



COUNTRY PRIVATE SECTOR DIAGNOSTIC

CREATING MARKETS IN GEORGIA

Unlocking Private Sector Opportunities to
Achieve Georgia's Full Potential

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ABSTRACT

The Georgia Country Private Sector Diagnostic (CPSD) report provides a comprehensive overview and common platform for policy makers, the private sector, and World Bank Group institutions to address the following issues:

- Expansion of private sector activity by identifying opportunities for achieving development objectives.
- Removal of cross-cutting and sector-specific constraints on private sector-led growth.

The CPSD report presents the situation as of the finalization of this document of Georgia's private sector, identifies constraints to its development, showcases the promising sectors for attracting private investment, and provides specific recommendations to unlock the potential for private sector expansion in the country.

It also creates a solid analytical base that serves as a starting point for developing interventions to support private sector development through multiple instruments. In addition, the report highlights potential opportunities for the private sector to make a transformative development impact.

The report and supporting appendix sections contain analyses and policy advice with detailed recommendations for each sector. The first chapter sketches the pattern of private sector development, indicating the opportunities for broadening growth, and establishes linkages to employment and poverty. The second chapter highlights several cross-cutting, binding constraints that represent the main dimensions where Georgia's performance needs to be improved to attract large-scale investment on a sustainable basis. The third chapter analyses the performance of digital businesses with a special focus on fintech. This is followed by an assessment of Georgia's economic sectors selected for comprehensive analysis through qualitative and quantitative criteria.

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ABBREVIATIONS AND ACRONYMS

3PL	third-party logistics
ABET	Accreditation Board for Engineering and Technology
ADGM	Abu Dhabi Global Market
ADY	Azerbaijan Railways
AI	artificial intelligence
API	application programming interface
B2B	business-to-business
B2C	business-to-citizens
BAG	Business Association of Georgia
CAGR	compound annual growth
CBAM	Carbon Border Adjustment Mechanism
CDD	customer due diligence
CEM	Country Economic Memorandum
CFD	Contract for Difference
CIS	Commonwealth of Independent States
CPSD	Country Private Sector Diagnostic
CTC	Trans-Caucasus Transit Corridor
DCFTA	Deep and Comprehensive Free Trade Area
DDT	digital and disruptive technologies
DFSA	Dubai's Financial Services Authority
DPIA	Data Protection Impact Assessment
EBRD	European Bank for Reconstruction and Development
EEA	European Economic Area
EEREP	Energy Efficiency and Renewable Energy Program
EIB	European Investment Bank
ESCO	Electricity System Commercial Operator

EU	European Union
EUCLID	European Centralised Infrastructure for Supervisory Data
FATF	Financial Action Task Force
FDI	foreign direct investment
G2B	government-to-business
GCI	Green Complexity Index
GDP	gross domestic product
GDPR	General Data Protection Regulation
GEEREP	Georgia Energy Efficiency and Renewable Energy Program
GEL	Georgian Lari
GENIE	Georgia National Innovation Ecosystem
GFIN	Global Financial Innovation Network
GHG	greenhouse gas
GITA	Georgia Innovation and Technology Agency
GNERC	Georgian National Energy and Water Supply Regulatory Commission
GPT	general purpose technologies
GR	Georgian Railways
GRAIL	Georgia Resilient Agriculture, Irrigation and Land
GVC	global value chain
HEI	higher education institutions
ICT	information and communications technology
IFI	international finance institution
IMF	International Monetary Fund
INSTC	International North-South Trade Corridor
IoT	Internet of Things
IPO	initial public offering
IPP	independent power plant
ISCO	International Standard Classification of Occupations
ITC	International Trade Center

ITL	Innovation Testing License
ITU	International Telecommunication Union
KYC	Know Your Customer
LCOE	levelized cost of energy
LEPL	Legal Entity Public Law
LFP	labor force participation
LPI	Logistics Performance Index
M&A	mergers & acquisitions
MIGA	Multilateral Investment Guarantee Agency
ML	machine learning
MOESD	Ministry of Economy and Sustainable Development
MOU	memorandum of understanding
MSME	micro, small, and medium enterprises
NBDS	National Broadband Development Strategy
NBG	National Bank of Georgia
NTC	Northern Trade Corridor
NZVIF	New Zealand Venture Investment Fund
OECD	Organisation for Economic Co-operation and Development
PE	private equity
PPA	power purchase agreement
PPP	public–private partnerships
PSD	private sector development
PSD2	Second Payment Services Directive
PV	photovoltaic
R&D	research and development
RE	renewable energy
SCD	Systematic Country Diagnostic
SCP	South Caucasus Pipeline

SEE	Southeast Europe
SOCAR	state-owned oil and gas company
SOE	state-owned enterprise
TFP	total factor productivity
TI	Transparency International
TILC	Tbilisi Integrated Logistics Center
TITR	Trans-Caspian International Transport Route
TPP	third-party provider
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
VASP	Virtual Asset Service Provider
VC	venture capital
WEF	World Economic Forum

*All dollar amounts are in US dollars unless otherwise indicated.

EXECUTIVE SUMMARY

Georgia has strong potential to return to a pre-COVID-19 pandemic solid economic growth trajectory. The country's gross domestic product (GDP) growth averaged 5.3 percent from 2010–19 but suffered one of the largest contractions in Europe and Central Asia in 2020 (6.8 percent GDP) due to heavy reliance on the service industry and tourism that made Georgia's economy vulnerable to the economic consequences of the pandemic. Still, Georgia's economy has proved to be resilient in the wake of the pandemic and the resulting deterioration of global supply chains. The economic rebound was quite rapid and broad-based: economic growth reached 10.5 percent and 10.1 percent in 2021 and 2022, respectively. Georgia's dynamic private sector contributed more than 86 percent of GDP, about 81 percent of formal employment, and the bulk of export earnings in 2022. In addition, the poverty rate at US\$6.85 per capita declined from 72 percent in 2010 to 52.2 percent in 2022.

Over 2024–25, economic growth is projected to converge to its potential of about 5 percent per year, supported by continued strong private consumption; robust investments, including in infrastructure; and a more favorable external environment. Downside risks to this scenario include weaker trading partner growth, tighter global financial conditions, lower external inflows, and sustained high global commodity prices.

Despite positive recent trends, structural challenges persist, notably weak productivity growth and limited high-quality job creation. During the past decade, growth in Georgia has been driven by capital accumulation, while the contribution of human capital has been modest, and the contribution of labor has declined. Firm-level analysis reveals that while capital has deepened and labor productivity has improved, total factor productivity has been stagnant across sectors (except for construction). The share of employment in agriculture declined from 48 percent in 2010 to 40 percent in 2021, but this remains the second highest in Europe and Central Asia. While there has been some structural transformation, its potential has not been fully realized: the value-added per worker in manufacturing and services remains about seven times higher than in agriculture, indicating further scope for sectoral labor shifts. While the share of jobs with a contract has increased over the past decade, well-paid high-quality jobs remain scanty.¹ Poor learning outcomes and shortages of modern skills constitute other barriers to private sector growth. In addition, Georgia's population is shrinking due to low fertility and outmigration, dragging down longer-term economic prospects.

The Government of Georgia recognizes the importance of tapping into the potential of the private sector to sustain economic growth, diversify the economy, boost shared prosperity, and create more and better formal sector jobs. The Government of Georgia's vision for private sector development, as reflected in its 2021–24 program, *Toward Building a European State*, focuses on three key medium-term priorities: (a) upgrading the country's competitiveness, (b) promoting competitive local production and exports, and (c) encouraging domestic and foreign investments.

Over the past two decades, the Government of Georgia's ambitious reforms to enhance the enabling environment for the private sector have brought about substantial progress in business deregulation (permits, licenses, and so forth); an advantageous and simple tax regime; and simplified, transparent tax administration. Georgia has an above-average score on three of the four components measuring the quality of the enabling environment in the Global Competitiveness Index (GCI).

Georgia's private sector is characterized by the significant presence of micro, small, and medium enterprises (MSMEs). In 2020, MSMEs contributed about 63 percent of total jobs and 61 percent of production value added in Georgia. That contribution is low compared with the average employment share of MSMEs among regional peers (new European Union [EU] members in Eastern Europe, with an MSME employment share of 70 percent). More than 98 percent of all firms in Georgia are privately owned, but state-owned enterprises (SOEs) still have a significant representation among large and medium firms and are concentrated in utility sectors such as energy, water, oil, and gas. Small firms account for the most significant share of total employment in the business sector but contribute relatively little to job creation. Large firms dominate employment growth: Average annual employment growth between 2012 and 2020 was 6 percent among large firms, compared with 3 percent growth among both medium and small firms.

Georgia's elevated firm exit rates suggest significant barriers to survival and market expansion aggravated by the lack of managerial capabilities. In 2020, firms' exit rate in Georgia amounted to 16.5 percent, which was about two times the rate in the EU. The country's lack of attractive job opportunities and low-cost firm registration explain the high level of entrepreneurial activity and business creation. Many new ventures are born out of a need for self-employment and often lack the critical fundamentals necessary for business success. Some progress has occurred in upgrading capabilities and management practices, but additional work must be done to expand access to finance, promote firms' formalization, and boost competitiveness.

Access to finance has improved significantly, but remains a constraint, particularly for MSMEs. In recent years, Georgia has made significant strides in terms of financial sector regulation and supervision, as well as access to finance. Domestic credit to the private sector increased from 55 percent of GDP in 2016 to nearly 74 percent by 2021. Although the share of firms in Georgia with access to bank credit is higher than the regional average (43.3 percent versus 41.2 percent in the Europe and Central Asia region), the proportion of firms identifying access to finance as a major constraint for growth is significantly higher. The proportion of loans requiring collateral is also higher in Georgia than the regional average (80.5 percent versus 66.1 percent). Despite improvements in access to finance, a lack of diversity of other financial products and services coupled with incipient capital markets limit the ability of the financial sector to meet the diverse needs of firms throughout their lifecycle and hinders firm growth. The International Monetary Fund's Financial Development Index places the country lower than the emerging markets average (0.31 versus 0.33).

Geopolitical factors are another significant constraint to business growth in Georgia. According to the World Bank's 2019 Enterprise Survey, 29.9 percent of firms in Georgia regard political instability as their biggest development obstacle, compared with an average of only 9 percent in the Europe and Central Asia region. In addition, the country's vulnerability and political risk has increased since Russia's invasion of Ukraine. The invasion has intensified uncertainty and political division in the country, thereby discouraging investors and eroding business confidence.

Georgia has a small open economy that can accelerate GDP growth by strengthening export capabilities in the areas where it has shown a competitive advantage. During the past decade, the overall growth of exports has been outpacing GDP growth. Export growth was driven mainly by services, with about 43 percent of total exports in 2022 related to travel and tourism. While Georgia has strengthened its position as a trade hub for the region, with re-exports gaining a greater share of trade and some diversification in terms of both markets and products, merchandise exports are still dominated by primary products and resource-based manufactures. As a result, the most extensive contributions to export growth come from products of low or moderate complexity. The total unrealized export potential for Georgia stands at around US\$1.6 billion (6.5 percent of GDP), as estimated by the International Trade Center.²

Georgia has an open trade regime and an extensive network of preferential trade agreements, although the degree of participation of local MSMEs in global value chains (GVCs) has been lower than expected. The integration process has been slower than in many other countries in the Europe and Central Asia region. As of 2019, 15.2 percent of Georgian firms were participating in international trade compared with an average of 22.6 percent in the Europe and Central Asia region. Many firms are unable to export because they cannot obtain internationally recognized quality certifications, which are required in the EU and other leading markets. Infrastructure and logistics constraints also have held back participation.

There are untapped opportunities for Georgia in the Deep and Comprehensive Free Trade Agreement (DCFTA) with the EU. The rate of use of EU preferences by Georgian exporters remains below average, reflecting the existing gaps in capabilities on the supply side. The EU is expected to provide more technical assistance for MSMEs in Georgia, especially in agriculture and food sectors, and would likely advise the government on a more effective design of support programs. At the same time, the EU's Carbon Border Adjustment Mechanism (CBAM), in its current form, is unlikely to have a severe impact on Georgia because of the limited contribution of the sectors covered by this mechanism to Georgia's current exports.

Georgia has attracted high levels of foreign direct investment (FDI) inflows over the past decade, although the majority has gone into nontradable sectors. The country has implemented various reforms that have led to increased investor confidence. Georgia's World Trade Organization (WTO) membership and its association agreement with the EU have further facilitated investment inflows. As a result, Georgia has been able to attract sizable levels of FDI (8.2 percent of GDP equivalent, on average, during 2016–22). But in contrast to many FDI-recipient countries in the region, FDI in Georgia has been highly concentrated in a few, mostly nontradable, sectors, such as energy (21.8 percent), real estate (21.5 percent), and finance (13.5 percent). This focus has limited the direct and immediate impact of FDI on productivity growth and provided local firms with fewer opportunities for integration into GVCs.

PRINCIPAL CROSS-CUTTING CONSTRAINTS TO PRIVATE SECTOR DEVELOPMENT

Overall, Georgia has a favorable business environment: starting a firm can be done with ease and very few distortions exist in product and factor markets. Georgia ranks 35th out of 162 countries in the Index of Economic Freedom by the Heritage Foundation, ahead of several EU member states. According to the 2019 Global Competitiveness Index of the World Economic Forum, Georgia ranked 37th in the labor market pillar and 48th in the product market pillar. In recent years, insolvency reform and a new entrepreneur’s law have helped further cement a sound business environment.

Despite significant progress in streamlining the business environment, gaps in regulation and enforcement affect performance. The country needs to upgrade the regulatory frameworks at the sectoral level in several priority sectors, including the digital economy, financial technology (fintech), renewable energy, and logistics. Georgia adopted a Competition Law in 2014 and set up the National Competition Agency to ensure its implementation. However, the country’s economy still has a relatively less competitive market structure, partly because of poor enforcement and other distortive market arrangements that diffuse competitive pressures in certain sectors.

Georgia’s control of corruption is notable, although there are some aspects of regulatory governance that remain a challenge, such as uneven enforcement and inefficient courts. Building on the reforms introduced over the past two decades, Georgia has significantly reduced red tape and the prevalence of corruption within the state bureaucracy. Georgia ranks 41st out of 180 countries in the world in Transparency International’s 2022 Corruption Perception Index. Although that is a relatively high ranking, in recent years there has been a perception of backsliding in the country’s anticorruption efforts. To further enhance Georgia’s anticorruption efforts, an Anti-Corruption Agency was created in 2022 to consolidate anticorruption responsibilities previously scattered among several law enforcement agencies. International partners have recommended strengthening the agency to address high-level corruption cases.³ An aspect highlighted by entrepreneurs is that limited judicial accountability and delays in courts and dispute resolution hinder business performance and investment attraction.

The privatization process during 2004–10 led to a considerable reduction in the relative size of the SOE sector. Yet, Georgia’s SOEs are still present within a range of economically significant sectors, including some competitive sectors where they operate along with private firms. Such sectors include communications, hospitality (hotels, restaurants), real estate, leasing, and other financial services. Over the past decade, the government has taken steps to strengthen SOE performance and ease market distortions associated with their operations. But this agenda remains far from complete.

Despite seamless labor market regulation, unemployment and inactivity levels remain high. Georgia’s labor force is underutilized, with nearly 30 percent of the working-age population classified as jobless or inactive. Furthermore, women’s economic participation and employment rates are much lower than that of men. In recent years, most jobs in Georgia have required relatively basic professional skills but job requirements are increasingly becoming more intense in basic digital and socioeconomic skills, which not all Georgians possess.

An inadequately educated workforce hinders the performance of Georgian firms and limits their growth prospects. About 42.5 percent of firms in the country cite this as a main obstacle, compared to the average of 24.8 percent in the Europe and Central Asia region. While the country's labor force is highly educated (as measured by the number of years of schooling), there is a gap between the skills taught in schools and the skills the labor market demands. For instance, according to International Telecommunication Union data, only about 1 percent of the population currently possesses even basic programming skills, well below the proportions found in most regional peer countries. Yet, only some firms provide formal training to their workforce, which disadvantages adult workers as their skills become increasingly obsolete with rapid technological advancement.

While Georgia's overall business environment is favorable, the ecosystem for adopting digital solutions by non-digital businesses across economic sectors is less developed. The ecosystem's weaknesses largely explain an apparent contradiction between dynamic and relatively successful growth within the digital business segment and the slow pace of adoption of digital solutions in the rest of the economy. According to the Network Readiness Index (NRI), in 2022 Georgia ranked 75th out of 131 countries in exploring business opportunities offered by information and communication technology (ICT). This underperformance partly reflects limited linkages between the erstwhile conventional economy and digital businesses in Georgia, and underdeveloped policy and digitalization capacity enablers. Moreover, the low digitalization level constrains broader business innovation development. On the Global Innovation Index 2020, Georgia is ranked 63th out of 131 countries, with underperforming peer economies.

IMPORTANCE OF DIGITAL BUSINESSES FOR GEORGIA'S GROWTH

This Country Private Sector Diagnostic (CPSD) considers accelerated development of digital businesses a strategic priority for driving economywide productivity and competitiveness, advancing the country's transition toward its aspirations for high-income status. Furthermore, digital technologies offer opportunities to bridge gender gaps and encourage female labor force participation. Chapter 3 identifies priorities related to the development of digital businesses, including those that are vital for catalyzing job creation and private sector participation, and contains an overview of the state of digitalization of conventional businesses in Georgia.

Georgia has achieved some encouraging results in digitalizing its economy, particularly in the development of center-of-government digital platforms and systems. In addition, the Georgia Innovation and Technology Agency (GITA) was established to coordinate the creation and development of a digital innovation ecosystem and has been developing innovation hubs and startup accelerator programs across the country.

Wide adoption and use of digital technologies and related accelerated development of the digital economy offer additional opportunities for Georgia to exploit its competitive advantages in both core and emerging sectors such as tourism, agriculture, energy, finance, and logistics. For example, in tourism, digital platforms and tools can diversify tourism geographically, open new markets, attract new investments, broaden product offerings, and help raise the effectiveness of destination marketing.⁴ So far, however, the pace of adopting digital solutions by nondigital businesses has been slow, as mentioned, and this lag has become a serious structural constraint for sustainable growth.

Georgia’s digital business sector remains relatively small. Few digital businesses are headquartered in Georgia, and most are relatively young. For example, of the 151 Georgia-headquartered digital businesses in the World Bank’s Digital Business Database, more than 50 percent were founded in 2016 or later, compared with less than 20 percent in more mature peer economies, such as Croatia and the Slovak Republic. Although some countries with more established digital ecosystems, such as Estonia, also have a relatively large proportion of young digital businesses, they also have a record of larger absolute numbers of digital firms that have successfully scaled up or raised later rounds of external financing.

E-Commerce, fintech, entertainment technology, software, software as a service, and marketing technology consistently rank among the most promising digital subsectors in the country. In Georgia and neighboring countries, these subsectors have attracted the most investor attention, measured by the number of funding rounds raised and the number of exits achieved. In addition, the most promising Georgian digital businesses have generally been business-to-business (B2B) due to Georgia’s small domestic market. B2B businesses are also generally better able to scale internationally because they need lower upfront marketing investments.

Digital infrastructure is not perceived as a direct binding constraint by digital businesses and investors, and internet and mobile telephony access in Georgia is high, although it trails high-income countries. Still, further improving Georgia’s digital infrastructure (for example, broadband connectivity), particularly in rural areas with lower digital penetration, would be beneficial because it would help increase digital inclusion and support improving the tech talent pipeline.

To realize the full potential of its digital business ecosystem, Georgia must address binding constraints that are related to (a) insufficient technology and entrepreneurial talent, (b) underdeveloped early-stage finance, and (c) immature entrepreneurial support ecosystems. Although the legal and regulatory framework is not considered a critical constraint to ecosystem development, the opportunity exists to fine-tune regulatory aspects related to data privacy, consumer protection, and regulation of fintech.

Georgian digital businesses need more technically skilled labor because competition over existing talent has been intense. Competition for the existing tech talent is fierce, and multinational enterprises possess both inherent and policy-generated advantages in hiring tech talent vis-à-vis smaller local digital businesses.

The Russian Federation’s invasion of Ukraine offers an unprecedented opportunity for Georgia to attract foreign tech talent. However, Georgia’s programs need to be more strategic and to reflect the efforts of other countries that pursue similar objectives and have systematized those efforts. Russia’s invasion of Ukraine has created significant out-migration flows from Belarus, Russia, and Ukraine. Although many new immigrants from those countries have temporarily settled in Georgia, the country’s existing visa and immigration programs do not allow for easy identification of tech workers or matching of tech workers with potential employment opportunities.

A more mature early-stage finance and entrepreneurial support system will help Georgian digital businesses fine-tune their strategies and scale up. The Georgia Innovation and Technology Agency (GITA), a public agency, currently plays an outside role in providing funding for digital businesses, which is not sustainable or scalable in the long run. Existing actors in Georgia often lack sufficient expertise to invest in early-stage digital businesses. Although multiple incubation, acceleration, and mentorship programs are available for digital businesses in the country, significant knowledge gaps related to market testing, valuation, and other critical business skills persist in the founder community.

Fintech

Fintech is transforming the global financial landscape, offering wide-ranging opportunities while also presenting certain risks. Fintech can strengthen financial sector development, competition, inclusion, and efficiency. However, it may also pose risks to consumers and investors, the financial system’s stability and integrity, and operational and cyber resilience.

The banking sector, one of the leading sectors in Georgia in terms of information technology service development, has been playing a significant role in the evolution of the digital ecosystem. The National Bank of Georgia and Georgia’s Banking Association have jointly been implementing the Open Banking project to stimulate the development of fintech solutions, including the introduction of a digital currency.

Georgia’s bank-centric financial sector serves a largely banked population. The banking sector has total assets of about 100 percent of GDP. The two biggest lenders, TBC Bank and Bank of Georgia, control 70 percent of the country’s banking assets. Both institutions have expanded into other financial sector activities and focus efforts on either developing in-house fintech solutions or acquiring such solutions in the market, although the entrenched market position of these two banks may also make it harder for other firms to develop and scale fintech solutions.

Although still nascent, the local fintech market in Georgia is seen by stakeholders as one of the sectors with the most potential to grow. As of 2022, Georgia had 64 fintech firms, mainly operating out of Tbilisi, with more than half of them focused on the payments space. Georgia is among the top three countries worldwide for contactless payments. In addition, several e-money providers are active in the market, seeking to provide an alternative to traditional payment cards and money transfers linked to bank accounts. This focus of firms identified in the market fits a familiar pattern of evolution seen in other concentrated markets. Evidence indicates that Georgia also has significant business activity in the international Web 3.0, gaming, and decentralized finance (DeFi) ecosystem.

Georgia has several conditions that are favorable for the accelerated development of fintech. A combination of a well-capitalized financial sector, good internet connectivity, solid growth in digital payments, and the regulator's openness make the country an ideal testing ground for financial innovation. The ICT infrastructure for supporting growth of fintech firms in payments is good but should be further enhanced. For example, third parties still need help accessing the payment infrastructure.

The authorities have embarked on ambitious reforms to facilitate further growth in the fintech sector. Still, an explicit long-term strategy is necessary for fintech to crystallize its intended trajectory and its role in deepening the financial sector. A holistic national fintech strategy would help authorities set a clear reform agenda, integrating the ongoing and planned strategic considerations in open banking, digital onboarding, and virtual assets, as well as identifying key dependencies. Such a strategy would also provide a clear perspective on leveraging fintech to attain wider strategic goals, such as strengthening financial inclusion and access to finance for MSMEs.

The development and operation of regulatory sandboxes and open banking are the Georgian authorities' two main initiatives to foster innovation and efficiency in the financial sector while still fulfilling their mandate to protect the stability and integrity of the country's financial system and to protect consumers. Accordingly, these areas were at the center of the analysis undertaken under the CPSD, and they were assessed as the most promising policy and regulatory avenues to help the fintech subsector reach its full potential in Georgia.

The National Bank of Georgia generally has maintained an open and constructive dialogue with the fintech industry. However, the regulator is currently seen as reactive rather than proactive. A rapidly changing landscape calls for a more proactive approach, which requires developing new monitoring tools and establishing dedicated organizational arrangements with a mandate for proactive monitoring. Overall, more active coordination and information exchange is needed between the regulator and the market.

