The main role of the board is to act as a check on management, ensuring that the best interest of a company and its owners is upheld. SOE boards also have an important role in shielding management from political and government interference in SOE operations. SOE boards should be empowered with the authority and autonomy to guide strategic direction, monitor performance, and hold management accountable. These necessary elements enable boards to fulfill their fiduciary duties as expected by the SOE and the general public, as the ultimate owners of SOEs.

Presently, appointment of SOEs' board members in Azerbaijan rests with the President of the Republic and respective line ministers, limiting possibilities for open merit-based selection of potential board candidates. Many countries around the Europe and Central Asia region are taking steps to improve SOE boards' composition and qualifications. Governments are increasingly seeking to establish the legislative framework and clear processes for board nominations and appointments. Their aim is to depoliticize the process, make it more

professional and transparent, and ensure that SOE boards have the competencies and objectivity to carry out their duties. Governments set the requirements for potential SOE board members (see Figure 1), covering their education, professional experience, and sometimes their integrity. Clearly defined selection criteria for board members should lead to more professional and skilled SOEs boards. In setting the criteria, governments may give preference to candidates with relevant industry expertise; knowledge and understanding of financial statements, strategy-setting, risk management, and internal controls; and a proven ability to exercise independent and objective judgment.

Figure 1. Requirements for Candidate for SOE Boards of Directors (WB: 2020)



Corporate Governance of State-Owned Enterprises in Europe and Central Asia Survey (December 2020).

The largest SOEs in Azerbaijan are subject to reporting under the International Financial Reporting Standards (IFRS). The legislation defines public interest entities (PIEs) in Azerbaijan as “credit organizations, insurance companies, investment funds, non-state (private) social funds, legal entities with securities traded on the stock exchange, and commercial organizations that on the date the financial statements are prepared, exceed two of the thresholds (for annual revenue, average number of employees during the financial year and total balance sheet).”¹⁷⁹ Therefore, majority of the largest SOEs in Azerbaijan must apply the IFRS.

The Accounting Law also requires that the financial statements of PIEs and commercial entities receiving public funds to be audited.¹⁸⁰ The Civil Code requires that the published financial statements and annual report should be audited by independent external auditors. The independent audit requirement covers most SOEs. However, there is no legal restriction on receiving non-audit services from external auditors, nor there is any requirement on disclosing of any information on provision of such services. Auditors are currently selected by means of state tendering procedure with little or no involvement of the board, which do not exist in most of the SOEs.

¹⁷⁹ Accounting Law, 2004.

¹⁸⁰ Azerbaijan adopted the International Auditing Standards in 2010.

Annex 8: Sectors where prices and tariffs are regulated by the government

Sectors	Policy rationale
Network	
Electricity (generation)	Guarantee low prices
Electricity (wholesale, retail, import, export; transit transmission).	Natural monopolies*
Natural gas (generation)	Guarantee low prices
Natural gas (transportation, wholesale and retail)	Natural monopolies*
Central heating (wholesale and retail)	Natural monopolies*
Water supply (wholesale and retail)	Natural monopolies*
Services of solid waste collection, transportation, and disposal (for end users)	Public good
Fixed and mobile telephone network services	Guarantee low prices
Postal services (general-purpose)	Guarantee low prices
Intracity transport service (for passenger)	Guarantee low prices
Road transport (freight)	Guarantee low prices
Other	
Pharmaceuticals	Guarantee low prices
Fuel/other oil products produced and sold domestically (wholesale and retail)	Guarantee low prices
Air transport services (domestic passenger)	Guarantee low prices

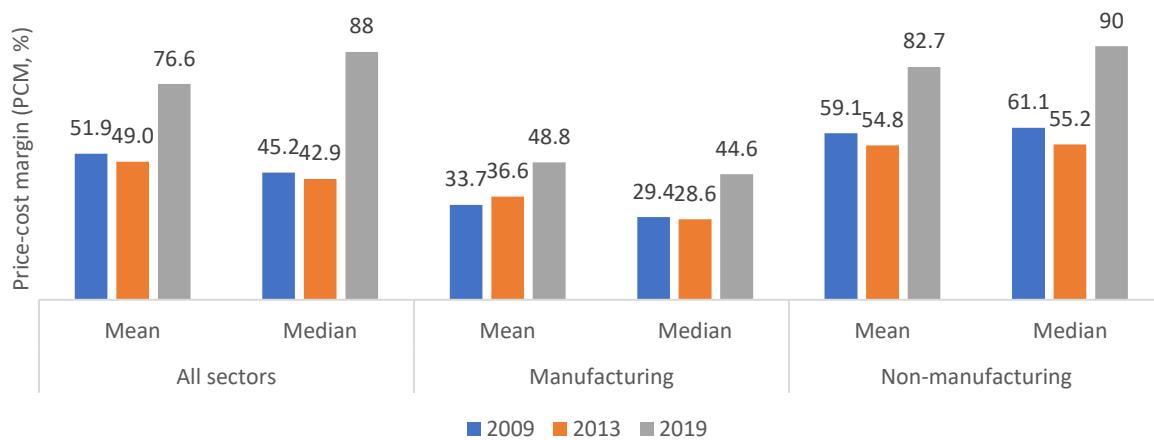
Source: WBG Competition Policy Team analysis based on desk research for Azerbaijan as at August 2020