A PATHWAY OF TRANSFORMATION: TWO SECTOR ASSESSMENTS

The CPSD identifies two sectors (renewable energy and transport and logistics) offering additional short-term opportunities for accelerated market creation and relatively large potential for economywide development impact.

Renewable energy

Georgia has substantial undeveloped renewable energy (RE) potential. The country has an estimated potential of 11.8 gigawatts of hydropower, 1.4 gigawatts of wind power, and 1.5 gigawatts of solar power capacity. The target is to increase the share of RE in its energy mix to 27.5 percent by 2030 from the current level of about 20 percent. Such expansion in renewable generation is expected to take place against the background of the overall rapid growth in total installed power capacity—from the current 4.6 gigawatts to 9.7 gigawatts in 2030.

Georgia's power generation is currently dominated by hydropower and natural gas. Hydropower accounted for 74 percent and thermal plants for 26 percent of the total installed capacity in 2021. Due to the strong reliance on hydropower, the availability of electricity is highly dependent on weather conditions and characterized by seasonal variations.

During the winter, Georgia relies on imported electricity and natural gas for thermal power plants to meet demand. The average cost of imports increased from US\$0.053 per kilowatt hour in 2012 to US\$0.08 per kilowatt hour in 2022—higher than the levelized cost of energy that could be generated in Georgia on the basis of modern wind, solar, and hydropower technologies. Energy poverty is a problem in Georgia. Even though the government subsidizes natural gas for electricity production and household consumption, household expenditure on natural gas is among the highest in the Europe and Central Asia region.⁵

The electricity demand-supply gap has been increasing since 2011.⁶ Electricity demand has increased steadily by an average of 4.2 percent per year since 2011 (driven by average economic growth of 5.6 percent), while electricity production has grown at an average rate of 2.3 percent.

The development of new renewable power has stalled since 2017 largely because of communities' resistance to new hydropower projects. In 2017, following advice from the International Monetary Fund on the financial risks to Georgia's budget, the Government of Georgia suspended the signing of new power purchase agreements with private investors. This change significantly weakened the project pipeline: among new projects, only small-scale power plants have been able to secure full financing and move to the implementation stage. At the same time, strong environmental and social concerns from communities and nongovernmental organizations have halted the construction of several previously agreed-on hydropower projects.

The Government of Georgia has been promoting power sector reforms as part of its Association Agreement with the European Union and within the United Nations Framework Convention on Climate Change. This focus led to the adoption of key pieces of legislation and national programs, including the 2019 law, Promotion of the Use of Energy from Renewable Sources.

A key building block in the Government of Georgia’s RE strategy is the newly launched Contract for Differences⁷ support plan for RE projects. The new plan was introduced to unlock domestic RE potential by facilitating access to finance through addressing the risks associated with the high initial costs of RE and unstable market conditions in the sector. The plan is based on competitive capacity auctions, and the first auction, for 300 megawatts, was launched on February 10, 2023.

As part of the RE sector assessment, a special survey of private investors and financiers was administered to identify the private sector’s perspective on existing gaps and barriers to RE development in Georgia. The survey respondents were generally satisfied with their prior investment experience in Georgia’s power sector. They plan to continue investing in energy in the South Caucasus region in the next three years. The key incentives for investors derive from the country’s encouraging investment climate, untapped energy resources, steady growth in demand for electricity, existing support plan for RE (Contract for Difference), and the possibility of exporting electricity to higher-price markets.

Small and medium hydro plants and utility-scale solar are identified as subsectors that are “ready” for private investment in Georgia. Hydropower has an established track record, mature technology, and sufficient local technical expertise. Utility-scale solar farms are regarded as more attractive for investing (versus other types of RE) because of less social and environmental opposition.

Investors see environmental and social challenges and policy and regulatory uncertainty as the main sources of risk to RE investment in Georgia. This belief results in higher costs of financing and elevated risks of projects being suspended during implementation.

Transport and logistics

Georgia is in a strategic location, serving as the gateway to the Caucasus and Central Asia, and aspires to become a regional hub. Georgia needs to develop its transport infrastructure and improve and modernize its logistics infrastructure and services (particularly those related to agriculture) to realize its potential and increase its participation in global value chains. In doing so, the country will need to identify areas where the private sector can enhance operational performance and stimulate economic growth. The 2023 National Transport and Logistics Strategy and related 2023–24 Action Plan aim to position the country as a regional logistics and transport hub.

Georgia's role in the international transit logistics system is largely driven by the performance of the Middle Corridor (MC), a multimodal transport network that connects Central Asia, the Caucasus and Europe via the Caspian and Black Seas. The MC's performance is undermined by high costs and lengthy transportation and transit times, which, until recently, did not look attractive compared with the available alternatives, such as the Northern Trade Corridor. However, the impact of the COVID-19 pandemic and the effects of Russia's invasion of Ukraine have enabled the MC to emerge as a viable option for diversified transport routes connecting China with Europe and Central Asia with the global economy. Various physical and nonphysical bottlenecks should be addressed in the short to medium term to secure a sustainable competitive position of the MC route.

The MC will have to improve its operational effectiveness to fulfill its potential and capture additional growth opportunities in energy and mining. Georgia has traditionally lagged in logistics, although it should be noted that recent improvements have seen the country rise in the World Bank Logistics Performance Index from 119th in 2018 to 79th in 2023. Capacity limits in the Caspian Sea ports and ferries are the most significant bottleneck for the movement of containerized cargo along the MC, and bulk handling capacity of the Georgian seaports requires additional handling equipment and storage space. The Government of Georgia has encouraged the private sector to develop a new deep-water port at Anaklia on the Black Sea to address these port bottlenecks. The Government of Georgia is in negotiations to expand the port of Poti. In addition, progress has been already achieved in strengthening the MC by improving infrastructure capacities, simplifying railway procedures, establishing integrated services, and providing competitive tariffs. To build on this progress, and in addition to investments in port infrastructure, further regulatory coordination is needed between intermodal services along the MC.

Developing the MC will also support the integration of Georgia's agriculture into the global economy, alongside further investments in agricultural logistics infrastructure. A modernized, scaled agricultural logistics network is key to improving the efficiency of agricultural production and upgrading the market for agricultural products. The development and enforcement of food safety and packaging standards is another critical prerequisite for realizing Georgia's agricultural potential. This objective will require improvements in farmers' capacity to meet downstream market standards to supply processing and trading companies, for which public support should be provided by the Ministry of Environmental Protection and Agriculture.

Improving Georgia’s inland logistics services—through investment in third-party logistics (3PL) facilities—is also required to improve value chain efficiency and reduce transit times. The logistics market in the country is currently dominated by second-party logistics companies with limited services and low efficiency levels, is beset by fragmented and dated warehousing facilities, and lacks proper regulation. The Government of Georgia, has assessed the potential for the Tbilisi Integrated Logistics Center (TILC) project at Kumisi (southeast Tbilisi), including the development of a dry port and 3PL facilities. The TILC has a high potential to handle Georgian gateway volumes, moderate potential for transit volumes for Azerbaijan and Armenia, and limited potential for MC transit containers. The Government of Georgia is expected to finance the common infrastructure that is needed for the TILC, and the private sector will finance the TILC’s facilities. Additional financing could be obtained through a variety of sources, including from international finance institutions, which may facilitate or leverage private sector participation.

EXPANDING INVESTMENT OPPORTUNITIES FOR THE PRIVATE SECTOR

Renewable energy

The CPSD highlights the need for three core prerequisites to foster private sector investments:

- A clear and reliable policy, regulatory, and permitting framework for RE investments.
- Sustainable incentive schemes.
- Cost-reflective end-consumer pricing.

The Government of Georgia has taken steps in this direction, launching a first round of renewable energy auctions, preparing to open a competitive wholesale market, and identifying social and environmental mitigation measures to back up renewable energy development. In addition to continued reforms to improve the investment framework, this effort will require investments in transmission infrastructure and regional interconnections of the power grid, including the Black Sea submarine interconnector, to improve the reliability and stability of RE supply and to ensure the readiness of the electricity grid to handle larger amounts of renewable energy.

Transport and logistics

The CPSD recommends prioritizing the development of logistics infrastructure for agriculture value chains that would provide additional opportunities for public-private-partnership-based investments, especially in establishing agro-logistics hubs. Furthermore, to promote private investment in downstream agribusiness, the report highlights the importance of farmers’ capacity to meet market standards. Because farmer capacity is an important enabling factor for investment mobilization, this area should receive targeted public support. Beyond agriculture logistics, the CPSD identifies numerous market niches in the sector that present business opportunities for private investors, including the development of Class A warehousing, 3PL operations, railway car financing, and rail terminal operations.

Digital business

Private sector investment would focus on a few key subsectors of digital business in which Georgian companies may have greater chances of expanding abroad. Those areas include software as a service, gaming, and financial services that support mobile and e-commerce. Software services (such as for managing invoices, accounting, procurement, and sales channels) and specialized services (such as for tourism or hospitality businesses) could offer opportunities for Georgian companies to service regional markets in areas that are complementary to financial services. Given that the sector is still relatively new, private investors in the near term are well positioned to continue supporting early-stage start-ups through accelerator and seed investment programs. Start-ups servicing emerging needs created by new regulations and infrastructure or transitioning business models from the DeFi space to the regulated and more mainstream financial sector could warrant regular monitoring and support in the hope that some will emerge as regional leaders.

On the basis of the sector assessments and cross-cutting analysis of digital businesses, the CPSD proposes the following set of policy recommendations to facilitate private sector development-driven growth in renewable energy, transport and logistics, and digital business in Georgia (table ES.1).

TABLE ES.1. SUMMARY OF KEY CONSTRAINTS AND POLICY RECOMMENDATIONS

CONSTRAINT	RECOMMENDATION
RENEWABLE ENERGY (RE)	
Social and environmental resistance	<ul style="list-style-type: none"> The government should facilitate stakeholder engagement, awareness raising, community education, and training to promote RE projects. The Government of Georgia should require all RE projects to undergo social and environmental impact assessments, engage with local communities, and prioritize using degraded, non-arable land. The Government of Georgia should ensure transparency, accountability, and environmental and social standards monitoring during the process of approval and implementation of RE projects. Property taxes from RE projects should be directed to local budgets of communities hosting the projects.
Unstable legal and regulatory environment	<ul style="list-style-type: none"> The government should finalize the drafting and launch of clear and consistent policies and legal frameworks for RE development, in line with the EU standards, to improve predictability and reduce investment risks.
Lack of financial incentives	<ul style="list-style-type: none"> To promote energy-efficient RE, and clean technologies, the government should start offering incentives such as tax credits, subsidies, and other financial benefits that are fiscally affordable and transparent.
Bureaucratic permitting process and lack of additional capacity in the distribution grid	<ul style="list-style-type: none"> The Government of Georgia should facilitate the coordination of state entities to avoid interference with the projects from different sectors and encourage new investments in the development of the distribution grid.

CONSTRAINT	RECOMMENDATION
TRANSPORT AND AGRO-LOGISTICS	
MIDDLE CORRIDOR (MC)	
Gaps and weaknesses in MC enabling infrastructure	<ul style="list-style-type: none"> • Leverage private sector participation to increase port capacity. • Invest in additional rolling stock to improve railroad operations. • Invest in container facilities and associated infrastructure to increase capacity for containerized cargo.
Lack of clarity on priority intermodal project pipeline, as well as no transparency in MC operations	<ul style="list-style-type: none"> • Operationalize the recently adopted National Transport and Logistics Strategy for 2023–30 and identify priority investments to support the development of intermodal infrastructure and intermodal transportation, with inputs from key stakeholders. • Create a centralized information system for MC users.
Inadequate governance in the ports and roads subsectors	<ul style="list-style-type: none"> • Develop upstream governance reforms in the ports subsector to ensure appropriate government regulatory oversight of port operators and to ensure performance and compliance, taking into account the privatized nature of the subsector. • Improve the legal framework for domestic road transport, and enhance the existing regulatory framework for trucking, where necessary.
Insufficient international cooperation that undermines private sector incentives to invest	<ul style="list-style-type: none"> • Facilitate transnational agreements for cross-border operations. • Prepare an action plan with Azerbaijan to further improve border and customs operations. • Work together with affiliated MC countries to harmonize regulations to create an open access policy for the participation of third-party operators and private investors in the MC. • Involve the main potential beneficiaries of the MC—China and the EU—to expand their engagement with other MC stakeholders and encourage more cooperative behavior.
AGRICULTURE LOGISTICS PERFORMANCE	
Underdeveloped and outdated packaging and safety standards	<ul style="list-style-type: none"> • Develop and enforce national packaging standards. • Enhance food safety legislation and strengthen its enforcement through inspections; use relevant reform experience of new EU members.
Low quality of, and limited access to, market information	<ul style="list-style-type: none"> • Promote the development of electronic marketplaces to increase market transparency and information availability • Increase the frequency of the publication of agriculture and food security information through the National Statistics Office of Georgia.
Inadequate cold-chain capacity	<ul style="list-style-type: none"> • Encourage the development of regional logistics centers, including cold-chain storage capacity, at strategic locations. • Assess the potential role of private sector and the need for public funding support.

CONSTRAINT**RECOMMENDATION****TBILISI INTEGRATED LOGISTICS CENTER (TILC)**

Prospects for TILC project implementation uncertain

- Prepare a competitive public-private partnership (PPP) transaction process to attract the best possible financial value from the TILC business case.
- Build PPP capacity and enhance understanding of new PPP legislation within the public administration.

Lack of coordination in development of logistics facilities

- Centralize regulation and coordination in the development of integrated logistics centers within the Tbilisi region.
- Develop and adopt policies to cluster logistics facilities in suitable suburban locations to reduce trucking traffic in central Tbilisi.

DIGITAL BUSINESSES**LOW AVAILABILITY OF AND ACCESS TO TECH TALENT**

Less than 1 percent of the Georgian population with programming skills

- Improve traditional tertiary education with respect to computer science and other tech disciplines via international accreditation, PPPs, and financial incentives.
- Expand support to nontraditional tech bootcamps via market-based support (such as, vouchers) and building links with traditional education institutions and private sector employers.

Number of tech graduates and quality of IT education in traditional education system inadequate

- Invest in marketing campaigns and online platforms to brand Georgia as an attractive destination for foreign tech workers. Develop tailored visa programs for foreign tech workers.

Lack of level playing field in competition for tech talent between Georgian start-ups and international firms (due to income tax incentives)

- Develop tailored investment promotion and attraction programs for Belarusian, Russian, and Ukrainian digital companies to raise awareness about relocation to Georgia.
- Adjust the International Company Status program to remove current distortions to competition for tech talent.

UNDERDEVELOPED EARLY-STAGE FINANCE AND SUPPORT ECOSYSTEM

Lack of early-stage investing experience among local angels, limited partners (LPs), and general partners (GPs).

- Institute arrangements to crowd in experienced foreign investors such as hybrid funds or co-funds rather than government-as-GP models.

Government matching grant programs have been successful in generating entrepreneurial interest but are not currently structured to build up or crowd in investor expertise.

- Provide early-stage investment capacity-building support for GPs and LPs, develop model documents and templates in line with EU norms, and potentially provide support for the formation of corporate venture capital.

Persistent knowledge gaps among entrepreneurs despite the presence of entrepreneurial mentorship and support programs

- Improve mentorship and ideation support services to entrepreneurs via tweaks to procurement criteria where government funding is involved.

CONSTRAINT

RECOMMENDATION

POLICY CONSTRAINTS FOR E-COMMERCE

Data Protection Act not well aligned with GDPR

Open Banking Initiative not yet expanded to nonbank institutions

- Pass reforms covering the Second Payment Directive (PSD2) to enable the complete implementation of Open Banking Initiative for fintech.

1. COUNTRY CONTEXT AND THE STATE OF GEORGIA'S PRIVATE SECTOR

Georgia demonstrated solid economic performance from the Global Financial Crisis of 2008–09 until the COVID-19 pandemic. It proved resilient in the wake of the pandemic and the resulting deterioration of global supply chains. Prudent economic management, a sound growth strategy with robust savings and investment levels, and steady improvements in investment climate accelerated its economic growth, averaging 5.3 percent over 2010–19. As COVID-19 hit, Georgia's heavy reliance on the service industry and tourism led to one of the largest contractions in gross domestic product (GDP) growth in Europe and Central Asia in 2020 (6.8 percent). However, the economic post-pandemic rebound was rapid and broad-based, and economic growth reached 10.5 percent in 2021. The Georgian economy grew strongly in 2022 at around 10.0 percent, reflecting limited adverse spillovers from the Russian Federation's invasion of Ukraine, buoyant tourism, a surge in conflict-related migrant and money transfer inflows, and a rise in transit trade. Against this backdrop, the poverty rate (at US\$6.85 a day, 2017 purchasing power parity terms) is estimated to decline from 58.3 percent in 2020 to 52.2 percent in 2022 owing to social protection measures aimed at mitigating the negative impact of soaring prices on households.

After peaking at 12.8 percent year over year in June 2022, headline inflation decelerated in the second half of 2022 and in 2023. This has been supported by falling commodity prices, Georgian lari (GEL) appreciation, and slowing credit growth, owing to earlier rate hikes (five times since 2021 by a cumulative 300 basis points, bringing the rate to 11 percent), macro-prudential measures, and tightening global financial conditions.

Fiscal and external accounts improved in 2022, along with a recovery in capital flows. Strong revenue collection contributed to a steep decline in the fiscal deficit (as a share of GDP), from a high of 9.8 percent in 2020 to 3.5 percent in 2022. Public debt stock continued to fall (from 60.1 percent of GDP in 2020 to 41.3 in 2022), largely benefiting from the contained fiscal deficit and the appreciation of the GEL. The current account deficit (as a share of GDP) was expected to narrow significantly from 12.5 percent in 2020 to 4.0 percent in 2022 due to buoyant tourism revenues (including spending by migrants) and remittances outweighing strong imports. On the financing side, net foreign direct investment (FDI) inflows bounced back to 7.5 percent of GDP in 2022 from an average of 4.3 percent of GDP in 2020–21, but they remain below the pre-pandemic levels (on average, 10 percent of GDP during 2015–19). Meanwhile, international reserves benefited from strong foreign exchange inflows, increasing to US\$4.9 billion, providing around 4.3 months of import cover.

Growth is expected to slow to 5.9 percent in 2023, reflecting subsiding external inflows, less favorable global economic and financial conditions, smaller fiscal deficit, and a sufficiently tight monetary policy stance. It is projected to converge to its potential of around 5 percent over 2024–25, supported by continued strong private consumption, robust investments (including in infrastructure) and a more favorable external environment. Downside risks include weaker trading partner growth, tighter global financial conditions, lower external inflows, and sustained high global commodity prices.

Georgia has attracted high levels of FDI over the past decade. The country has implemented various reforms to improve its business environment, leading to increased investor confidence. Furthermore, Georgia has been successful in diversifying its sources of FDI. While traditionally, FDI mainly originated from countries such as Azerbaijan, Russia, and Türkiye, there has been a notable increase in investments from the European Union (EU), United States, and other countries in recent years. However, in contrast to FDI in many other recipient countries in the region, FDI in Georgia has been highly concentrated in a few, mostly nontradable, sectors like energy (21.8 percent), real estate (21.5 percent), and finance (13.5 percent). The government has implemented policies and incentives to attract investment in these sectors, particularly in infrastructure development and renewable energy projects. While this strategy has been successful in many aspects, it has limited the direct and immediate impact of FDI on productivity growth and provided local firms with fewer opportunities for integration into global value chains (GVCs).

Although FDI in Georgia were significantly affected by the pandemic, the post-pandemic recovery was strong. According to the National Statistics Office of Georgia (Geostat), FDI doubled in 2021 and further increased by 61 percent in 2022 to reach US\$2 billion. FDI has been concentrated in and around the capital city of Tbilisi, aggravating regional disparities. The government has initiated efforts to promote investment in other regions of the country, aiming to achieve more balanced economic development. Georgia's tourism sector has been a significant recipient of FDI. The country's natural beauty, historical sites, and cultural attractions have drawn tourists from around the world. Investments in hotels, resorts, and infrastructure development have been increasing to support the growing tourism industry.

Georgia's World Trade Organization (WTO) membership and its Association Agreement with the EU have facilitated trade and investment flows. In addition, the 2018 trade agreement with China is expected to strengthen the country's role as a bridge between Asia and Europe. Meanwhile, the country's key risks from foreign investors' perspective include a relatively small market size, geopolitical tensions in the region, and internal political instability.

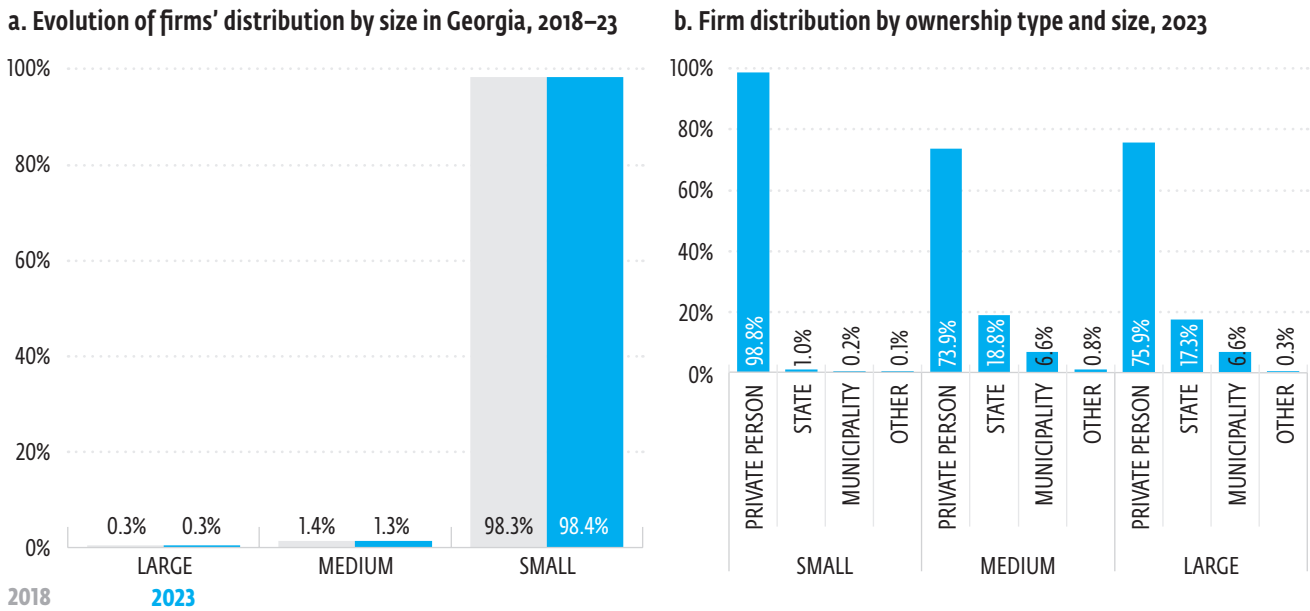
Despite positive recent trends, structural challenges persist, notably weak productivity growth and limited creation of high-quality jobs. During the past decade, growth in Georgia has been driven by capital accumulation, while the contribution of human capital has been modest and the contribution of labor has declined. Firm-level analysis reveals that, while there has been capital deepening and labor productivity has improved, total factor productivity has been stagnant across sectors (except for construction). The share of employment in agriculture declined from 48 percent in 2010 to 40 percent in 2021, but this remains the second highest in Europe and Central Asia. While there has been some structural transformation, agriculture's potential has not been fully realized: the value-added per worker in manufacturing and services remains about seven times higher than in agriculture, indicating further scope for sectoral labor shifts. Poor learning outcomes and lack of skills also present a barrier to private sector growth. Furthermore, quality job creation has been weak, and women's economic participation and employment rates are lower than those of men. Georgia's population is shrinking because of low fertility and outmigration, dragging down productivity growth.

1.1 FIRM CHARACTERISTICS AND DYNAMICS

Georgia's private sector is characterized by the significant presence of micro, small, and medium enterprises (MSMEs) with sluggish average growth. The combined contribution of MSMEs to the economy is less important in the country than it is for its regional peers. In 2023, the number of active firms reached 229,527, reflecting a 75 percent increase compared with the previous decade, while firm density (the number of active firms per 1,000 adults) was estimated at 73 percent in 2020 versus 51 percent in 2012. Despite the large increase in active enterprises, firm distribution by employment level has remained roughly the same (figure 1.1, panel a). MSMEs account for more than 99 percent of businesses in the country, which aligns with the trend among regional peers. Yet, in 2020 MSMEs contributed to only about 63 percent of total jobs and 61 percent of production value-added in Georgia. In addition, the share of employment corresponds with the EU average (64 percent of employment and 52 percent of value added) but is low compared with the average employment share of MSMEs among regional peers due to a relatively high share of large SOEs. While the number of large firms is low, they are the source of more than a third of total output and employment in Georgia.

Most firms in Georgia are privately owned, but the share of state-owned enterprises (SOEs) is relatively high among medium and large firms in economically significant sectors. The overall share of privately owned firms reached 98.4 percent in 2023, with most private firms being owned by a domestic person (88.8 percent). The participation of foreign owners is still limited to 11.2 percent of all privately owned enterprises (through either complete or mixed ownership). The 2004–10 privatization process led to a considerable reduction in the number of SOEs in the Georgian economy, which declined to 1.2 percent in 2023. Nonetheless, the SOEs still have significant representation among large and medium firms, making up 17 percent and 19 percent of the total, respectively (figure 1.1, panel b), and are concentrated in utility sectors such as energy, water, oil, and gas.

FIGURE 1.1: OVERVIEW OF FIRMS IN GEORGIA BY SIZE AND OWNERSHIP



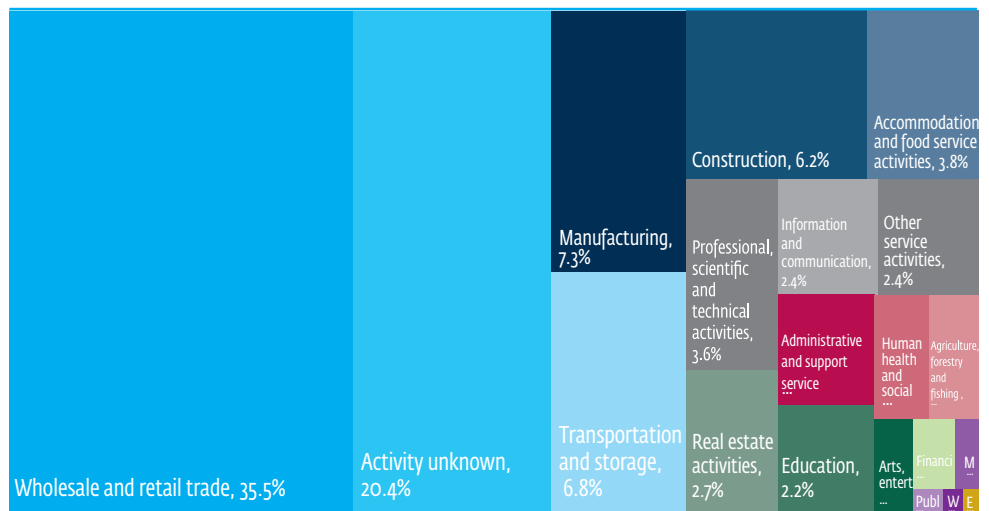
Source: CPSD team based on Geostat, 2023 data.

Note: Shares are computed based on the number of active firms as reported by Geostat. Firms of unknown size are included in the small category. Firm size is categorized as follows: small firms (50 employees or less), medium firms (between 50 and 249 employees), and large firms (250+ employees).

Most entrepreneurial activity is concentrated in a few sectors of the economy.

Compared with other economic sectors, wholesale and retail trade (which includes the repair of motor vehicles and motorcycles) holds the lion's share of active firms (roughly 35.5 percent in Georgia versus 24.3 percent on average in the EU). Manufacturing, transportation and storage, and construction follow with about 7.3 percent, 6.8 percent, and 6.2 percent of active firms, respectively (figure 1.2).

FIGURE 1.2: FIRM DISTRIBUTION ACROSS SECTORS, 2023 (%)

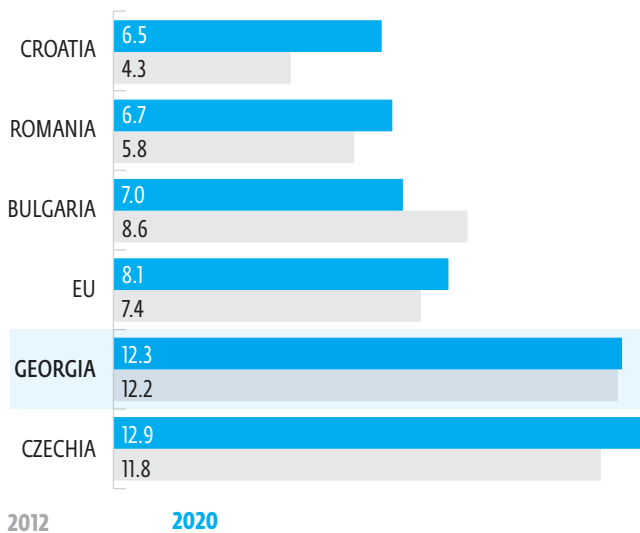


Source: CPSD team based on Geostat, 2023 data.

Georgia has a favorable environment for creating new businesses, but elevated exit rates imply significant barriers to market success. In 2020, the number of new enterprises reached 29,463, representing a share in the total of about 17.6 percent, while new firm density reached 12.3 per 1,000 inhabitants, well above many of the country's peers (figure 1.3, panel a). These data can be explained by prevailing business conditions that support new entry but where significant barriers to business operations and growth persist, negatively affecting the ability of firms to survive and expand. In 2020, firms' exit rate reached 16.5 percent, which was about two times the EU average (7.2 percent) and at par with countries like Bulgaria (14.6 percent) and Lithuania (20.8 percent). The survival rate declines quickly after the first year of operations, falling below 40 percent in the third year. But even when firms do not exit and continue to operate and expand, they usually do not grow beyond medium size (figure 1.3, panel b).

FIGURE 1.3: CHARACTERISTICS OF FIRMS IN GEORGIA

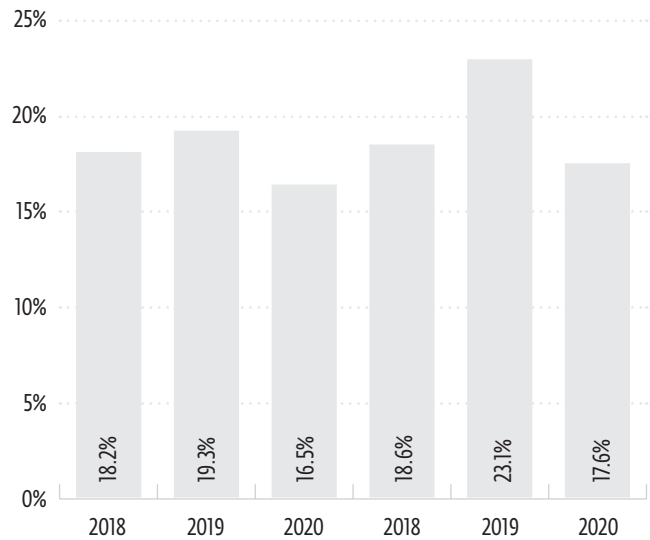
a. Firm density, new firms



Source: CPSD team based on Geostat and Eurostat data.

Note: Newly registered enterprises per 1,000 working-age people (those ages 15–64).

b. Firm birth and exit rates (%)



Source: CPSD team based on Geostat, Business Statistics Database.

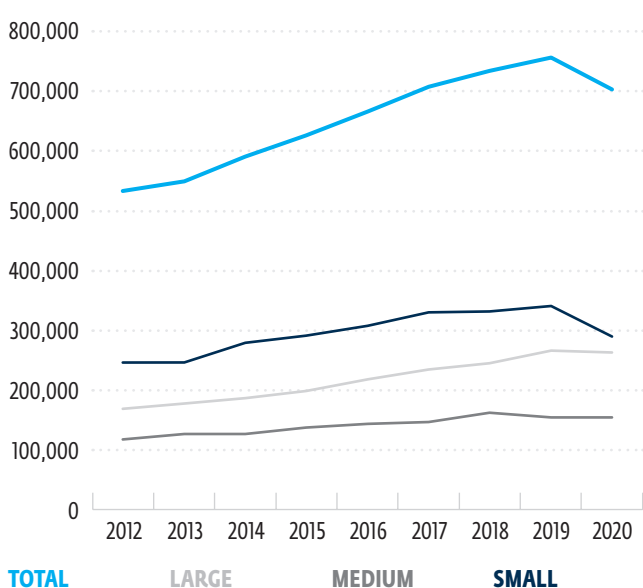
Note: Data on firm death rates are calculated based on the number of active firms during each year.

Georgia’s high firm exit rate can be attributed to a complicated economic context aggravated by the lack of managerial capabilities. The country’s lack of attractive job opportunities and prevailing low wages could explain the high level of entrepreneurial activity and business creation. Compared with peer countries, more people in Georgia were pushed into starting a business due to either an inability to find a job or the fear of job loss. This employment uncertainty, together with a regulatory environment that supports low-cost firm registration (it can take as little as one day to register a company) and a relatively easy launch of new business operations, leads to the existence of many new firms. Moreover, many new entrepreneurs do not possess the managerial capabilities necessary for their businesses to survive and grow. As a result, many new ventures are created out of a need for self-employment and often lack the critical fundamentals necessary for business success. At the same time, despite the significant investment climate reforms undertaken in the country, several constraints to growth of small and medium enterprises (SMEs) remain in place.

Small firms account for the most significant share of total employment in the business sector, but large firms dominate employment growth. Small firms accounted for 41 percent of total employment in 2020, followed by 37 percent in large firms and 22 percent in medium-sized firms (figure 1.4, panel b). Yet, smaller, and newer firms contribute relatively little to job creation, and the total employment share of small firms has decreased from 46 percent in 2012 to 41 percent in 2020. The respective share of large firms has increased by five percentage points (figure 1.4, panel b). Average annual employment growth was 6 percent among large firms from 2012 to 2020, compared to a 3 percent growth rate among both medium-sized and small firms during that same period. In addition, during the COVID-19 pandemic, employment in smaller firms was affected more seriously (average decline of 15 percent) than in their larger counterparts (1 percent decline on average).

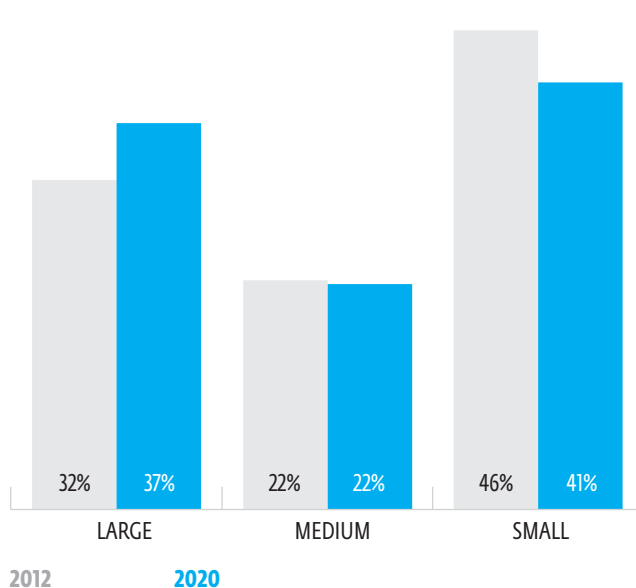
FIGURE 1.4: EMPLOYMENT IN THE BUSINESS SECTOR

a. Total employment by firm size (people)



Source: CPSD team based on Geostat, 2022 data.

b. Total employment shares, by firm size (%)



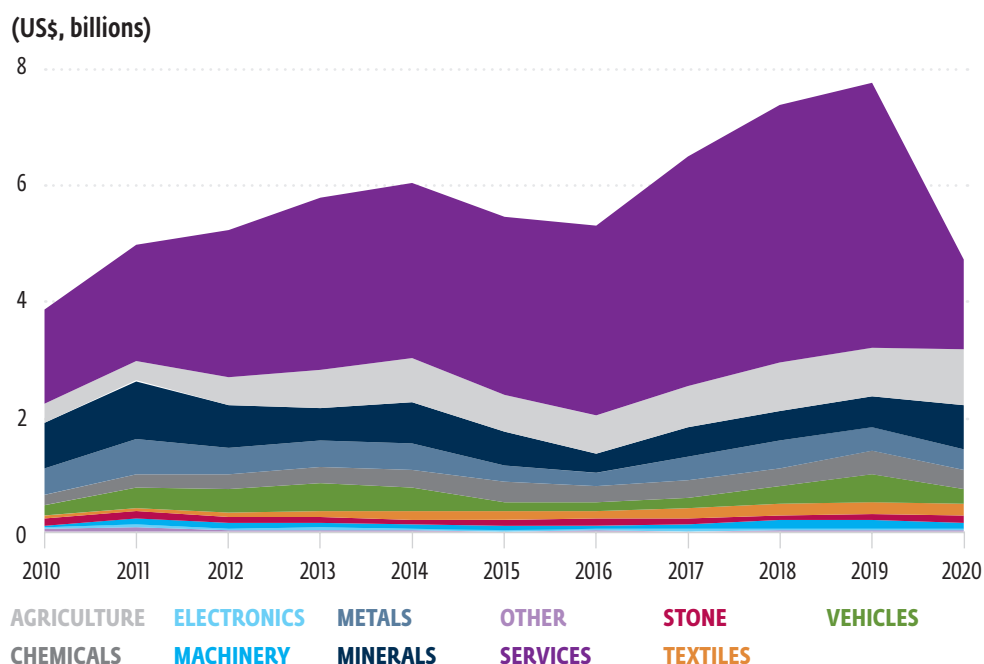
Source: CPSD team based on Geostat, 2022 data.

Different aggregate measures of firm productivity point in different directions, while economywide trends mask considerable variation in productivity dynamics across main sectors. According to Georgia's 2022 Country Economic Memorandum (CEM), on average the total factor productivity (TFP) in nonagricultural firms saw a 6.7 percent decline from 2007 to 2019. However, during that period, labor productivity (measured as revenue per worker) followed the growth in per capita GDP and grew 84 percent. The difference between these two productivity measures is likely due to a substantial expansion in the use of capital-intensive technologies in the economy. As a result, the declining productivity of capital more than offset the positive contribution of labor productivity to TFP. Meanwhile, there has been considerable variation in productivity performance across economic sectors. From 2012 to 2020, construction and transport experienced positive TFP growth, while manufacturing, services, and trade have shown declines in productivity. Within the individual sectors, it appears that only in the construction sector did the reallocation of resources (primarily labor) go toward more productive firms, thereby supporting overall productivity growth. In contrast, there has been a negative correlation between changes in firms' market shares and productivity levels in manufacturing and services, indicating imperfectly functioning markets. Moreover, firm entry and exit have contributed little to overall productivity growth in Georgia.

1.2 EXPORT PERFORMANCE: CHALLENGE OF DIVERSIFICATION AND INTEGRATION INTO GLOBAL VALUE CHAINS

Georgia is a small and open economy that can accelerate GDP growth by strategically strengthening export activity in the areas where it has shown a competitive advantage. The overall growth of exports has been outpacing GDP growth during the past decade, with export growth being driven mainly by services and about 43.4 percent of total exports related to travel and tourism (figure 1.5). Meanwhile, the decline in exports in recent years has caused economic growth to stagnate. For example, in 2019 services amounted to about 59 percent of total exports, but after the 2020 pandemic, the share of services decreased to 33 percent, highlighting the importance of building a more diversified and resilient export base. Exports did rebound sharply in 2021 and 2022, reaching an all-time high in value. Transportation, travel and tourism, and information and communication technology (ICT) are the service sectors with the most dynamic (while volatile) exports. However, the export basket of products is still dominated by goods of low or moderate complexity, predominantly from agricultural and extractive industries.

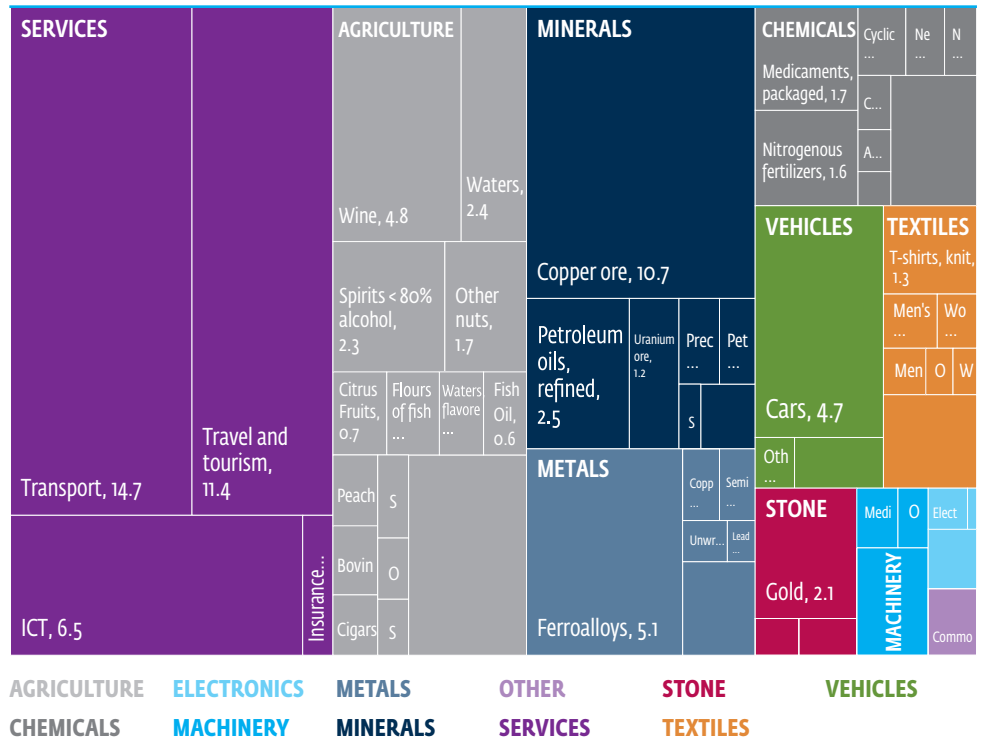
FIGURE 1.5: CURRENT GROSS EXPORTS OF GEORGIA, 2010–20



Source: CPSD team based on Atlas of Economic Complexity, 2022.

Georgia’s export portfolio is neither sufficiently diverse nor competitive, and the most extensive contributions to export growth come from products of low or moderate complexity. The main export sectors in Georgia, such as services (except for ICT) and agriculture, exhibit low complexity (figure 1.6). In contrast, other more complex sectors have been unable to establish themselves amply (machinery and electronics) or have seen a decline in exports (vehicles). As a result, in the past 14 years, Georgia’s economy has become less complex, going from 46th to 60th out of 127 countries in the global ranking of economic complexity, despite the efforts to accelerate the development of more complex industries. Moreover, from 2015 to 2020, the sector fitness indicator increased in a few relatively more complex sectors, such as vehicles, organic chemicals, and medical equipment, the pattern of export growth is still primarily driven by low and moderate-complexity products (figure 1.7).

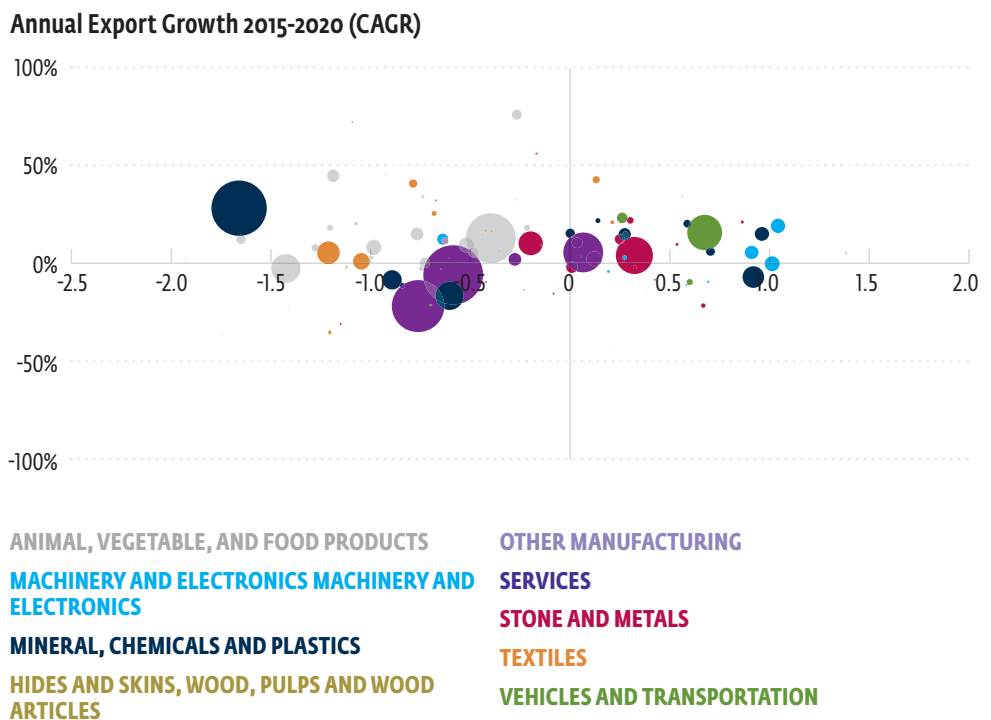
FIGURE 1.6: EXPORT BASKET OF GEORGIA, 2020 (%)



Source: CPSD team based on Atlas of Economic Complexity, 2022.

Note: ICT = information and communication technology.

FIGURE 1.7: EXPORT GROWTH DYNAMICS, 2015–20



Source: CPSD team based on Atlas of Economic Complexity, 2022.

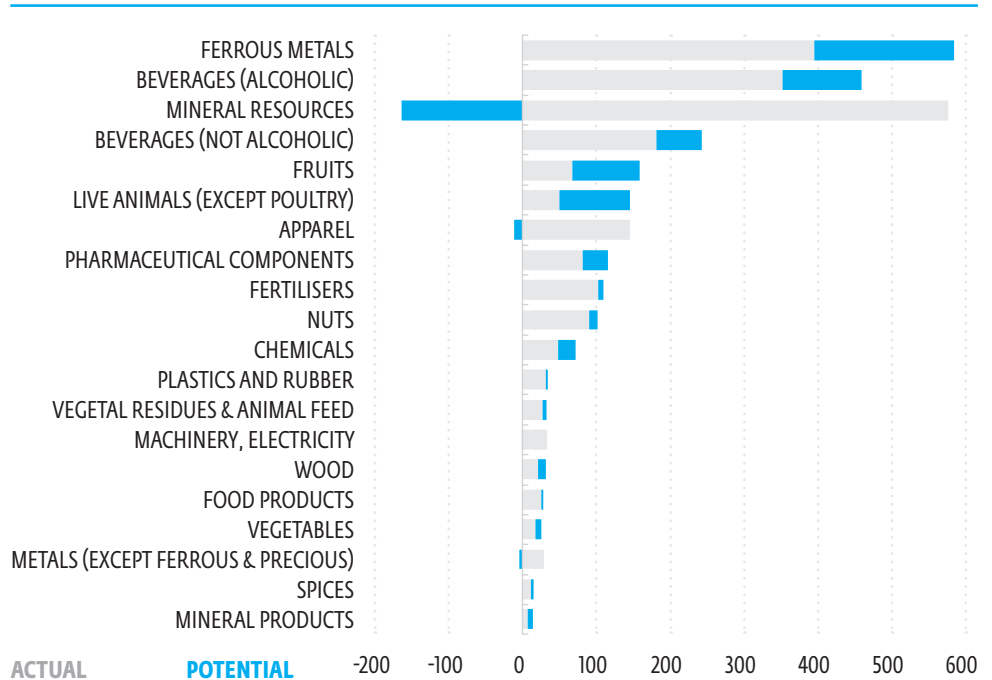
Note: The size of bubbles represents the total value of exports for a product in current million USD\$.

The share of firms participating in global trade is below that in peer countries and most firms exhibit limited integration into foreign markets. For example, the percentage of firms in Georgia exporting directly or indirectly (at least 10 percent of sales) was 15.2 percent in 2019, below the Europe and Central Asia region’s average of 22.6 percent. In contrast, the share of firms with at least 10 percent foreign ownership stood at 6.9 percent (versus 8.2 percent on average in the region). This is in line with a high concentration of FDI in Georgia in a few, mostly nontradable sectors. Other indicators, such as the share of sales that are exported directly and the share of inputs of foreign origin, also point to the slow integration of Georgian firms into global markets and to low participation of national content in exports. The low participation of firms in international trade is exacerbated by the limited access to internationally recognized quality certifications, which constrains exports to the markets where certifications are required, such as in the EU. This constraint is of particular importance in the agriculture and food industries. Under the Deep and Comprehensive Free Trade Area (DCFTA), Georgia agreed to approximate its standards and regulations to match those of the EU. Yet, only a few exporters have obtained the necessary certification to enter the EU markets, such as the GLOBALG.A.P. certification for agricultural products. While the ICT sector accounts for a relatively large share of total exports (6.5 percent), Georgia’s participation in GVCs is further constrained by a slow pace of digital adaption by the majority private sector firms.