* as defined by the Law

Annex 9: Average (and median) price-cost margins (PCM) in Azerbaijan appear to have risen over time in manufacturing and non-manufacturing sectors

Data from the World Bank's Enterprise Survey—which is representative of the whole non-agricultural private sector¹⁸¹—suggest that observed mean PCM across all sampled firms rose by 47.6 percent between 2009 and 2019 at aggregate level (Figure I). While average PCM in both manufacturing and non-manufacturing sectors increased, the increase was slightly higher for the manufacturing sector. The same can be said about observed median PCM, which also rose between 2009 and 2019 for both manufacturing and non-manufacturing sectors. Since PCM reflects a firm's ability to set prices above marginal cost, it is often used as a measure of the pricing power of firms and a proxy of competitive pressures faced by firms. It is important to note that a rise in PCM is not necessarily an indication of anticompetitive behavior or a decline in competition per se. A rise can also result from firms being more efficient and having a cost or quality advantage. To determine whether anticompetitive behavior or other competition concerns are the reason for higher PCMs, an in-depth competition assessment would be required to shed more light on the intrinsic market features and assess the potential anti-competitive effects of government intervention in markets.

Figure I: Average and median of observed PCM in Azerbaijan, percent, 2009-2019



Source: WBG Competition Policy Team analysis based on World Bank's Enterprise Survey data for 2009, 2013, and 2019.

Note: The PCM measure is defined as (sales – total variable cost)/sales. Total variable cost is calculated as the sum of costs of materials and labor. The analysis excludes negative PCMs values as well as PCMs above 100%. In addition, observations in the top and bottom 1 percentile of each two-digit sector and year distribution are excluded as outliers in the analysis. Survey weights are applied.

¹⁸¹ The Enterprise Survey provides a rich source of information about firms and the business environment in which they operate. The survey covers topics as such firm characteristics, annual sales, costs of labor and other inputs, performance measures, access to finance, workforce composition, women's participation in the labor market, and many aspects of the business environment. The survey respondents comprised formal (registered) firms in the private sector, 380 in 2009, 387 in 2013, and 225 in 2019. Only firms operating in the manufacturing or selected services sectors with at least five employees were included in the survey. "Services" include retail, wholesale, hospitality, repairs, construction, information and communications technology (ICT) and transport. Not included in the survey are agriculture, fishing and extractive industries, as well as utilities and some services sectors such as financial services, education, and healthcare. Also not included are firms with 100 percent state ownership.

Annex 10: Factors associated with PISA reading performance

Ordinary least square (OLS) regression of the factors associated with PISA Reading performance in Baku, 2018

Variables	Reading
Age	-4.445 (4.988)
Gender (1=female)	21.52*** (2.474)
Location (1=Rural)	-2.985 (2.839)
Index of socioeconomic status (ESCS)	5.296*** (1.515)
School average of Index of socioeconomic status	18.67*** (3.891)
Repeat (1=Yes)	-48.67*** (7.894)
Age started preschool	-32.88*** (5.463)
Age started preschool ^2	3.322*** (0.557)
Grade	16.84*** (2.810)
Public school (1=Yes)	1.055 (9.890)
School average of Index of disciplinary climate	16.83*** (4.514)
Student - teacher ratio	-0.0621 (0.103)
Class size	-0.0861 (0.139)
Percentage of teachers with master or doctoral degree	7.154* (4.071)
School size	0.00429** (0.00175)
Index of teachers' stimulation of reading engagement	5.005*** (1.115)
Constant	535.2*** (81.14)
Observations	2,472
R-squared	0.143

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: Technical report on how indices are built is available here:

https://www.oecd.org/pisa/data/pisa2018technicalreport/PISA2018_Technical-Report-Chapter-16-Background-Questionnaires.pdf



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