So far, Georgia’s integration into GVCs has received limited support from the most common driver of global integration: efficiency-seeking FDI. According to the data for 2000–18 (UNCTAD-Eora), Georgia’s economy remains one of the least integrated into GVCs in the region. Georgia specializes either in products inserted in the upstream phases of GVCs or in the production of primary commodities for final consumption, thus with low levels of sophistication. The lack of value chain penetration is a significant hurdle to export dynamism. At the same time, as mentioned, FDI inflows in Georgia are heavily concentrated in the sectors that offer limited opportunities for integration into GVCs.

Georgia can accelerate its economic growth by pursuing new strategic export opportunities with diversification potential while simultaneously building resilience and value addition of the existing exporters in its services sector. According to the estimates of export potential generated by the International Trade Center, ferrous metals, alcoholic beverages, and nonalcoholic beverages show the largest export potential among manufactured goods in Georgia (figure 1.8). The total unrealized export potential for Georgia stands around US\$1.6 billion. The existing knowledge base in the country offers limited (in the medium term) opportunities to diversify into more complex products that are unrelated to the country’s current capacities. Given its current export basket in manufacturing, Georgia could pursue sectors with high potential for future diversification, such as industrial machinery and plastics. There are also important export opportunities in other dynamic sectors, including transportation and ICT, and these can increase overall tradability, boost the export of goods, and facilitate efficiency in tourism.

FIGURE 1.8: EXPORT POTENTIAL (US\$, MILLIONS)



Source: CPSD team based on International Trade Center, Export Potential Map, 2023.

Note: The Export Potential Indicator identifies the potential export value for any exporter in a given product and target market based on an economic model that combines the exporter’s supply, the target market’s demand, market access conditions, and bilateral linkages between the countries.

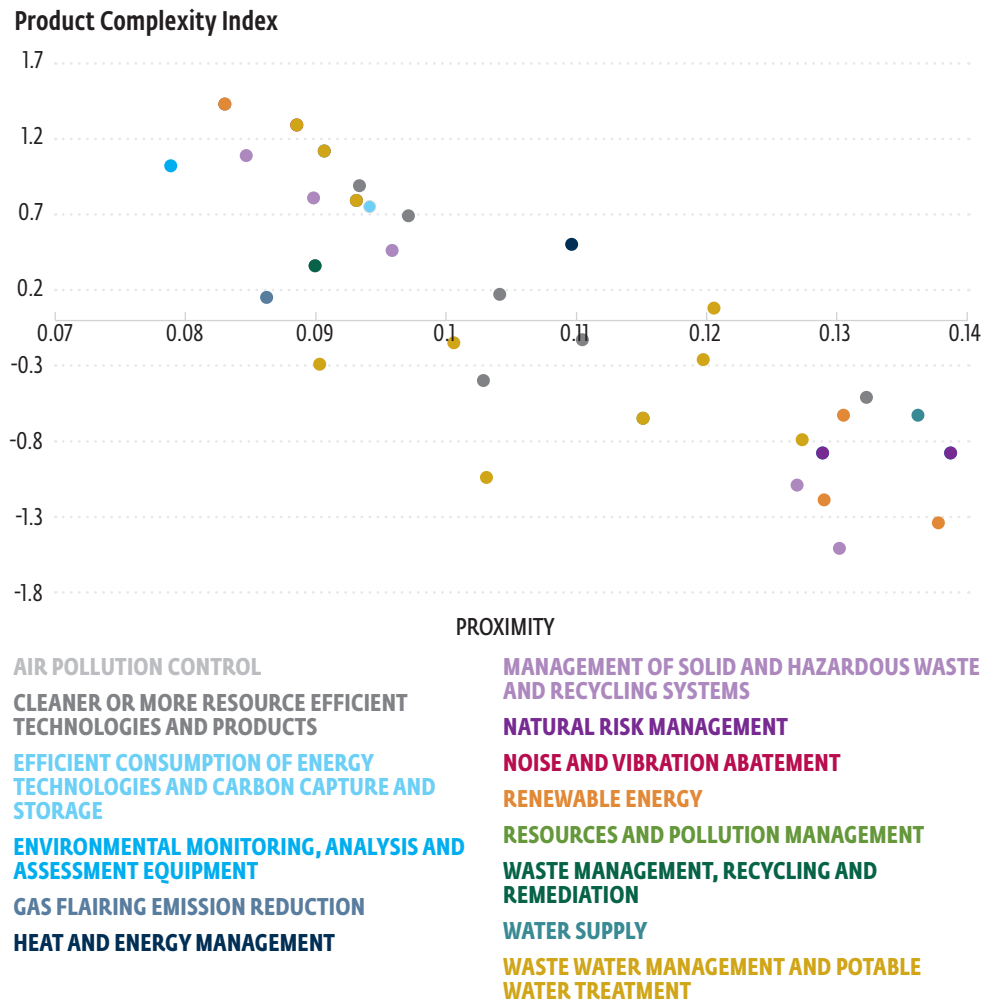
Georgia has yet to fully utilize the opportunities presented by the DCFTA with the EU. The DCFTA, provisionally in force since 2014, is the economic and trade pillar of the EU-Georgia Association Agreement (AA). The direct result of the DCFTA has been easing obstacles for bilateral trade in manufacturing goods. However, Georgia is mainly exporting nonmanufactured goods, which currently limits the scope DCFTA-related benefits that are available to the country. Georgia's exports to the EU are dominated by raw materials (such as copper ores), which were already tariff free before the DCFTA. This explains why the European Commission's 2022 quantitative study, which models mainly the impact of tariff reductions, found that the DCFTA so far had only limited macroeconomic impact on Georgia: a 1 percent increase in total exports to the EU and negligible impact on its GDP. The most noticeable impact was a decline in fiscal tax receipts due to the reduction in the average import tariff. Georgia-EU trade in services has expanded more steadily than exports of goods, but there as well it has been difficult to detect the impact of the DCFTA.

At the same time, the DCFTA opened up new markets for Georgian agricultural commodities and food items, including jams, canned and fresh vegetables, apples, and berries, in several EU countries that include Austria, Germany, Greece, Poland, and the Netherlands, where no such sales had happened before. Although Georgian exports in all these categories remain quite limited, the growth rates are considerable. In parallel, trade in ICT products and services between Georgia and the EU has become quite important.

Future benefits of regional integration with the EU will depend on progress in easing mutual trade in the services sector, which represents the most dynamic part of Georgia's exports. This particularly refers to exploiting the potential of the ICT sector, which shows great promise. In addition, more efforts should be invested in enhancing the export capabilities of SMEs, including through assistance in adopting the EU standards and obtaining necessary quality certifications. So far, the rate of use of preferences by Georgian exporters to the EU remains below the average, reflecting the existing gaps in capabilities on the supply side. In this respect, it is expected that the EU would provide more technical assistance for Georgian SMEs, especially in the agriculture and food sectors, and would advise the government on a more effective design of government support programs.

The EU's Carbon Border Adjustment Mechanism (CBAM) presents minimal adjustment challenges to Georgia due to the limited contribution of the sectors covered by the mechanism to Georgia's current exports. At the same time, a significant share of agriculture among Georgia's exports places Georgia in a good position to benefit from the changing regulatory landscape by advancing its investments in green technologies and preparing its agricultural sector to be climate smart in face of the expected extension of the CBAM to agriculture. Currently, Georgia ranks 59th on the Green Complexity Index, below peers like Romania (14th), Lithuania (19th), and Slovenia (17th). Georgia's green competitiveness strengths are mostly concentrated in the areas of water supply, wastewater management and potable water treatment, renewable energy, natural risk management, and cleaner or more efficient technologies and products (figure 1.9). In terms of green opportunities (products that the country does not export competitively but that could be developed in the future based on the available competitive advantages), the majority of opportunities for Georgia can be linked to the adoption of more efficient technologies in traditional energy, carbon capture and storage, resources and pollution management, air pollution control, and management of solid and hazardous waste and recycling systems (figure 1.10).

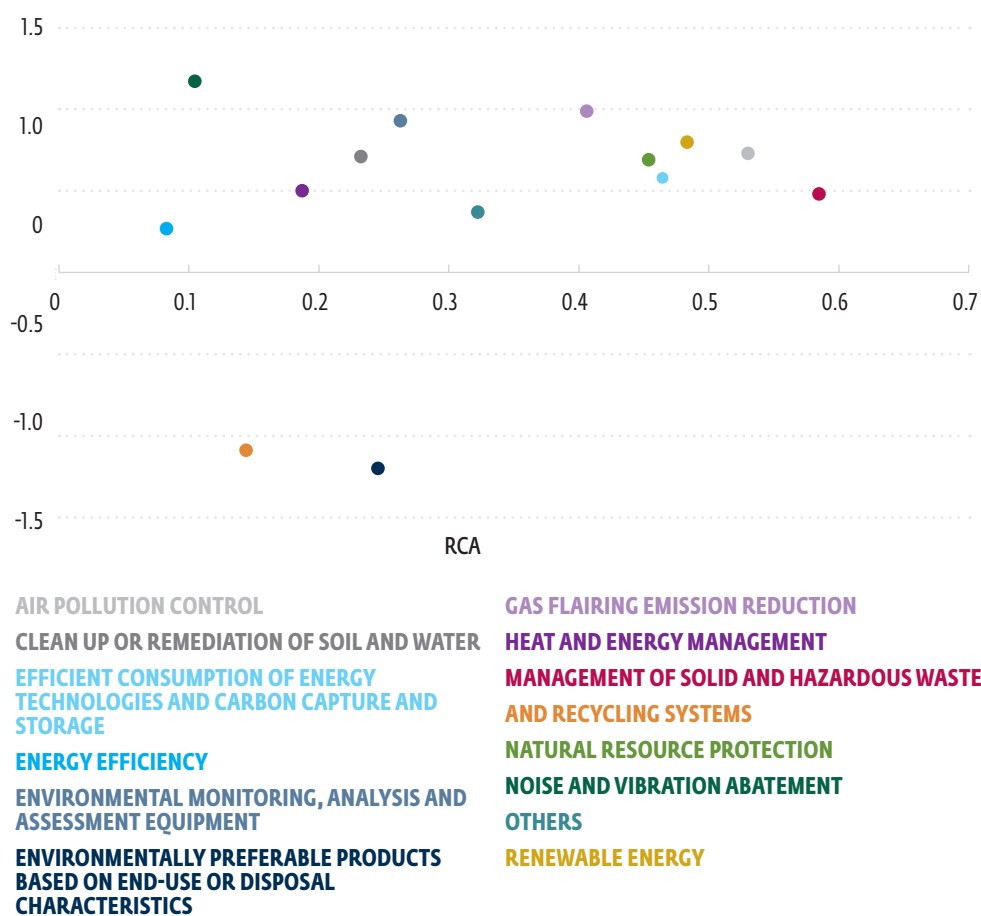
FIGURE 1.9: GEORGIA'S GREEN COMPETITIVE STRENGTHS



Source: CPSD Team based on Green Transition Navigator, 2022, <https://green-transition-navigator.org>.

Note: The Product Complexity Index is used as a proxy for the technological sophistication of a product. Proximity measures the product's similarity to the country's productive capabilities and is correlated with the probability of developing future competitiveness in a product.

FIGURE 1.10: GEORGIA'S GREEN OPPORTUNITIES



Source: CPSD team based on Green Transition Navigator, 2022, <https://green-transition-navigator.org>.

Note: The Product Complexity Index is used as a proxy for the technological sophistication of a product. Revealed Comparative Advantage (RCA) indicates whether the country exports a product competitively.

2. CROSS-CUTTING CONSTRAINTS TO PRIVATE SECTOR GROWTH

The research, surveys, and discussions with the government counterparts and private sector representatives in Georgia helped identify the following key cross-cutting issues as the primary obstacles that constrain the private sector's ability to sustain growth and job creation:

- SOE dominance and special status largely cause weaknesses in the competition environment and market distortions.
- Labor market failures and skill gaps.
- The slow pace of digital transformation in the economy.

Addressing these priority cross-cutting constraints would enable Georgia to improve the quality and sustainability of private sector growth. This would support further job creation and productivity increases across the private sector, including in MSMEs, facilitate their integration into the GVCs, and enhance access to digital financial services instruments and trade finance.

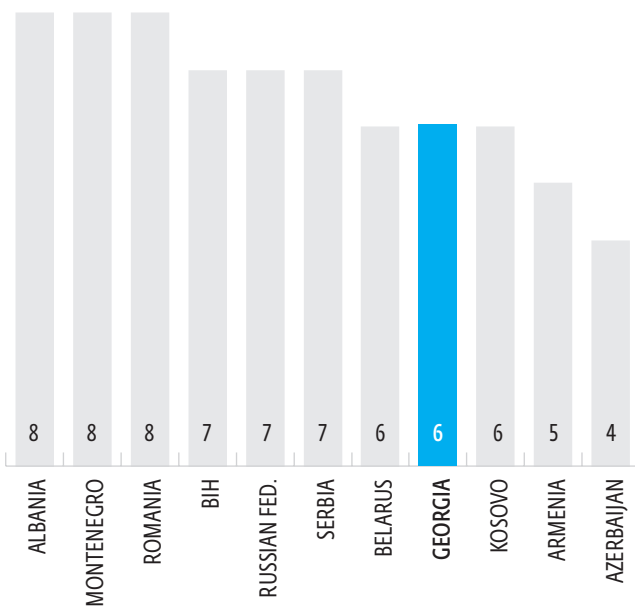
2.1 COMPETITION ENVIRONMENT WEAKNESSES AND MARKET DISTORTIONS

Despite a successful track record in reforming the investment climate, Georgia still faces serious challenges in the business environment that need to be addressed. Over the past two decades, the Government of Georgia's ambitious reforms to enhance the enabling environment for the private sector have brought about substantial progress in business deregulation (including permits and licenses), an advantageous and simple tax regime, and simplified/transparent tax administration. As a result, Georgia scores higher than the average for the upper-middle-income group on three of the four components measuring the quality of enabling environment in the World Economic Forum's Global Competitiveness Index.⁸ Nonetheless, while significant progress has been made in terms of deregulation and the removal of administrative barriers, the regulatory reforms remain incomplete, particularly in sectors with relatively complex regulatory requirements, including the digital economy, financial technology (fintech), renewable energy, and logistics. The regulatory gaps in these sectors relative to the regulatory regimes prevailing at the markets of Georgia's partners in the Organisation for Economic Co-operation and Development (OECD) and EU represent a considerable constraint for private investments, especially FDI. In addition, they prevent the economy from realizing the complete benefits of FDI inflows.

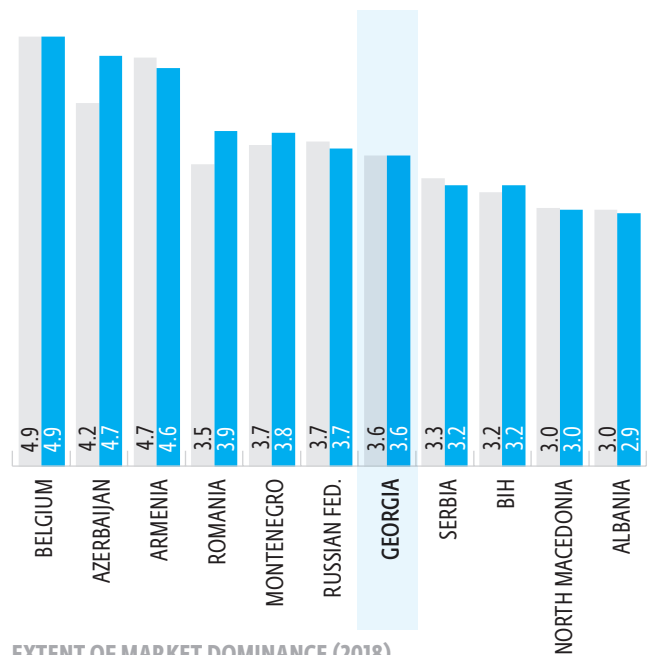
Georgia’s competition policy needs further strengthening. Georgia adopted a Competition Law in 2014 and set up the National Competition Agency to ensure its implementation. However, Georgia’s competition framework and the effectiveness of its implementation are perceived to be below those of peers (Figure 2.1, panel a), and the Georgian economy seems to have a relatively less competitive market structure, partly because of distortive market arrangements that diffuse competitive pressures in certain sectors. For example, the firm-level analysis suggests that markups in the services sector are driven by a few firms, pointing to weak competition.⁹ Furthermore, the Global Competitiveness Index suggests that the degree of market dominance is perceived to be higher in Georgia than in comparator countries (figure 2.1, panel b), which may increase risks of anticompetitive behavior, particularly in markets where structural or regulatory barriers limit new entry. In addition, there is a need to improve the judicial system’s efficiency in Georgia, as there remain widely shared perceptions of courts being partial and susceptible to political interference.

FIGURE 2.1: PERCEPTIONS OF THE GEORGIAN ECONOMY

a. BTI: Perceptions of Effectiveness of Antimonopoly Policies across Comparator Countries, 2020



b. WEF: Perceptions of Market Dominance across Comparator Countries, 2018–19



Source: CPSD team elaboration based on data from the Bertelsmann Stiftung’s Transformation Index (BTI), 2020. (The responses reflect the situation in the country at the end of January 2019).

Note: The BTI is a perception indicator based on in-depth assessments of countries. Score: 0 (worst) – 10 (best)

EXTENT OF MARKET DOMINANCE (2018)
EXTENT OF MARKET DOMINANCE (2019)

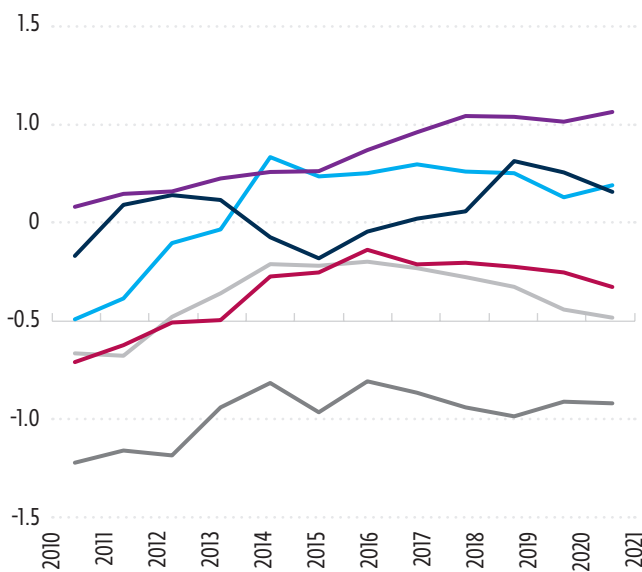
Source: CPSD team elaboration based on World Economic Forum, Global Competitive Index database, 2018.

Note: Score: 1–7, with 7 = best.

While Georgia stands out in several governance dimensions, geopolitical factors and issues in the judiciary have an impact on the business environment. According to the 2019 World Bank Enterprise Survey, 29.9 percent of firms in Georgia regard political instability as their biggest development obstacle, compared with the average of only 9.0 percent in the Europe and Central Asia region. Uncertainty and political polarization in the country have intensified in recent years, damaging investor and business confidence. Pre-2016 economic reforms made serious progress in streamlining administrative processes and reducing bureaucracy. Georgia continues to align legislation with the EU Acquis Communautaire, which is contributing to further improvements in regulatory quality. Government effectiveness also stands out, partly thanks to Georgia’s strong public financial management systems and increased budget transparency and oversight. A challenge highlighted by different stakeholders is that limited judicial accountability and delays in courts and dispute resolution are hindering the rule of law and hampering businesses (figure 2.2).

FIGURE 2.2: GOVERNANCE IN GEORGIA

a. Evolution of governance indicators

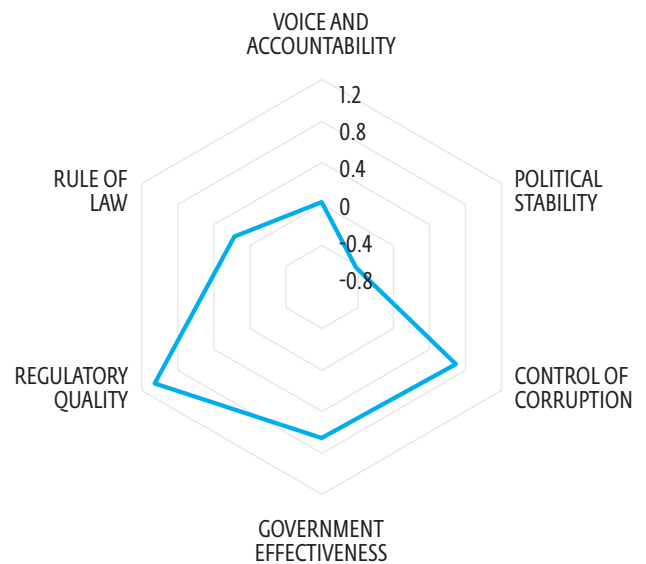


VOICE AND ACCOUNTABILITY **GOVERNMENT EFFECTIVENESS**
POLITICAL STABILITY **REGULATORY QUALITY**
CONTROL OF CORRUPTION **RULE OF LAW**

Source: CPSD team based on World Bank, Worldwide Governance Indicators, 2023.

Note: -2.5 (worst) to 2.5 (best).

b. Dimensions of governance, 2021



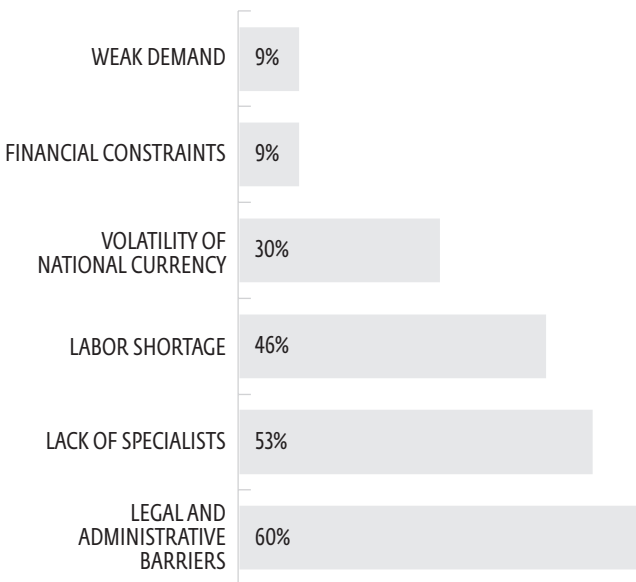
Source: CPSD team based on World Bank, Worldwide Governance Indicators, 2023.

Note: -2.5 (worst) to 2.5 (best).

Even with Georgia’s strong reform track record, factors related to public sector governance and business regulations continue to be emphasized as the most hindering barriers to private sector activity. According to the Business Association of Georgia (BAG) Index, for the last quarter of 2022, 60 percent of the participating companies cited legal and administrative barriers as the top factor hindering business activity in the country (figure 13, panel a). From a sectoral point of view, this was particularly important in the services sector (76 percent of the respondents). The regulatory environment, the judicial system, and administrative issues were among the main legal and administrative barriers faced by companies (figure 2.3, panel b).

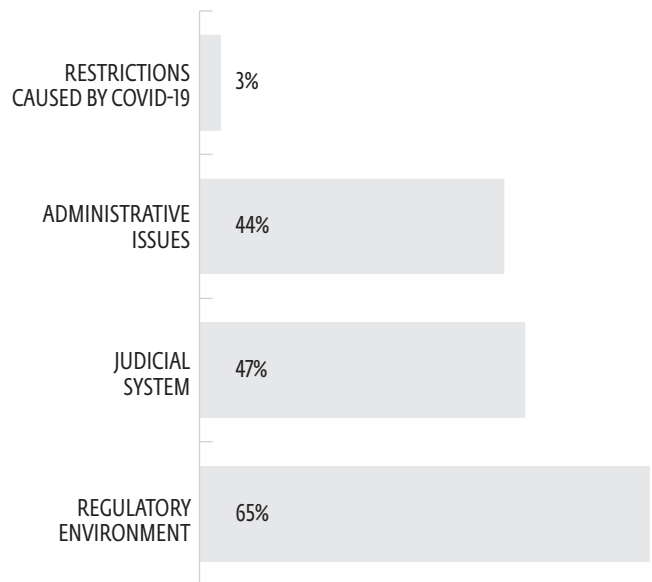
FIGURE 2.3: BARRIERS TO BUSINESS ACTIVITY, 2023

a. Main factors hindering business activity for surveyed companies



Source: CPSD team based on Business Association of Georgia, 2023 data.

b. Main legal and administrative hindering factors for surveyed companies

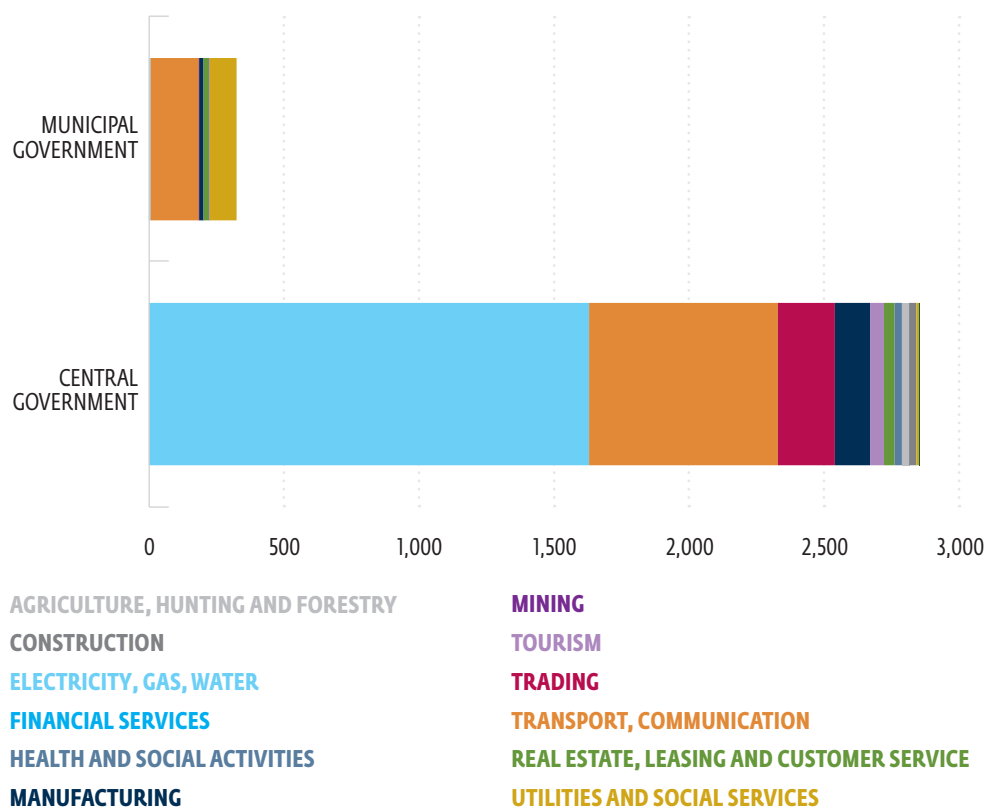


Source: CPSD team based on Business Association of Georgia, 2023 data.

Vested interests affect the fairness of competition. Georgia's efforts to fight corruption have been sustained, and compared to the early 2000s, there has been a significant decline in corrupt practices. While Georgia is ranked relatively high in Transparency International's Corruption Perception Index (the country has a score above the global average and is ranked high in the Europe and Central Asia region), corruption risks remain, in part owing to the gaps in accountability arrangements. For instance, according to Transparency International,¹⁰ there is a high risk that the recent privatization transactions favored private interests at the expense of the state and the public because of these gaps. In addition, further work is needed to improve SOE governance and ensure a level playing field.¹¹

Over the past few decades, Georgia has made significant reform efforts to reduce the state's footprint in the country's economy. The privatization process during 2004–10 led to a considerable reduction in the relative size of the SOE sector. Yet Georgia's SOEs are still present within a range of economically significant sectors, such as energy, transportation, and manufacturing (figure 2.4). While most of Georgia's SOEs operate as a natural monopoly or provide critical social services, some remain in competitive sectors operating along with private sector providers. Such sectors include communications, hospitality (including hotels and restaurants), real estate, leasing, and other financial services. Over the past decade, the government has taken several concrete steps to address the SOE challenges to strengthen their performance and ease market distortions associated with their operations. From 2019 to 2020, the government developed its new SOE strategy to establish criteria for maintaining public ownership in SOEs, to describe the relationship between the government and SOEs, to clarify the principles of competitive neutrality for SOEs, and to set precise corporate governance requirements.

FIGURE 2.4: GEORGIAN SOEs BY SECTOR AND OWNERSHIP LEVEL, 2019 (GEL, MILLIONS)



2.2 LABOR MARKET CHALLENGES AND SKILLS GAP

Private sector jobs have stagnated while public sector employment has edged upward. The agricultural sector dominates with around one-fifth of employment, though the sector’s importance is declining. In Georgia, the earnings premium for problem solving and learning new skills at work is close to 20 percent.¹² The demand for manual tasks, both routine and nonroutine, has also been declining. In contrast, the demand for nonroutine cognitive and interpersonal tasks among young workers has been increasing. This increasing demand illustrates the need for jobs that complement technology and align with twenty-first-century skills involving analysis, critical thinking, and creativity.

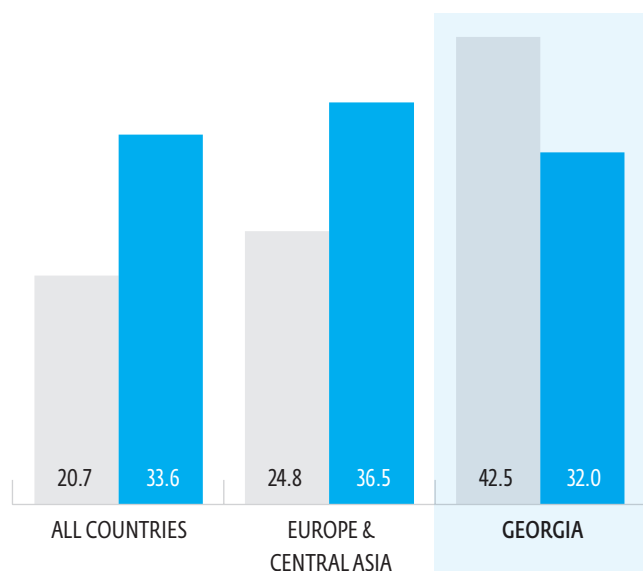
The labor force is, to a large extent, underutilized in Georgia. The combined effect of high unemployment and low labor force participation (LFP) is a very low employment rate of 41.1 percent, compared with the EU average of 69.3 percent.¹³ This means that nearly 30 percent of the working-age population in Georgia is currently jobless or inactive. It represents a major portion of the population that does not contribute to national welfare, mainly because of the lack of productive job opportunities and a mismatch between the needs of firms and the workforce's skills. The stable employment rate in the country conceals considerable structural changes. Employment grew slightly above 1 percent annually, on average, over the past decade. At 69 percent, the share of wage earners in Georgia's population is relatively low compared with 80 percent in peer countries in the region, as the country's share of self-employed workers is high. While the male LFP rate was 62 percent in 2020, the female participation rate was only 40 percent. The respective difference of 22 percentage points was close to the global average for upper middle-income countries and slightly higher than the average in the region, excluding high-income countries.

Most of the jobs created in recent years in Georgia require relatively basic professional skills. However, they are increasingly becoming more demanding for basic digital and socioemotional skills, which not all Georgians possess. Most vacancies posted in Georgia are for middle-skilled jobs (skill level two, according to ISCO-08). According to the 2020 Survey of Business Demand for Skills in Georgia, most of the 55,000 vacancies opened from January to September 2019 were in lower productivity sectors, specifically in wholesale and retail trade (34.7 percent), followed by accommodation and food services (10.9 percent) and construction (8.5 percent). Overall, only one in three vacancies posted was at skill levels three and four (high), according to ISCO-08.

A lack of skilled labor is seen as another top constraint by firms, as the existing skill offering does not match the business needs. An inadequately educated workforce is a significant constraint to the private sector, with roughly 42.5 percent of firms in Georgia citing this as a main obstacle, compared with the average of 24.8 percent in the Europe and Central Asia region. A skilled workforce is needed to maintain large firms and firms in the service sector. The lack of skills is also reflected in fewer years of experience across qualified personnel in Georgia, with managers reporting, on average, 15.8 years of experience compared with 21.3 years in the region. Even though the shortage of skills is broadly recognized within the private sector, the share of firms offering formal training remains low at 32 percent, below the regional and world averages (figure 2.5, panel a).

FIGURE 2.5: ADDITIONAL OBSTACLES TO PRIVATE SECTOR GROWTH, 2019

a. Inadequately educated workforce

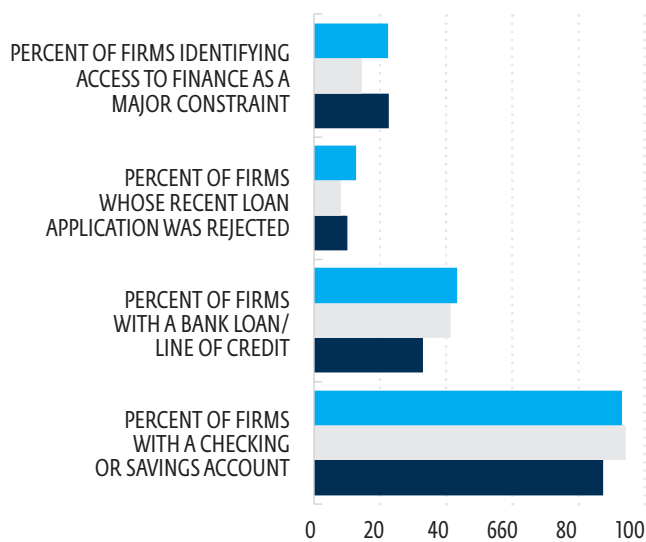


PERCENT OF FIRMS IDENTIFYING AN INADEQUATELY EDUCATED WORKFORCE AS A MAJOR CONSTRAINT

PERCENT OF FIRMS OFFERING FORMAL TRAINING

Source: CPSD team based on World Bank Enterprise Survey, 2019.

b. Access to finance



EUROPE & CENTRAL ASIA

GEORGIA

ALL COUNTRIES

Source: CPSD team based on World Bank Enterprise Survey, 2019.

The Georgian labor force has traditionally been highly educated academically. Yet the apparent skills shortage refers to job-specific skills, higher-order cognitive skills such as critical thinking and problem solving, and sociobehavioral skills such as leadership and initiative. The existing and growing gap between the skills taught in schools and the labor market demands is one of the most significant constraints to Georgia’s economic growth. As a result, employers have difficulty finding skilled labor and report a lack of critical skills among graduates. Overall, Georgian employers do not perceive tertiary educated workers as highly skilled.

At the same time, the need for more productive job opportunities requiring advanced professional skills leads to overeducation and overskilling. The mismatch between the large supply of a higher-educated workforce and the limited demand for productive jobs is a persistent feature of the Georgian labor market.¹⁴ This suggests a loose connection between the education system and the economy’s demands. About 40 percent of workers with a master’s degree and close to 50 percent of workers with a bachelor’s degree are overeducated for the middle- and low-skilled occupations they fill.¹⁵

Georgia’s education system needs to be aligned to deliver the right skills—including twenty-first-century competencies and entrepreneurial skills—and to provide lifelong learning opportunities to reduce skills shortages. Georgia scores relatively low (57 percent on the Human Capital Index), which explains why businesses have difficulties recruiting adequately trained labor even when jobs are created. While Georgia does well in terms of average years of schooling, its students consistently perform lower than comparator countries in knowledge and skills tests (EBRD, 2021). The mismatch between the labor market requirements and the skills graduates obtain within the educational system further aggravates skill shortages. There is scope to improve the quality and structure of training offered by the educational system.

The skills shortage harms the performance of firms and limits their growth prospects. More than 40 percent of firms identified an inadequately educated workforce as a significant growth constraint,¹⁶ compared with the 24 percent average in the Europe and Central Asia region and 20 percent globally.¹⁷ Innovative and growing firms suffer most from skill shortages. Skills gaps are perceived as highest by large firms, firms operating in highly productive service sectors, hiring firms (where employment has grown), and foreign-owned firms. The severity of skill shortages faced by modern and growing firms is a diagnostic indicator of the quality of labor supply.

Meanwhile, only some firms provide formal training to their workforce, which disadvantages adult workers as their skills become increasingly obsolete with rapid technological advancement. According to the 2020 Survey on Business Demand for Skills,¹⁸ most employers (87.8 percent) do not take the extraordinary measures needed to eliminate the skills gaps in their workforce. However, according to the 2019 Enterprise Survey,¹⁹ one out of three registered firms (32 percent) offer formal training to their workforce. This is just below the 35 percent average in the region and among the upper-middle-income countries (36 percent). However, the training provided by firms is most often focused on job-specific technical skills rather than on foreign language and other fundamental abilities such as critical thinking, leadership, interpersonal skills, and communication, which are usually in short supply. This may be due to the lack of willingness on the part of employers to train their workers in generic skills that they can transfer to other higher-paying jobs as soon as the training is completed. Performance-linked support programs that focus on managerial practices and innovation could be an important resource to stimulate firm capabilities and training (CEM, 2022).

Access to finance is also among the top business constraints, as seen by Georgia’s private sector. According to the IMF Financial Development Index Georgia scores lower than the emerging markets average (0.31 versus 0.33). While the share of firms with access to bank credit in Georgia is marginally higher than the regional average (43.3 percent versus 41.2 percent in the Europe and Central Asia region), the proportion of firms identifying access to finance as a major constraint for growth is significantly higher (figure 2.5, panel b). Similarly, the proportion of loans requiring collateral is higher in Georgia than the regional average (80.5 percent versus 66.1 percent). High interest rates are still a significant disincentive for firms applying for a loan.

2.3 SLOW PACE OF PRIVATE SECTOR DIGITAL TRANSFORMATION

Georgia has achieved significant results in the digital transformation of its economy, but broader adoption of digital solutions within various business segments has been lagging. Chapter 3 discusses in detail the unbalanced growth of digital businesses in Georgia and points to the primary constraints for accelerating and rebalancing their development. While Georgia's overall business environment has been favorable, the ecosystem for adopting digital solutions by "regular" nondigital businesses across economic sectors is less developed. From the perspective of this chapter, this underdeveloped ecosystem represents an important cross-cutting constraint for private sector development. The ecosystem's weaknesses largely explain an apparent contradiction between a relatively successful digital business segment and a slow pace of adoption of digital solutions in the rest of the economy. The digital segment has been growing so far with limited linkages to the rest of the economy. It represents a kind of economic enclave, with a strong focus on external markets, retail, and fintech, but with a restricted transformational impact on broad developments across the business sector. Moreover, the low level of digitalization in Georgia constrains broader innovation across various groups of businesses. Chapter 3 provides a list of priority policy recommendations to address these constraints.

3. DIGITAL BUSINESSES AS A STRATEGIC TOOL FOR DRIVING ECONOMYWIDE PRODUCTIVITY AND COMPETITIVENESS

3.1 INTRODUCTION AND RATIONALE

The broad adoption and use of digital technologies offer an opportunity for Georgia to reach its aspirations for high-income status. Building the country's competitive advantage in core and emerging sectors such as tourism, agriculture, energy, finance, and logistics requires an ecosystem that spurs digitalization and creates new sources of value addition. Digital and disruptive technologies (DDT) can be an instrument for driving both productivity and resilient growth. For example, in the tourism sector, digital platforms and tools can diversify tourism geographically, cater to festivals and events without new construction, attract new markets, and generally broaden product offerings, in addition to collecting data that can help with destination marketing. Similarly, in the case of logistics, technologies such as blockchains can improve transparency and security by centralizing data on one standard, open platform. Lastly, digital technologies offer opportunities to bridge gender gaps and encourage female labor force participation. Enhanced access to identification (ID), financial services, and information can empower women to participate in entrepreneurial activities while increasing women's bargaining power and engagement in the labor market.

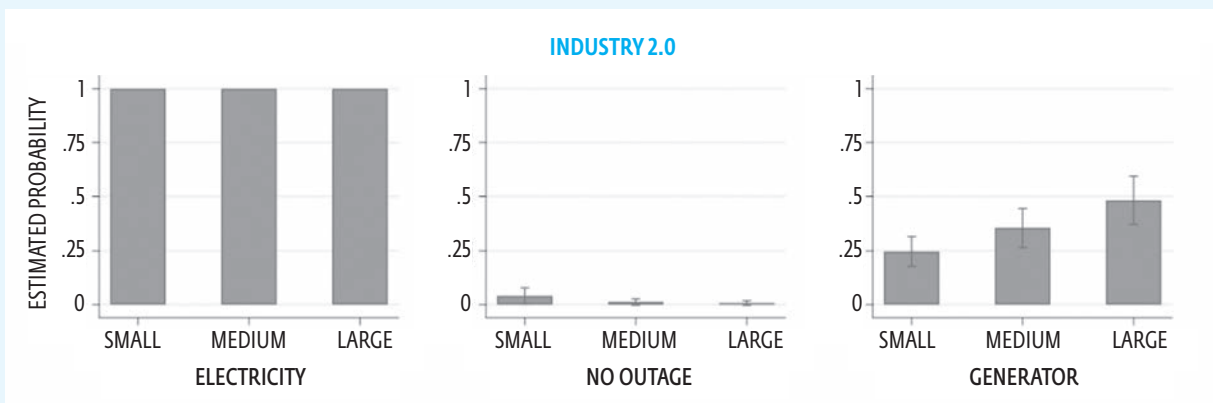
Recognizing the importance of digital technologies, the Georgian government has launched several initiatives to drive digital transformation by improving digital infrastructure, encouraging the growth of digital skills and businesses, and amending economywide data regulations.²⁰ In 2020, the Georgian government introduced its National Broadband Development Strategy (NBDS) to improve digital infrastructure. In parallel, it has supported digital entrepreneurs through the Georgia Innovation and Technology Agency (GITA), which was established in 2014 to provide location-based support services such as a technology park and hubs, maker spaces for prototyping, and technology centers. In addition, it administers accelerator, matching grant, and venture funding programs for firms, research institutions, and individuals. Georgia has also expanded ICT education through curriculum reforms by the Ministry of Education and professional training funded through GITA. Finally, it has largely aligned its cross-border data flow and protection regulations with EU norms.

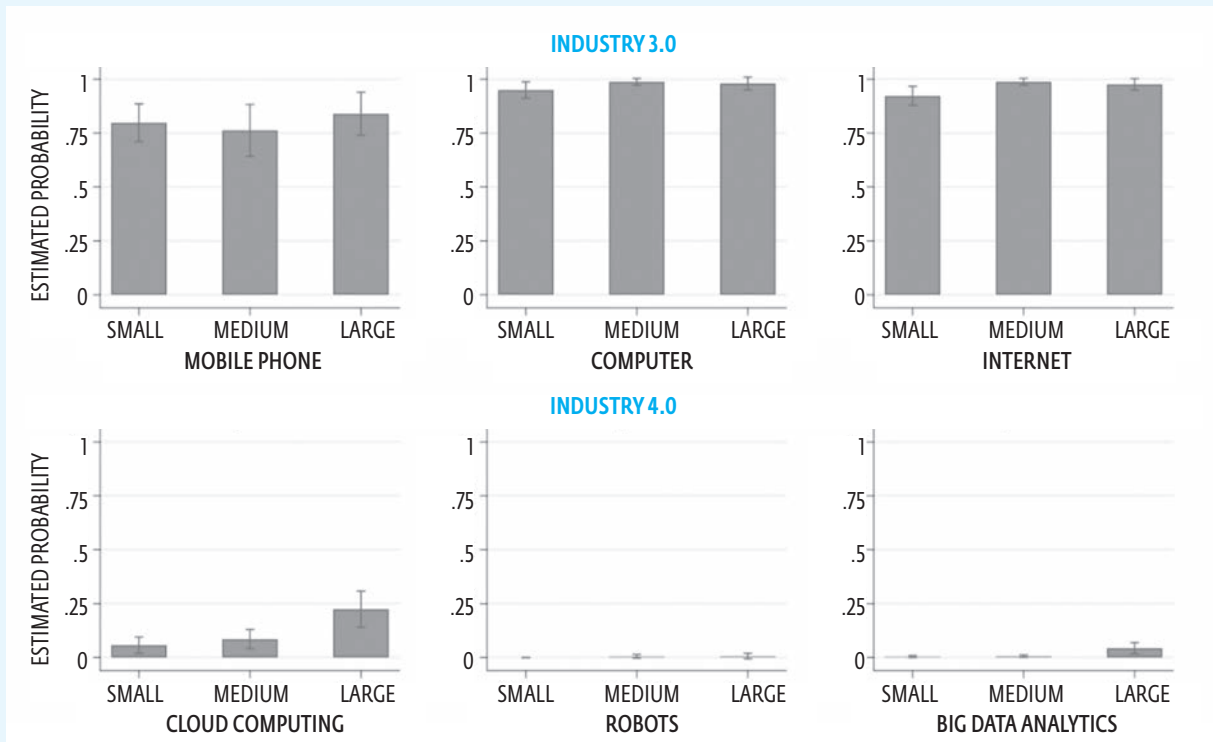
This chapter assesses the opportunities for and constraints to the growth of the private sector digital economy—particularly digital businesses—in Georgia. It builds on prior World Bank engagements, including the Georgia Financial Sector Assessment, the Georgia Venture Capital Readiness Assessment, and the Georgia National Innovation Ecosystem Project. Recommendations on venture capital are drawn from these prior engagements, while recommendations on talent and subsectoral constraints are derived from new analyses conducted for this report. The chapter focuses on digital businesses per se (that is, digital service providers like e-commerce platforms or fintech firms) rather than the digitalization of firms in conventional sectors such as agriculture. While this represents a narrower approach, it corresponds to the standard definition adopted by the OECD and similar prior studies. The growth of digital businesses is also a leading indicator and direct driver of digitalization. Appendix B contains details on the methodology, while Box 3.1 contains an overview of the adoption of digital technology by firms in conventional sectors, which is not otherwise a focus of this chapter.

BOX 3.1. OVERVIEW OF TECHNOLOGY ADOPTION BY GEORGIAN FIRMS IN CONVENTIONAL SECTORS

Overall, across sectors, Georgian firms have access to technologies and infrastructure, but actual usage rates of cutting-edge technologies are low. The Government of Georgia is rolling out and analyzing the Firm-Level Adoption of Technology (FAT) Survey. Preliminary results suggest that, on the one hand, access to necessary infrastructure and equipment such as the internet, mobile phones, and computers is high (see figure B3.1.1). On the other hand, use of new “Industry 4.0” technologies such as cloud computing, robotics, and big data analytics is low. Thus, while Georgian firms are on average generally more technologically sophisticated (per the World Bank’s Technological Sophistication Index) than firms in countries such as Poland and Viet Nam, there is significant opportunity to further close the gap with countries where more firms, on average, are closer to the frontier, such as Brazil and the Republic of Korea. Notably, Georgia lacks individual firms that are close to the frontier, with the top 20 percent of firms relatively close to the average firm. In contrast, the top 20 percent of firms in even Kenya and Poland are more technologically sophisticated than in Georgia despite the average firm in those countries being less sophisticated.

Figure B3.1.1: Summary of general-purpose technology adoption in Georgia



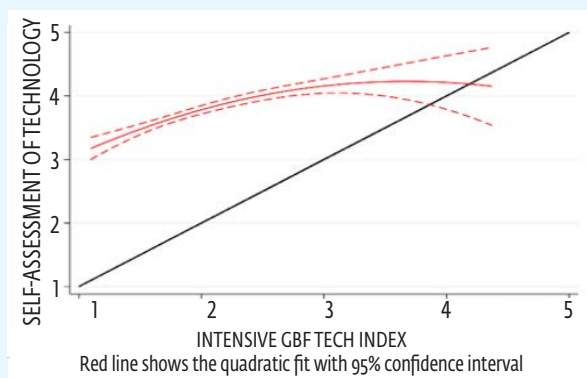


Source: World Bank Georgia Technology Adoption Presentation, forthcoming.

Note: Statistics are based on data from the Georgia Firm-Level Adoption of Technology Survey. Estimated probabilities refer to the percentage of firms using a specific technology (denoted in the x-axis titles), split by size of the firm (denoted via the different bars). Technologies are further divided into Industry 2.0, 3.0, and 4.0 (denoted by the rows).

Lack of awareness, lack of capabilities, and government regulations are key constraints to higher technology adoption among firms in Georgia. According to preliminary FAT Survey data, Georgia firms are likely to overrate their level of technological sophistication relative to peers, suggesting that they “do not know what they do not know.” When asked why they do not adopt specific technologies that they do know about, lack of capabilities is the top-cited factor, especially for small and medium enterprises.

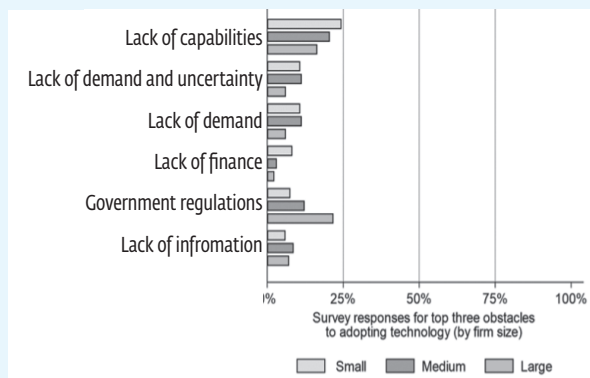
Figure B3.1.2: Association between self-assessment and actual technology use in Georgia



Source: World Bank Georgia Technology Adoption Presentation, forthcoming.

Note: GBF = Government Business Function.

Figure B3.1.3: Perceived obstacles to technology adoption by firm size in Georgia



In addition to developing the ecosystem of digital firms to increase the supply of Georgia-specific digital solutions, key policy priorities to increase technology adoption in Georgia include building awareness of technology, supporting human capital, and technology extension:

- **Building awareness:** Better information can help managers understand technological gaps and make informed decisions on risk-return tradeoffs of adoption. Public-private partnerships can help align the needed expertise while solving coordination failures in the provision of information, especially to smaller firms. Across high-income contexts such as members of the Organisation for Economic Co-operation and Development, as well as middle-income countries such as Malaysia, business advisory services (BAS)—whether through public, private, or nonprofit organizations—are a key policy tool to build awareness. Although many different models exist, high-quality BAS typically entails firm-specific assessments at the initial diagnostic stage, followed by the development of action plans and follow-on advice.
- **Human capital:** Improving managerial and technical expertise is a key priority for technology adoption by firms as well as the development of digital business ecosystems. Some potential priorities to explore include making improvements to the tertiary education system, making it easier for foreign citizens with necessary technical skills to live and work in Georgia, and providing short-term vocational solutions such as bootcamps. The discussion on digital businesses provides further analysis and recommendations on this topic given the overlap in priorities between digital businesses and technological upgrading in conventional sectors.
- **Technology extension:** Technology extension services (TES) provide direct on-site assistance to small and medium enterprises, through extension staff, field offices, or dispersed technology centers, to foster technological modernization. Compared to BAS, TES tend to be more sophisticated, sector specific, and directly focused on supporting production technology, although there is overlap between the two. For example, Brazil's Embrapa—a state research corporation affiliated with the Ministry of Agriculture and Livestock—specifically provides research and technology transfer on agricultural technologies that are unique to Brazil's climate and soil conditions.

3.2 STATE OF THE DIGITAL BUSINESS ECOSYSTEM IN GEORGIA

Georgia has achieved significant results in digitalizing its economy, particularly in developing center-of-government digital platforms and systems and facilitating growth of the quite dynamic, while still small, segment of digital businesses. Government technology has created an enabling environment to deliver better, faster, and more agile digital services to citizens and the private sector. These include modernization of core government functions such as public financial management, procurement, and human resource management, where physical and digital services have been strengthened in parallel through a multichannel service delivery approach. In addition, the GITA was established to coordinate the creation and development of an innovative ecosystem, and it has set-up innovation hubs and start-up accelerator programs across the country.

However, while Georgia’s overall business environment is favorable, the private sector digital economy ecosystem is less developed. The Network Readiness Index (NRI) 2022 ranked Georgia 75th out of 131 countries in exploring business opportunities offered by ICT technologies. Table 3.1 is a summary of how Georgia is ranked on several essential ICT-related indicators.²¹ These rankings indicate that Georgia has significant potential for improvement.

TABLE 3.1: GEORGIA RANKINGS ON TECHNOLOGY INDICATORS

INDICATOR	RANKING
• E-commerce legislation	118th
• Rural-urban gap in the use of digital payments	86th
• Mobile broadband internet traffic	80th
• Investments in emerging technology	97th

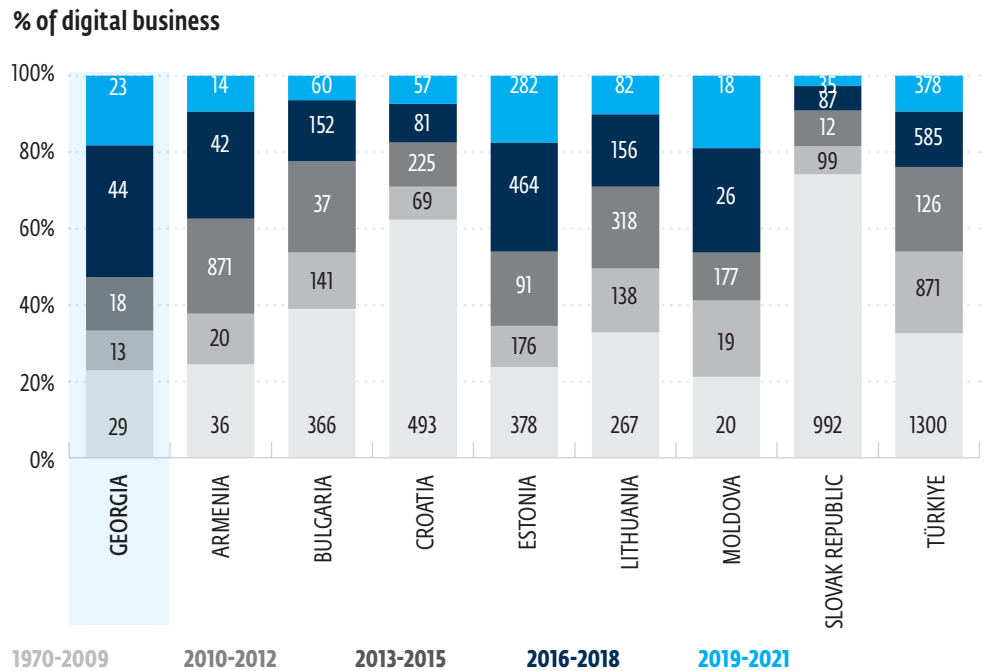
Source: Portulans Institute, Network Readiness Index, 2022, <https://networkreadinessindex.org>.

Note: Ranking is among 131 countries; higher rankings mean lower performance.

Relatedly, the low level of digitalization constrains broader business innovation development. On the Global Innovation Index 2020, Georgia is ranked 63rd out of 131 countries, underperforming its peer economies.

Georgia’s digital business ecosystem remains relatively nascent. Few digital businesses are headquartered in Georgia, and most of them are relatively new. For example, of the 151 Georgia-headquartered digital businesses in the World Bank’s Digital Business Database, more than 50 percent were founded in 2016 or afterward, as compared with under 20 percent in more mature peer countries such as Croatia and the Slovak Republic (Figure 3.1).²² Notably, digital businesses in Estonia, another more mature digital business ecosystem, exhibit a similar distribution in terms of the founding year as those in Georgia. However, Estonia also has a much higher absolute number of digital businesses across all firm ages, suggesting that Estonia’s firm age distribution is driven by start-up dynamism in the country rather than by the immature ecosystem. In contrast, in Georgia, the young age profile coincides with low absolute numbers.

FIGURE 3.1: DISTRIBUTION OF DIGITAL BUSINESSES IN THE DIGITAL BUSINESS DATABASE, BY FOUNDED YEAR

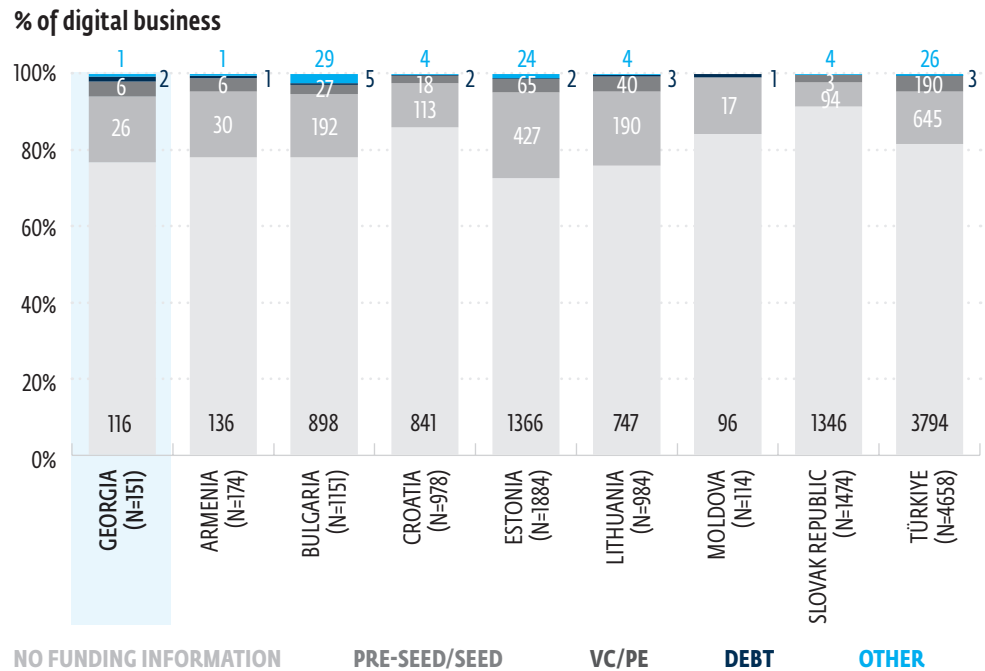


Source: World Bank, Finance, Competitiveness and Innovation Digital Business Database, based on data from Crunchbase, Pitchbook, and CB Insights.

Note: Digital businesses are digital solution providers that develop and manufacture digital technology products or provide digital services (such as tech firms, the information and communication technology sector, and the digital sector). Digitalized traditional businesses are not counted as digital businesses.

Relatedly, few digital businesses in Georgia have reached later funding rounds, indicating that relatively few businesses have successfully scaled up to date and providing few precedents to give local and international investors’ confidence. Nine of the 151 Georgia-headquartered firms in the Digital Business Database have recorded external financing rounds beyond the pre-seed and seed stages (figure 3.2).²³ One hundred and sixteen firms (over 70 percent) have no funding information recorded, which often denotes the firm not having raised any external financing. Again, while these figures are roughly comparable on a percentage basis to even more developed ecosystems such as Estonia’s, the absolute numbers are relatively small. More than 90 Estonia-headquartered firms have raised rounds beyond the pre-seed and seed stages. Absolute numbers are meaningful because having a track record of precedent investments gives investors comfort.

FIGURE 3.2: DISTRIBUTION OF DIGITAL BUSINESSES IN THE DIGITAL BUSINESS DATABASE, BY LAST RECORDED FUNDING STAGE



Source: World Bank, Finance, Competitiveness and Innovation Digital Business Database, based on data from Crunchbase, Pitchbook, and CB Insights.

Note: "Pre-seed/Seed" includes angel, accelerator funding, competition prize, and grant. "Other" includes mezzanine, bonds, capitalization, corporate, corporate asset purchase, corporate licensing, joint venture, secondary transaction –open market, secondary transaction –private, spin-off, share repurchase, equity, and bridge round. n = number; VC/PE = venture capital/private equity.

3.3 TRENDS ACROSS DIGITAL BUSINESS SUBSECTORS

E-commerce, fintech, entertainment technology, software/software as a service (SaaS), and marketing technology consistently rank among the top subsectors for Georgia and peer countries. Subsector potential is measured via three key measures of investor interest: (a) the dollar amount of investment raised in funding rounds over the past five years by subsector, (b) the number of funding rounds, and (c) the total number of exits for a given subsector. Across all three measures of subsector potential and investor interest, these subsectors rank among the top 10 in Georgia and for the group of eight peer countries (table 3.2). E-commerce and fintech account for most of the deal flow in Georgia to date. These top subsectors are followed by other sectors that also display high potential in Georgia, including blockchain/cryptocurrency, Business management technology, logistics technology, security technology, web services, and travel technology.

TABLE 3.2: SUBSECTOR POTENTIAL BASED ON MEASURES OF INVESTOR INTEREST

SUBSECTOR	NUMBER OF INVESTOR INTEREST MEASURES FOR WHICH SUBSECTOR IS RANKED IN TOP 10	
	GEORGIA	BENCHMARK COUNTRIES
E-commerce	3	3
Financial technology	3	3
Entertainment technology	3	3
Software/SaaS	3	3
Marketing technology	3	2
Blockchain/cryptocurrency	2	2
Business management technology	2	2
Logistics technology	2	1
Security technology	2	1
Web services	2	1
Travel technology	2	0
Utilities technology	0	0
Clean technology	0	0

Source: World Bank, Finance, Competitiveness and Innovation Digital Business Database, based on data from Crunchbase, Pitchbook, and CB Insights.

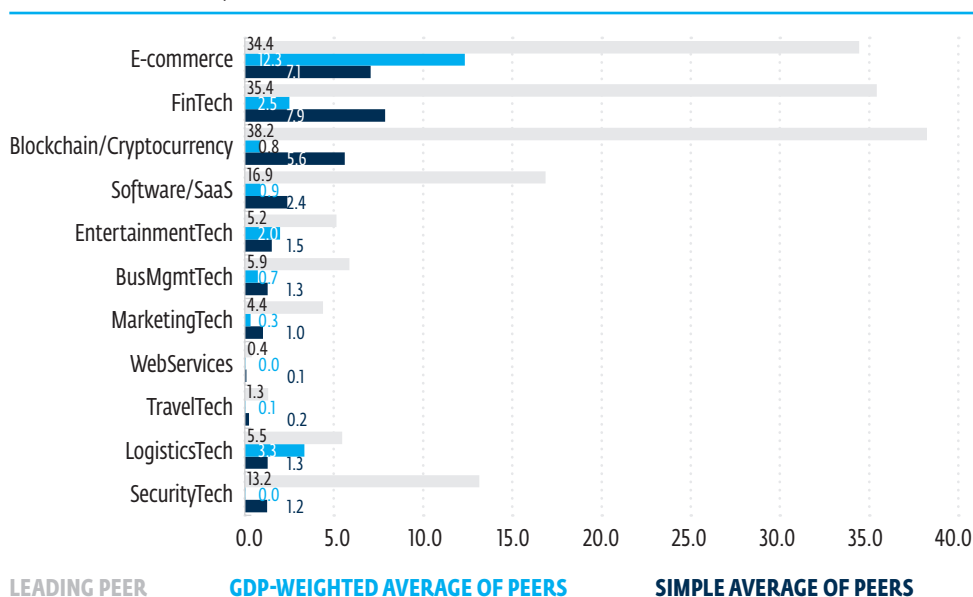
Note: Measures of investor interest are (a) the dollar amount of investment raised in funding rounds over the past five years by subsector, (b) the number of funding rounds, and (c) the total number of exits for a given subsector. Green shading of cells denotes ranking in the top 10 along all three measures for Georgia. Yellow shading of rows denotes ranking in the top 10 along two measures for Georgia. Red shading of rows denotes ranking in the top 10 along no measures for Georgia. Only subsectors that rank in the top 10 along two to three measures are displayed, along with utilities technology and clean technology, given their relevance to the renewable energy section of the CPSD (section 4.1 in chapter 4). Not all evaluated subsectors are displayed in the table (a total of 44 subsectors have been evaluated). Subsectors are not mutually exclusive because a single firm could play across multiple subsectors. SaaS = software as a service.

In addition to e-commerce, which is generally a top subsector across most countries, common themes around business-to-business (B2B) business models are evident in Georgia's top subsectors. Georgian digital businesses that have successfully attracted investment tend to be in subsectors or segments of subsectors that focus on serving enterprise and business customers (such as, B2B fintech and B2B software/SaaS). For example, Pulsar AI, Georgia's first digital business to reach the exit stage, focuses on leveraging artificial intelligence (AI) and machine learning (ML) technology to enable firms to interact with customers. However, it does not directly interface with consumers and pursues a B2B business model. Similarly, while fintech and SaaS companies can be either business-to-consumer (B2C) or B2B, Payze and Theneo, two of Georgia's most prominent digital businesses, focus on B2B fintech and SaaS applications, respectively. Interviews with entrepreneurs, investors, and government stakeholders reveal that B2B business models are generally seen as more scalable for founders in Georgia owing to the small size of the economy and population. Digital businesses need to be able to scale regionally or globally to achieve the returns desired by most investors, and B2B business models are seen as easier to scale internationally because scaling B2C businesses across borders generally requires greater knowledge of local consumers and higher marketing outlays.

The prominence of the fintech and the blockchain/cryptocurrency sectors is also notable in Georgia. Some examples of Georgian digital business in these subsectors include Payze, which was accepted into Silicon Valley's prestigious YCombinator program, and CityPay.io and Cryptal. This trend is related to Georgia's well-developed banking sector (with total assets around 100 percent of GDP) and generally sound macroprudential and financial regulatory frameworks.²⁴

In general, the subsectors that have attracted the most investor interest historically, especially e-commerce and fintech, are also those with the most room to grow further investment, with the potential for additional annual investments of up to US\$40 million per subsector. Further investment potential is triangulated by calculating "additional investment potential"—the additional investment beyond current levels that Georgia could attract by subsector if it were to achieve similar levels of investment to GDP as (a) its leading peer, (b) a GDP-weighted average of peer countries, and (c) a simple average of peer countries (figure 3.3). Overall, this analysis reveals that Georgia could attract additional annual investment of at least US\$1 million and up to US\$40 million if it were to achieve investment to GDP levels similar to that of regional peers. In addition, given the imperative to expand digital skills training and education, including through nontraditional providers (see the later discussion on access to talent), there may also be opportunities for investment in training providers such as digital bootcamps.

FIGURE 3.3: ADDITIONAL INVESTMENT POTENTIAL IN GEORGIA FOR TOP SUBSECTORS (US\$, MILLIONS PER YEAR)



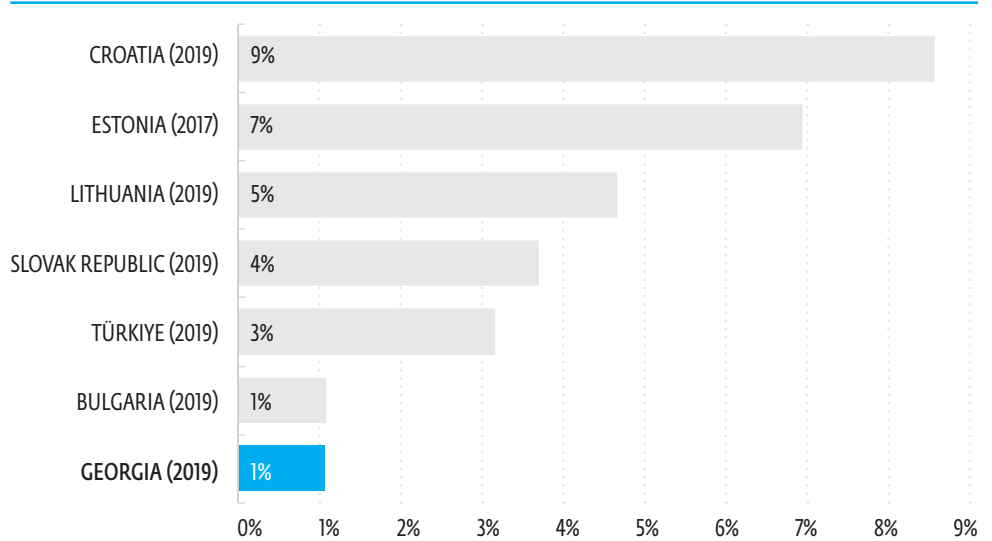
Source: World Bank, Finance, Competitiveness and Innovation Digital Business Database, based on data from Crunchbase, Pitchbook, and CB Insights.

Note: For individual countries, average investment-to-GDP ratios are obtained by calculating investment-to-GDP ratios for each year 2017–21 and then taking a simple average across years. The investment-to-GDP ratio for the leading peer is defined as the maximum average ratio among the set of eight standard peer countries. Ratios of the leading peer, GDP-weighted average of peers, and simple average of peers are then applied to Georgia’s 2021 GDP and subtracted from Georgia’s 2017–21 average levels of investment by subsector to derive the additional investment potential in terms of US dollars. BusMgmtTech = business management technology; EntertainmentTech = entertainment technology; Fintech= financial technology; LogisticsTech = logistics technology; MarketingTech = marketing technology; SaaS = software as a service; SecurityTech = security technology; TravelTech = travel technology.

3.4 KEY CONSTRAINTS TO DIGITAL BUSINESS GROWTH IN GEORGIA

Low availability of and access to tech talent

Georgia needs more workers with programming skills. Not surprisingly, programming and other skills are critical to digital businesses, both to generate a pipeline of businesses and to help digital businesses scale. According to International Telecommunications Union (ITU) data, only about 1 percent of the Georgian population currently possesses even basic programming skills, well below most regional peer countries (figure 3.4). As a result, many Georgian digital business representatives interviewed reported an inability to hire needed specialists (such as full-stack developers). This finding reflects gaps related to domestic education programs, attracting foreign tech talent, and leveling the playing field for attracting talent between local digital businesses and international firms.

FIGURE 3.4: PERCENTAGE OF POPULATION WITH PROGRAMMING SKILLS

Source: International Telecommunications Union.

Note: Individuals are considered to possess programming skills if they have written a computer program using a specialized programming language. Figures likely overstate the number of workers who are employable as programmers given that most jobs require even greater expertise than this standard.

Domestic tech talent

In Georgia, prospective tech workers can nominally obtain tech skills through the university system and nontraditional options such as coding boot camps and training programs. Computer science and information technology (IT) faculties at universities such as Tbilisi State University, Georgian Technical University, and Ilia State University offer a combination of undergraduate and graduate degree programs. In addition, various private, government- and donor-funded tech skills training programs offer nondegree vocational options such as coding boot camps. For example, the GITA/Georgia National Innovation Ecosystem (GENIE) project is using implementing providers such as New Horizons, a Bulgaria-based training firm, to train 3,000 IT specialists by May 2023.

The traditional tertiary education system is considered inadequate. Less than half of the 56 higher education institutions in Georgia that are accredited by the National Center for Educational Quality Enhancement offer any degree *programs* in computer science, ICT, IT, or a related field. Fewer still offer graduate degrees, which, while not necessarily essential to employment in the sector, can be a rough indicator of the depth and expertise of faculty in each department. Even where programs exist, interviewed stakeholders representing digital businesses and investors perceive the quality of instruction to be low, citing low pay and an excessive focus on theoretical concepts rather than practical skills for employment. Indeed, only one Georgian higher education institution—Tbilisi State University—has a computer science program accredited by the Accreditation Board for Engineering and Technology (ABET), the most widely recognized international accreditation body.

Nontraditional educational pathways, such as coding boot camps, are still relatively small-scale. Experience indicates that if properly implemented, coding bootcamps can be a powerful tool for building tech skills. They can also introduce greater flexibility for students and enhance linkages with employers regarding curriculum design and employment opportunities. While initiatives exist through providers such as the GENIE project and Redberry, the scale of boot camps remains small. For example, the GENIE project intends to train 3,000 IT specialists by 2023. However, to reach programming skills levels similar to those in Estonia requires an additional 160,000 specialists with such skills.

In the long run, improving Georgia's digital infrastructure (that is, its broadband connectivity) could also increase digital inclusion, in turn improving the tech talent pipeline. Interviewed digital businesses and investors in Georgia generally do not perceive digital infrastructure as a direct binding constraint to their growth, partly due to the relatively high quality of such digital infrastructure where they operate (the well-developed areas in Tbilisi). However, Georgia still has room to catch up with leading regional peers regarding the overall measures of internet coverage and access and to bridge digital divides (such as the access divide between urban and rural areas). Improving connectivity and accessibility of broadband services in general and in key locations such as primary and secondary schools could improve inclusion for underserved and marginal populations (such as those in rural areas) and eventually expand the talent pool with tech skills. However, this would likely materialize primarily over the long run.

Foreign tech talent and opportunities from Russia's invasion of Ukraine

Foreign tech talent offers countries, especially smaller ones like Georgia, an opportunity to accelerate tech talent growth, especially considering recent regional geopolitical events. Successful digital business hubs like Estonia and Singapore have made foreign talent a cornerstone of their digital development strategies. For example, according to Startup Estonia, 27.5 percent of employees at Estonian start-ups have non-Estonian citizenship. In addition, Russia's invasion of Ukraine and associated economic sanctions have created significant out-migration flows from Russia, Ukraine, and Belarus, countries that have sizeable tech talent pools. The Russian Association for Electronic Communications estimates that as of April 2022, 50,000 to 70,000 tech workers had left Russia since the invasion of Ukraine in February that year. An additional 100,000 were expected to leave in April 2022, amounting to about 10 percent of the tech sector's workforce.

Georgia has an attractive foundation on which to position itself as a destination for foreign tech workers. High quality of life, relatively low cost of living, geographical proximity to countries affected by the geopolitical situation, and the ability to live and work using English or Russian in many organizations are key advantages for Georgia in the eyes of many prospective expatriates. In addition, Georgia has a relatively permissive visa policy that allows nationals of many countries to easily enter and work there, sometimes without even requiring a visa. As a result, Georgia has been the destination of choice for many tech workers seeking to relocate, mainly from Russia, Ukraine, and Belarus: an estimated 80,000 Russians, Belarusians, and Ukrainians now reside in Georgia, of which 20,000–25,000 are tech workers.

However, there is an opportunity to target tech firms and workers more precisely. For example, while it is relatively easy for foreign workers to move to Georgia through the visa-free entry regime, doing so prevents the government from collecting meaningful data on arriving workers to gauge their skills and match them with opportunities. Alternatively, workers can enter and work in Georgia via labor residence permits, which require them to be tied to a specific employer. In general, labor mobility in the dynamic digital business world is critical to building ecosystems by enabling the flow and exchange of ideas. Finally, investors and founders can enter and reside in Georgia by meeting minimum investment requirements, but the minimum requirements are quite high from many start-ups' perspectives. Relatedly, Georgia has not yet implemented proactive outreach programs for foreign tech workers and entrepreneurs. In jurisdictions such as Estonia, Singapore, and the EU, such efforts include direct marketing as tech talent destinations, posting of job openings, special residence permits for tech talent and entrepreneurs that are not necessarily tied to specific employers, and portals for prospective expatriates to list skills for matching and screening purposes.

Similarly, Georgia lacks explicit investment promotion programs to attract tech firms seeking to relocate and provide services to facilitate relocation (such as, investor care and explanation of relevant processes). In contrast, Armenia, an early “winner” in terms of attracting Russian talent and firms, has set up a working group to link Russian, Belarusian, and Ukrainian entrepreneurs with specialists who can advise on processes to set up businesses in the country and connect them with tech stakeholders in the country.

Level playing field for tech talent

Intense competition exists over the tech talent in Georgia. As a result, smaller Georgian digital businesses may be structurally disadvantaged regarding companies with income tax breaks via the International Company Status program (table 3.3). Georgian digital businesses are not the only employers of tech talent, as government entities (such as the Ministry of Justice), banks, and international companies also compete to hire tech workers. To a certain extent, such competition is welcome because it incentivizes tech workers to go to openings where they can deliver the most value and get the most exciting career opportunities (and be compensated accordingly). However, by giving select companies income tax breaks, the International Company Status program to attract foreign and export-oriented tech companies effectively gives eligible firms the ability to offer higher net pay on top of their already deeper financial resources. While Georgian firms can also set up export-oriented subsidiaries to take advantage of the program, doing so requires accounting and operational separation. This, in turn, requires spending resources engaging the services of accountants and lawyers to navigate the relevant processes, which are perceived as somewhat opaque by many private sector market participants.

TABLE 3.3: OVERVIEW OF INTERNATIONAL COMPANY STATUS PROGRAMS

ELIGIBILITY CRITERIA		
<ul style="list-style-type: none"> • 98% of annual revenue derived from activities within allowable information technology or maritime sectors • 2 years of experience operating in the given sectors 		
TAX RATES		
Tax Type	General Firms (%)	International Company Status (%)
Corporate income tax	15	5
Dividend tax	5	0
Personal income tax	20	5
Property tax	Up to 1	0

Source: Georgia Revenue Service.

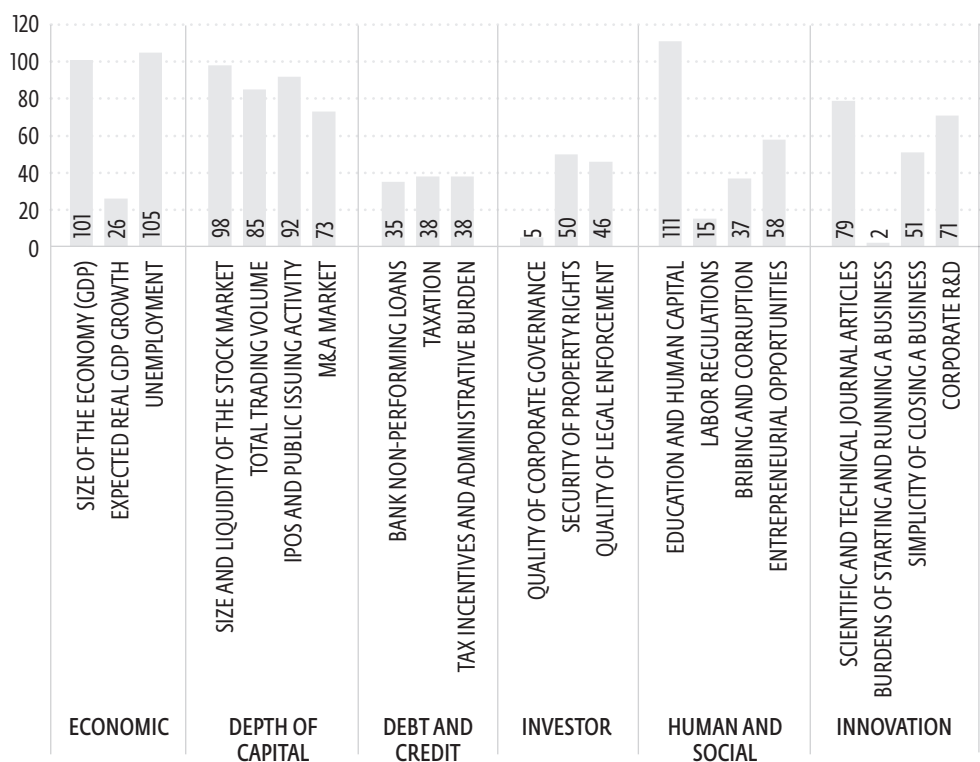
Underdeveloped early-stage finance and support ecosystem.

Georgia’s domestic early-stage financing ecosystem remains underdeveloped. Well-functioning venture capital ecosystems require a combination of venture capital fund managers and limited partners (investors in venture capital funds) who have experience conducting due diligence on investment opportunities and structuring deals aligned with market realities. In addition, venture capitalists in other markets, often former founders themselves with a long track record of early-stage investing, play critical mentorship and networking roles for early-stage digital businesses. This is especially critical in the Georgian context, given the relatively nascent pool of entrepreneurial talent and the need for many Georgian businesses to tap investors’ networks to scale internationally and transcend Georgia’s small market size. Given the nascent state of the digital business landscape in general, both skillsets are lacking. As a result, interviewed founders state that many Georgia investors often demand very high equity stakes or degree of control in return for their investments due to their prior experience investing in traditional businesses and resulting focus on metrics such as cash flows that may be less relevant to digital start-ups.

The public sector (through GITA’s matching grants program) plays an outsized role in Georgia’s early-stage funding landscape. Regarding the external financing rounds raised by Georgian digital businesses covered by the Digital Business Database and Crunchbase, GITA has been the lead investor for 40 percent of the deals. Foreign investors have been the lead investor for 47 percent of the deals. According to interviewed stakeholders, many founders are also likely to have self-financed their businesses owing to not being able to agree to terms with investors in the country. In the long run, this reliance on direct public funding is unsustainable for fiscal reasons and because the public sector is generally less well-equipped to play the mentoring and networking roles of effective venture capitalists.

Although some foreign investors have expressed interest in Georgia's digital business ecosystem, relatively few deals have come to fruition, and no Georgia-focused funds have yet been raised. Bringing in foreign venture capital investors could inject much-needed expertise into the ecosystem and help Georgian digital businesses scale internationally. However, most foreign venture capital firms currently participate through one-off deals in Georgia rather than by raising Georgia-focused funds or building out Georgia-based teams. In addition, the country's small market size, underdeveloped capital markets for exits, and still-nascent talent pool remain obstacles to attracting committed venture capitalists (figure 3.5).

FIGURE 3.5: GEORGIA'S PERFORMANCE ON IESE VENTURE CAPITAL AND PRIVATE EQUITY ATTRACTIVENESS INDEX (RANK OUT OF 125)



Source: IESE Business School, University of Navarra, Spain.

Note: GDP = gross domestic product; M&A = mergers and acquisitions; R&D = research and development.

Government funding is currently provided directly to digital businesses rather than in a way that crowds in private capital and expertise. As mentioned previously, GITA plays a prominent role in financing very early-stage digital businesses. These efforts have successfully built interest in entrepreneurship in the country and helped to get subsequently successful businesses off the ground. As of June 2022, GITA has provided roughly GEL 26 million in grant funding to about 200 start-ups. GITA estimates have raised an additional GEL 320 million from private sector sources. However, GITA primarily disburses financing via grants, provides funding directly to start-ups (rather than through private fund managers), and uses a panel of external judges to select pitches rather than undertaking a typical venture capital due diligence process. As a result, while support has been channeled to start-ups, these efforts have had a limited impact in attracting foreign venture capitalists or building the expertise of local investors.

Relatedly, mentorship and support programs for early-stage businesses, often provided by early-stage investors, could be further expanded and improved in Georgia. While the entrepreneurial community in the country is growing, investors also perceive gaps in business strategy and customer research among Georgian entrepreneurs and early-stage digital businesses. According to interviewed investors and other stakeholders, many Georgian digital businesses need clearer strategies in terms of the customer problem that they are solving and sound business to address those problems and expand internationally. Relatedly, many entrepreneurs cannot build strong financial models and lack familiarity with standard terms and conditions for early-stage financing (including due diligence by investors).²⁵

Georgia has several active incubation, acceleration, and mentorship programs, but these could be further strengthened. Existing actors include Impact Hub, Start-up Grind, Start-up MARANI, iHub, Smart Up Georgia, IT Incubator, Business Incubator, Business Development Centre, and the Innovation and Development Foundation. The range of services offered varies but may include co-working spaces, shared assets, utilities, mentoring, and professional support such as legal and accounting services. However, there are still opportunities to improve the services available to entrepreneurs, especially regarding business skills, mentorship, and ideation. For example, despite the presence of incubation and mentorship programs, analyses and stakeholder interviews reveal significant knowledge gaps in the founder community related to market testing, valuation, and other critical business skills.²⁶ According to interviewed stakeholders, these gaps may be attributable to existing intermediary organizations' lack of relevant expertise or mentorship networks (that is, staff or mentor networks with prior experience as investors or founders). Numerous studies highlight the importance of intermediary organizations having staff with prior investing or start-up experience in helping firms scale and raise additional funding.²⁷

3.5 REGULATORY CONSTRAINTS IN SELECT DIGITAL BUSINESS SUBSECTORS

E-commerce

Firms and customers in the digital economy, especially e-commerce and digital platforms firms, depend on the ability to transact securely online and access data to enable their business models, both of which depend on regulations. Regulations can provide the legal tools necessary for remote contracts, clarify the rights and obligations of the multiple actors involved in digital transactions, and establish a framework that promotes consumer trust in digital markets.²⁸

Georgia has passed several laws to regulate and enable digital trade. The Law on Electronic Document and Electronic Services (2017) and the Law on Electronic Signature and Electronic Documents (2008), together with Georgia's Civil Procedure Code, govern electronic documents, signatures, and authentication. The Law on Payment Systems and Payment Services (2012) and the Law on Facilitating the Prevention of Money Laundering and the Financing of Terrorism (2019) govern electronic payments. Georgia's Civil Code covers online consumer protection. Finally, the Law on Personal Data Protection (2011), in conjunction with the Criminal Code and the Law on Information Security (2012), covers personal data protection, the use of data by artificial intelligence, cybersecurity, and cybercrime.

Nevertheless, gaps remain in Georgia's regulatory framework for data privacy. For example, unlike the EU's General Data Protection Regulation (GDPR), Georgian law does not currently mandate data portability for data subjects; data protection by design and default, mandatory Data Protection Impact Assessment (DPIA) for high-risk situations, or notification to data subjects in the event of breaches. In addition, sanctions for violations are relatively low in Georgia, with a ceiling of only GEL 10,000. In contrast, GDPR allows for sanctions up to a maximum of €10 million (GEL 28 million) or up 4 percent of total annual turnover, whichever is higher. Addressing these and other gaps would help build customer trust to improve the uptake of e-commerce, reduce frictions for Georgian digital businesses seeking to do business in the EU by harmonizing compliance requirements, and reduce potential abuses of dominance.²⁹ Enacted in 2023, the Georgian e-commerce law, along with its evolving regulatory framework, has the potential to address critical gaps in areas like data privacy, consumer rights, and unfair trade practices, ultimately bolstering the country's digital economy.

Fintech

Context

While still nascent, the local fintech market in Georgia is seen by stakeholders as one of the sectors with the most potential to grow.³⁰ Georgia is on par with or better than its regional and income group peers in terms of the depth and scale of its banking sector, but competition remains a concern, and it lags in the nonbank financial sector space. The two largest banks in Georgia have a market share of more than 70 percent for all major banking products and quantitative measures for concentration indicate very high concentration across market segments and regions. These strongly entrenched market positions may decrease incentives to create a robust pace of adoption of new fintech solutions. It may also create an environment where new Georgian firms must build services that will be competitive in neighboring markets to scale up. There are currently 64 fintech firms in Georgia, mostly operating out of Tbilisi—which has a third of the country’s population—with over half focused on the payment space.³¹ Several e-money providers active in the market seek to provide an alternative to traditional payment cards and credit transfers linked to bank accounts.³² This focus of firms identified in the market fits the familiar pattern of evolution seen in other concentrated markets. Georgia expects to attract nearly US\$8 million in additional investments per year if it reaches the average level of investment relative to the GDP of comparator countries. However, there is a need to ensure a competitive structure in financial infrastructure for successful development of fintech.

The synergies between fintech and trade growth, particularly growth of services trade, play a significant role in Georgia’s long-term growth strategy. The potential for expanding services exports is especially notable.³³ A relatively large share of jobs in Georgia are in “global innovator services” and “social services” sectors—which are increasingly more tradeable—but as yet Georgia exports a relatively small amount of such services, suggesting untapped opportunities to scale. In addition to being exportable themselves, fintech services can also remove frictions by making cross-border transactions, including payments, easier and more secure and foreign exchange services more accessible to both businesses and individuals, among other areas.³⁴ This accessibility can contribute to increased trade and reduce barriers to entry.

However, while there are several new payment firms, no marketplace lending players operate in Georgia. Unregulated lending platforms had proliferated in the country until policy action was taken to clamp down on such activity. The entities were entirely outside of the regulatory perimeter, and several instances of inadequate disclosures to customers, abusive collection processes, and inadequate credit risk assessment were reported. Pursuant to this, the National Bank of Georgia (NBG) instituted regulations capping interest rates at 100 percent, subsequently lowered to 50 percent, and required the validation of the debt servicing capability of borrowers. This led to the exit of almost all players, and the stakeholders the mission met asserted there is no online lending activity at this point.

Some evidence suggests that Georgia has a significant level of activity in the international Web 3.0, gaming, and decentralized finance (DeFi) ecosystem. Several crypto exchanges and wallets are active in Georgia but function without regulatory oversight. In a private sector index of cryptocurrency activity, Georgia is ranked 37th out of 146 countries.³⁵ This is partly because of the country's cheap and available hydroelectric power. The country currently has a zero percent tax on income from trading cryptocurrency and Tbilisi has the highest numbers of Bitcoin ATMs per US\$10 billion of local GDP.³⁶ In fall 2022, the government approved amendments to the Anti-money laundering (AML) law to include additional regulations for crypto, including the transposition of the virtual asset service providers (VASP) directive set out by the Financial Action Task Force (FATF).³⁷ The crypto firms interviewed were open and welcomed the idea of being licensed as VASPs and were keen to involve the regulators in their work; however, the market is still unregulated. It is recommended that authorities consider appropriate regulation for the market.

The ecosystem to support fintech is growing; however, access to funding continues to be an issue plaguing the Georgian technology-driven start-up companies. A local fintech business association, chaired by one of the banks, was created in 2021 and currently has 19 members. Another organization that has been supporting the start-up sector is GITA. While start-ups have access to financing at the very early, prototyping and product development stages, they face a significant challenge after the product launch stage and before they start generating revenues that could bring them to and beyond a break-even point or profitability. While GITA was established in part to face off this issue, the access to later-stage funding continues to be a challenge, in part, it is said, due to the small market size in Georgia.

Many Georgian fintech companies aim to expand in overseas markets. Fintech firms "build for abroad" to grow and attract further investment in light of the limited size of the domestic market and to overcome challenges in Georgia's competitive and regulatory landscape. While there has been a significant developer and outsourced software industry in Georgia for some time, fintech and related technology start-ups have only recently started to gain traction locally. Two or three firms have been noted as examples of the potential for Georgian tech firms to scale abroad.

The infrastructure for fintech payments and ICT is good but should be enhanced. Access to internet and mobile telephony in Georgia is high, but it trails that of high-income countries. However, according to a recent report by Visa, third parties still struggle to access the payment infrastructure.³⁸ While Georgia is among the top three countries worldwide for contactless payments, deployment of the planned Faster Payment system needs to be accelerated to keep up with global standards and spur new service models. The development of the open banking framework will be able to support payment related application programming interfaces (APIs). More details follow.

Despite near-universal coverage of the government-issued national ID and ability for ID details to be verified online, lack of clear regulatory guidance for remote customer due diligence (CDD) procedures hinders digital onboarding. Remote CDD infrastructure can augment financial data and help simplify account opening, facilitate transaction monitoring, and authenticate customers. However, the lack of a robust digital ID framework hampers fully digital onboarding, and this can place fintech companies at a competitive disadvantage to banks with large physical networks due to cost barriers.

Enabling policy landscape

The NBG has taken positive steps to respond to the rise of financial technology, including establishing a fintech directorate to monitor market developments, track potential risks, and lead several fintech-related initiatives. NBG’s “Open Regulation” approach sets out to balance innovation and risk by employing an adaptive, agile regulatory process. The apparatus NBG has set up to operationalize this model includes an innovation office to provide regulatory clarity. The goal of the Financial Innovation Office is to create an effective communication framework between financial innovators and supervisors. The NBG supervisory approach to risk is technologically neutral, but they are keen to interact with innovators as a mutual learning experience. The mission of the office is to promote responsible innovations in the financial sector and to help fintech organizations and start-ups understand the supervisory approach of NBG’s regulations. The directorate is also responsible for introducing new regulations such as open banking (described in the next section) and the testing of the central bank digital currency pilot.

While the NBG has taken a proactive regulatory approach to foster entry and level the playing field in the banking sector, close monitoring of implementation will be important to ensure the achievement of the intended outcome. The NBG is conservative and reactive in its approach to fintech. The NBG is introducing a supervisory approach that is technology neutral and embeds open regulation principles. These principles are an integral part of the National Bank’s Supervision Strategy for 2020–22. In 2020, the central bank launched a regulatory sandbox to support new business models. It also published a framework for open banking that requires lenders to open their APIs and allow third-party access to customer data. Open banking is being piloted with traditional banks, but it is understood that other players will both contribute and have access to data in future iterations. Details of each of these initiatives follow.

The National Bank of Georgia is currently considering the development of principles for licensing a digital bank in Georgia. By leveraging technology, digital banks can provide cost-effective services with lower operational costs compared with traditional banks. This can help increase competition and alleviate the double marginalization problem by reducing intermediation costs and making financial services more affordable and accessible for both businesses and consumers in Georgia. They have released their thinking on the licensing process as a four-stage process, but it is still in its initial thinking.³⁹

An electronic Know Your Customer (e-KYC) infrastructure process is also being considered. Identity verification is critical for individuals and MSMEs to fully participate in the economy. An e-KYC infrastructure enables financial institutions to validate the identity of their prospective customers digitally and remotely before onboarding them. Georgia currently has a unique ID system, MyGov.GE service, and centralized authentication system operated by the Public Service Development Agency of the Ministry of Justice (MOJ). However the system lacks an e-KYC infrastructure and a KYC registry.

The NBG is also working on plans to develop a central bank digital currency (CBDC). The central bank is currently rolling out a pilot scheme for a digital version of the national currency – Georgian lari. It is expected that the digital currency will have the same value and legitimacy as banknotes and coins. The digital lari project announced in 2021⁴⁰ has allowed the central bank to work with technology firms and fintech companies to together solve technological, regulatory, and financial issues facing CBDC.

Regulatory sandbox

One of the initiatives of the fintech directorate has been the establishment of a regulatory sandbox (also referred to as a regulatory laboratory) to enable the market to test new products and services within a controlled environment.⁴¹ The regulatory sandbox was set up in 2020 because of Order No.110/04⁴² by the central bank to test innovative financial services and products within the market. The main aim of the sandbox was to lower the cost of access to the market and highlight the need for new or updated regulatory requirements that might be needed to support expansion in the fintech sector.

Since its inception, the sandbox has completed the testing of 15 firms within its environment. Most firms were testing remote identification/verification services such as comparing biometric data using face recognition, checking the “liveness,” or extracting and validating textual information from the document. Remote identification can be used in Georgia to open bank accounts, receive credit applications, and obtain consumer consent allowing for digital onboarding. Through its website, the National Bank publishes information about the results of the testing of the presented financial services and products in a real environment.

However, the sandbox is open only to those entities that are already under the supervision of the NBG. The sandbox defined under the present regulation can be used only by the representatives of the financial sector, subject to the National Bank's supervision. Those newer companies, which are not currently regulated by the NBG, must partner with incumbent institutions to get access. The NBG is clear that, while the ability to use the sandbox to test new products might be in contradiction with the existing requirements of the National Bank, the framework allows for testing of innovative financial services and products under this order. Other eligibility criteria for access to the sandbox include the potential of innovations to enhance financial inclusion, provide significant benefits to consumers and improve the risk management of entities subject to supervision. The required partnership models between start-ups and incumbents can pose a challenge to supporting innovative growth. Some of these concerns arise from the requirement for sharing intellectual property of newcomers.

The sandbox has only been used to test digital verification solutions. At present, the applications submitted to the National Bank's Regulatory Laboratory are mainly related to the remote identification or verification of their existing and potential customers using modern innovative technologies by organizations representing the financial sector. No other types of business models have successfully used the sandbox.

In short, the sandbox initiative, while innovative and supportive of the fintech industry, has not been used yet to its full potential. The sandbox is beneficial for new business models to operate under a provisional license within the confines of a controlled environment. While there is a growing fintech industry in Georgia, the benefits of the sandbox do not seem to be fully recognized by the market. In fact, several firms interviewed by the team were wholly unaware of the existence of the sandbox and the associated benefits. Even the firms that had been through a sandbox process were unable to effectively recall the details of the process. Moreover, some firms that were keen to use the sandbox were only keen to gain waivers for compliance to the existing processes without the introduction of a new business model, indicating that provision of some additional market training and clearer communication might be required. Testing in a sandbox-type environment could set the stage for further regulatory developments. International examples of the productive use of a sandbox include the development of e-KYC regulations in Malaysia and support for distributed ledger-based firms in Lithuania.

Open banking

Current status

Open banking is one of the main policy and regulatory reforms currently being implemented by the National Bank of Georgia and will support the growth of the fintech sector. The NBG initiated consultations with the banking sector on the introduction of open banking in Georgia, followed by regular working group meetings in the summer of 2019. It is an element of EU financial sector policy that is being adopted in Georgia as part of its overall strategy of EU regulatory convergence. The approach taken by the NBG is to closely mirror the Second Payment Services Directive (PSD2) regulatory framework in Europe.

The basic open banking legislative framework has been established, but operational arrangements in Georgia are at the early stage of implementation. Common standards for account information and payment initiation services have been defined. Banks have adopted these standards and begun to develop some services around them. But the process of setting requirements for licensing entry of and promoting usage by third-party providers (TPPs) has only just begun. Other elements of the ecosystem are still to be defined and implemented. A further implementation road map is under development.

The Open Banking Committee set up with the Bankers' Association is responsible for developing the standards for open banking in Georgia. The Open Banking Working Group brings together representatives of the National Bank of Georgia, the Bankers' Association of Georgia, and commercial banks. However, the final approval and endorsement of the technology standards rests with the NBG. The first version of the Open Banking Implementation Framework was developed in September 2020 with the latest iteration released in November 2022 based on the Berlin Group standards.⁴³

The market demand and supply drivers for open finance services remain underdeveloped and the overall level of development in the Georgian market for open banking financial services is still low. Typical use cases that benefit from open banking arrangements in other jurisdictions can provide a preliminary framework for assessing its status and potential in Georgia. Many of the underlying factors that would drive adoption are not yet sufficiently developed in Georgia. Therefore, some parallel initiatives may be required to harness market forces. As a multisided market service, open banking requires an iterative development of demand and provision of supply-side services. Indicators from market interviews suggest that many drivers of demand for open banking services seen in other countries are still weak in Georgia. These include limited presence of alternative nonbanking services for consumers or SMEs and limited sophistication and demand from tech platform service in retail, logistics, and business services. Weak demand from businesses and consumers results in few pressures on banks and fintech firms to provide services that require more open and interoperable API banking integration.

Competition landscape

The quality of financial services in Georgia currently lags behind that of other countries, with limited competition in the sector due to the entrenched market position of the two largest banks. This lack of competition poses sustainability risks that hinder the continuous pace of innovation and adoption of new fintech solutions. The apparent risks to competition are a cause for concern. It is crucial to address these challenges to promote a more dynamic and competitive financial landscape in Georgia, fostering greater innovation and improved financial services for businesses and individuals. The National Bank of Georgia (NBG) has competition enforcement powers in the financial sector, but effective implementation would require further strengthening institutional arrangements.

Innovation in the financial ecosystem is concentrated in vertically integrated silos at the two leading banks. The two big banks—TBC and Bank of Georgia (BoG)—continue to operate a near duopoly for banking services. Together they have more than 70 percent of the market share. Moreover, they started several years ago to invest in digital banking and digital services through web and mobile-based apps. There are early signs of banks partnering with fintech companies, though the banks are generally more focused on developing fintech tools internally.⁴⁴ The overall ecosystem, including central infrastructure and standards, does not yet seem to be mature, robust, or open enough to support more diversified mix-and-match innovation and competition between complementors⁴⁵—that is, more specialized service providers that complement the core role of banks as account service providers. On the one hand, given the concentration in the market, the gains from vertical integration of ecosystems led by the two major banks may be generating significant benefits themselves. On the other hand, their entrenched market positions and a lack of more open infrastructure may be slowing the pace of innovation by independent firms that can help Georgia diversify and participate more actively in the broader international digital economy.

Fintech applications could support competition and cost efficiencies and increase the penetration of nonbank financial services and products for both households and MSMEs. However, the current market level of competition remains a concern. In Georgia, the balance between stability and competition/innovation has been skewed toward stability making the market less innovative. The sandbox and open-banking initiatives, as described, were specifically put in place to enhance competition and can have a substantial impact in bringing new players to the market.

The NBG should be aware that, in the short term, it is possible that open banking may strengthen the role of the two main banks. Open banking entails an unbundling of services that have been vertically integrated within financial institutions. This unbundling can lower barriers to entry for new entrants in peripheral services but reinforce the value of incumbents' advantages in technology, trust, and core service provision.⁴⁶ Customers have not been given direct choices over how they access their account or instruct payments. From a modeling perspective, a lack of competition in the upstream (such as banking) and downstream (such as TPP) services can lead to a so-called double marginalization problem in which, for instance, the two main banks may follow oligopolistic strategies that constrain supply or mark-up services in a way that is less efficient from a consumer welfare perspective than their pricing and product strategy under vertical integration. Unless exposed to meaningful competitive pressures, large banks may have incentives to provide better quality or price services to their own (even arms-length) account information or payment initiation service providers than to independent third parties. Double marginalization is of lesser concern, however, in cases when there is strong competition by complementors, or when complementors offer their products for free and do not directly levy a price on consumers. Competition must therefore be enhanced at both levels of the open banking ecosystem to help ensure that consumers and SMEs benefit from this form of unbundling. However, based on international experience, the dynamics of unbundling vertically integrated platforms, while pursuing interoperability, is complex and warrants further empirical monitoring and assessment in the specific context of Georgia.

A formal framework for collaboration and information sharing between the Competition and State Aid Agency (CSAA)⁴⁷ and the NBG should be established. This framework should aim to enhance coordination, promote competition, and address any potential anti-competitive practices within the financial sector. Additionally, regular consultations and joint initiatives should be encouraged to foster a holistic approach to competition policy and financial regulation, ensuring that the interests of both competition and financial stability are effectively balanced. Furthermore, it is important to allocate adequate resources and expertise within both the competition authority and the NBG to effectively address competition-related matters.

An indirect impact of market concentration arises because of the investments being made by the two main banking groups in e-commerce and related technology platforms. While the investment vehicles through which they are developing these real sector businesses have their own ownership and governance structures, there is scope for conflicts of interest and market power in banking to be levered into real sector firms. This could dampen the pro-competitive effectiveness of open banking and overtime reduce the incentives for the two main banks to keep up with innovations abroad.

3.6 SUMMARY RECOMMENDATIONS

The NBG should conduct a lessons learned study and report on the experience to date of what has worked and what has not worked so well in the context of the sandbox. This can include an assessment of how various fintech models and developments are expected to be treated in the Georgian legal and regulatory framework. The study can support the development of an overarching fintech strategy for Georgia.

The existing eligibility criteria of the sandbox should be revisited with the intention of allowing new fintech firms to have an independent access to its services. The current rules do not allow an unlicensed entity to operate in the market and thus limit access to start-ups. The introduction of a temporary sandbox license, which would be used for the duration of the firms' participation in the sandbox, might provide a solution to this problem.

The NBG should consider the potential to introduce a temporary sandbox license. This will allow completely innovative approaches, not covered by the existing legal and regulatory framework, to test their business models. For example, a crowdfunding platform or a receivables financing platform, without the need for obtaining a regulated partner. The jurisdictions that have used this approach include Dubai's Financial Services Authority (DFSA), which introduced an Innovation-Testing License (ITL) in 2017. It allows eligible fintech firms to test innovations in the sandbox under a restricted license. The DFSA used this model to develop new regulations in parallel with firms' testing of their innovative solutions in the sandbox.⁴⁸

Planning for and the design of the fast payment system should explicitly identify interdependencies with open banking, especially payment initiation, services and seek to coordinate and enhance the benefits that these two initiatives can bring to the overall financial system and its users. The road map should explicitly assess the potential role and need for central registry, directory, and reporting services as well as the role of enhanced API standards covering user interface/user experience (UI/UX). The implementation plan should set out realistic expectations and embrace an iterative and phased approach to adjust in an agile manner to evolving market circumstances.

A systematic assessment of regulations from a competition perspective may help to level the playing field for small players.⁴⁹ While the NBG has focused on interventions from a prudential point of view, embracing a competition lens will enable it to minimize, where possible, potential restrictions to competition caused by new regulations and dominant market players. A systematic regulatory assessment of impact on competition would be critical to identify potential concerns in rules, guidelines, or broader prudential interventions and, when possible, design less distortive alternatives that still preserve the policy objective.

The NBG should carefully consider the potential benefits of keeping closely up to date with or even anticipating specific market and regulatory changes to open banking and finance in other partner markets. This would be especially relevant for developments in the EU. The NBG is developing new licensing regimes for “digital banks” and for “micro-banks” to enable entry of new types of operators, which could potentially promote contestability. While this would require enhancements to the capacity of NBG as well as other authorities, Georgia could, for instance, proactively (a) accelerate the transition from open banking to open finance and (b) plan for the introduction of elements of the European digital ID wallet (eIDAS 2) regime. Other jurisdictions such as Estonia and Singapore as well as the subnational market structure run by Abu Dhabi Global Market (ADGM) have set up frameworks to facilitate innovation while safeguarding the domestic system, investing in shaping new digital market regulations and infrastructures that aim to attract local set-up of innovative companies and business models. Georgia could consider discrete measures that might enhance its role as a regional host for innovation with relevance beyond its borders.

The NBG should also consider measures to protect market integrity and consumers and to build consumer trust. Lessons from other markets highlight the important role of government authorities in establishing trust in an open finance ecosystem as well as among providers. The current arrangements potentially provide too little in the way of assurances to consumers and banks to trust new service providers. While these arrangements can be developed in phases, the NBG should recognize that strong certification and trust arrangements will benefit smaller fintech companies by minimizing duplicate efforts in due diligence and supporting a policy stance that limits liability and mandates banks to open APIs to any authorized fintech company.

The NBG should also consider the role that enhancing open banking and the regulatory sandbox could play not just in financial sector development but as part of a broader digital economic development strategy for the country. Georgia has attracted some initial international investment into offshored tech development services and the cryptocurrency sector. There are also some early indicators that Georgia provides a promising base from which to enable domestic firms to expand abroad into neighboring markets, especially in Central Asia. These both point to the value of promoting Georgia as an open economy for services trade and investment. It also underlines the importance of ensuring that domestic business skills keep up with, or ideally lead to, developments in other markets.

3.7 INVESTMENT OPPORTUNITIES AND CONSIDERATIONS

Status and growth prospects

The broader shift toward and growth of the digital economy has not yet fully taken off in Georgia. Compared with more mature markets, the development of business models central to the digital economy, such as e-commerce and ride-hailing, are only just beginning to develop. Digital business models in some of these areas of the real sector are increasing demand for banks to provide appropriate payment, financing, and accounting services. BoG and TBC, as well as independent firms such as PayZe, have already been responding to these nascent needs. But the market demand for digital financial services beyond consumer payments and online account information viewing is still low. Demand from digital firms that are users, as opposed to providers, of financial services needs to be enhanced before local fintech companies really begin to grow to the levels seen elsewhere.

There are, however, promising signs of early-stage diversification by domestic investors into both fintech and real sector digital platform business models. Three of the biggest domestic corporate groups—in banking and gambling—have begun to recycle profits from long periods of growth into other sectors of the economy. Bank of Georgia and TBC have set up their own incubators and seeded companies outside their core historical business of banking. These are good signs that the key domestic groups themselves are placing bets on the local digital opportunities and making longer-term investments in other sectors of the Georgian economy.

Domestic demand alone for fintech and related tech services may be insufficient to develop scalable businesses that can attract international capital. There is a significant interdependency between attracting foreign investment funds and the ability of firms to scale beyond Georgia's borders. As the founder of a fintech company mentioned—and as echoed by others—the presence of an investment fund actively investing in Georgian tech would be an “immense boost” to the ecosystem, but the country's size presents natural limits “It's amazing for piloting, starting, testing, and validating, but for any fintech company to scale you need to leave the market,” said another founder.⁵⁰

Georgia is likely to see growth patterns mirror some of the broader trends in tech sector investment in other middle-income markets. This is usually led by e-commerce and related fields such as mobile commerce. But given the small size of the consumer market, Georgian entrepreneurs may also look to service sector business models that can scale across borders, such as in fintech, software-as-a-service, crypto, and gaming.

Investors and the government should work together to make Georgia a launch pad for regional investment, especially in Central Asia. Investors may need to get in early and make their connections and expertise in other markets such as Uzbekistan or even Mongolia available to local Georgian firms as they search for and development scalable multicountry business models. Hurdles to international expansion in those markets, possibly in areas such as tax treaties, profit repatriation, legal protections, or other cross-border trade-related matters, should be investigated and addressed, where relevant.

The NBG should lead, define, and implement more consistent and targeted measures to promote fintech and digital sector development. The public authorities have embarked on ambitious projects such as CBDC and open banking, but there is no long-term strategy or vision for fintech to crystallize the intended trajectory of this sector and its role in deepening the financial sector. While Georgia has some of the underlying prerequisites to support broader fintech development—including a skilled workforce, a well-capitalized financial sector, and good internet connectivity—further work is required to capitalize on the initial steps taken to promote open banking, digital onboarding, virtual assets, and related financial services. Interdependencies with nonfinancial tech sector developments need to be recognized and policy defined with other government ministries and authorities. This effort will also help focus measures to enable fintech to support wider strategic goals such as strengthening financial inclusion, access to finance for MSMEs, and public-private collaboration while moving toward a more competitive landscape with less friction and more choice and control for consumers.

While due consideration for risk is essential, so too is the need to create an enabling environment that is proportionate and risk based. The general policy stance appears to be one of emphasizing substance over form and same service–same regulation. However, regulation that is not designed on grounds of proportionality might hamper the growth of the market. While there is an open policy to spur innovation and a close relationship with the industry—in part facilitated by the small size of the market—the design of some regulations might not lend itself well to the development of the sector.

4. CPSD SECTOR ASSESSMENTS

This chapter provides comprehensive assessment of the selected two priority sectors, underscoring (a) their performance, (b) their constraints, (c) areas for private sector participation, and (d) actionable recommendations and specific actions to improve the enabling environment around these sectors.

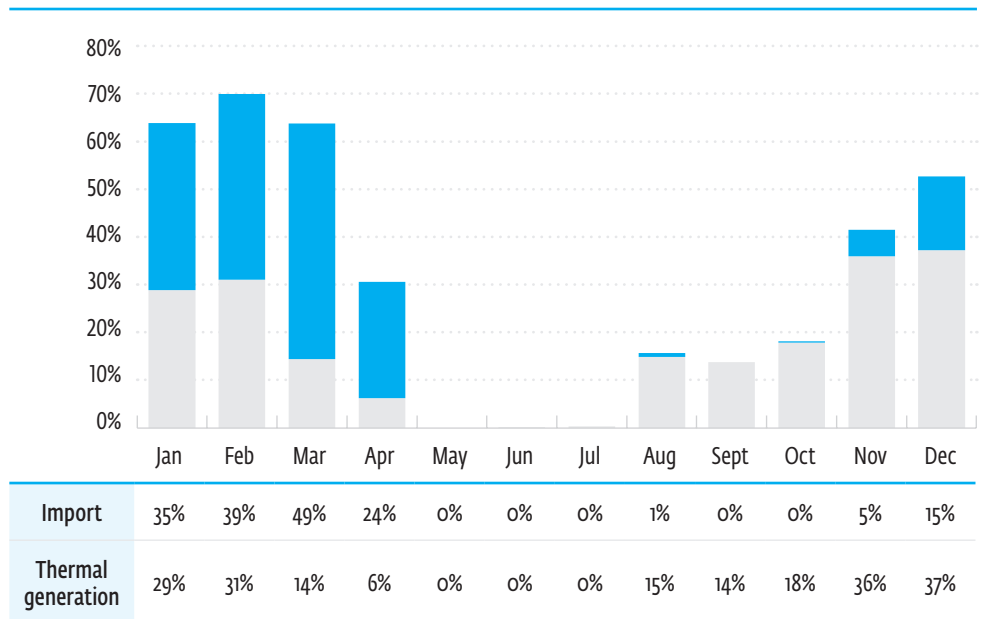
4.1 RENEWABLE ENERGY

This assessment begins with a general introduction to the performance, opportunities, and challenges in the Georgian renewable energy (RE) sector. This is followed by a review of opportunities with a corresponding summary of priorities for private and public investment. Finally, the deep dive concludes with an overview of the competitive potential of specific opportunities in Georgia reviewed for additional, more detailed insights. A more detailed background report is attached with further details in all these areas.

Background: Georgia's energy sector

Georgia's electricity sector is dominated by hydropower and natural gas. In 2021, the installed capacity of the Georgian power system accounted for 4,544.1 megawatts (MW), out of which hydropower plants (3,380.2 MW) represent the largest share, followed by thermal (1,143.2 MW) and wind (20.7 MW). However, because of the strong reliance on hydropower, the local generation trend is highly dependent on weather conditions and characterized by seasonal variations. Consequently, Georgia lacks generation during winter and relies on imported electricity and natural gas (for thermal power plants), reducing its level of energy independence.

FIGURE 4.1: IMPORT AND THERMAL GENERATION SHARE IN GEORGIA'S ELECTRICITY SUPPLY, 2021 (%)



Source: Georgian State Electrosystem (GSE), https://www.gse.com.ge/sw/static/file/2021_12_Geo.pdf.

Georgia heavily relies on imported energy and thermal plants between October and April. However, figure 4.1 illustrates that in 2021, thermal generation was even required in August due to decreased water availability during the summer. In addition, climate change could lead to increased droughts and import needs.⁵¹

Georgia imports natural gas from Azerbaijan using long-term pricing agreements and from Russia using spot market prices. Azerbaijan, on average, accounted for more than 90 percent of imports, but gas imports from Russia have increased recently from 2 percent in 2018 to 17 percent in 2021. Gas imports from Azerbaijan are based on (a) a gas supply and purchase agreement with Azerbaijan’s state-owned oil and gas company (SOCAR) and (b) an agreement with Azerbaijan to import gas via the South Caucasus Pipeline (SCP) that crosses Georgian territory, under a long-term price agreement that is currently significantly below market prices for the region (until 2068).⁵² Since Georgia imports gas, the country’s prices affected by the price fluctuations in the exporter countries as well.

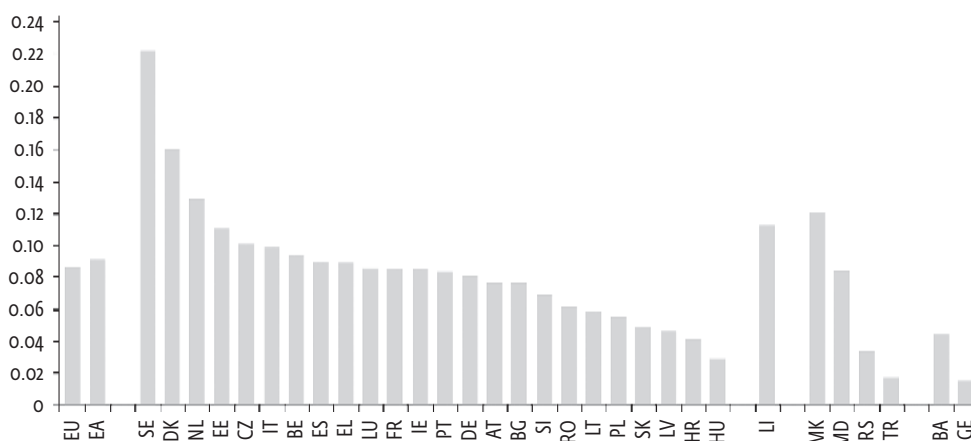
The cost of importing electricity has shown an increasing trend. Georgia imports electricity from Azerbaijan, Russia, and Türkiye. The cost of importing electricity from these countries can vary based on the prevailing market prices and the terms of the power purchase agreements between the importing and exporting countries. According to Georgian National Energy and Water Supply Regulatory Commission (GNERC) and Electricity System Commercial Operator (ESCO), the average import price of electricity in Georgia was around US\$0.053/kilowatt-hour (kWh) in 2012 and about US\$0.08/kWh in 2022. Electricity imports are unregulated and made by traders or ESCO based on short, medium, and long-term direct contracts. During an emergency, imports are used to maintain system stability.

Energy poverty is a problem in Georgia. Despite 90 percent of the population having access to natural gas, firewood was still being used as a heating source, alongside active gasification in 2021 and 2022.⁵³ This use causes forest degradation, soil erosion, and loss of biodiversity. In addition, people living in low-quality thermal conditions can experience increased financial costs or uncomfortable living conditions in the winter. Several factors, including poor consumer awareness and incorrect choices, can cause energy poverty. The government needs to take care of various manifestations of energy poverty by using a combination of social and energy measures to increase the capacity of clean energy supply, targeted energy assistance, energy efficiency, and awareness-raising measures.

While the government subsidizes natural gas for electricity production and household consumption, household expenditure on natural gas is among the highest in the ECA region. The government provides subsidies for natural gas as “social gas” to residential consumers. The subsidized price is derived from blending gas from the North-South gas pipeline (from Russia), optional and supplemental gas from the SCP, and commercial gas from SOCAR. In recent years, the retail price of natural gas for residential consumers was around €0.015–€0.020 per kWh (figure 4.2). In contrast, the cost of supply is estimated to be significantly higher, around €0.060 per kWh,⁵⁴ highlighting the large implicit subsidies embedded in the supply of “social gas.” However, energy pricing for households remains a highly politically sensitive issue, and the immediate elimination of residential subsidies is seen as unlikely.

Conversely, the retail prices for industrial consumers are close to cost-recovery levels and have ranged between €0.027 and €0.043 per kWh in recent years (figure 4.3). Despite benefiting from subsidized gas tariffs, Georgian households are among the ones in the Europe and Central Asia region that spend the largest share of their total budget on natural gas, 4.7 percent on average (figure 4.4). This is because of the country’s reliance on gas for heating: natural gas expenditures account for 40 percent of their energy expenditures. The subsidized price leads to unreasonable waste of energy, hindering the development of energy efficiency and renewable sources and phasing out tariff subsidies over time.

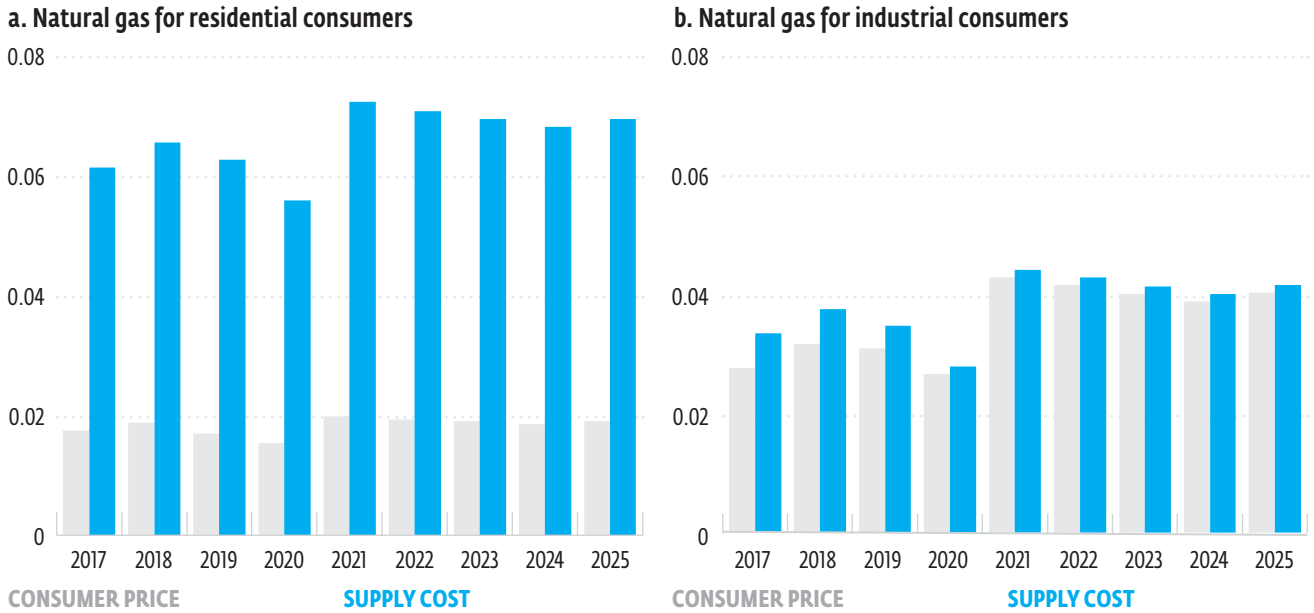
FIGURE 4.2: NATURAL GAS PRICES (INCLUDING TAXES) FOR HOUSEHOLD CONSUMERS, FIRST HALF OF 2022



Source: European Commission, Eurostat data.

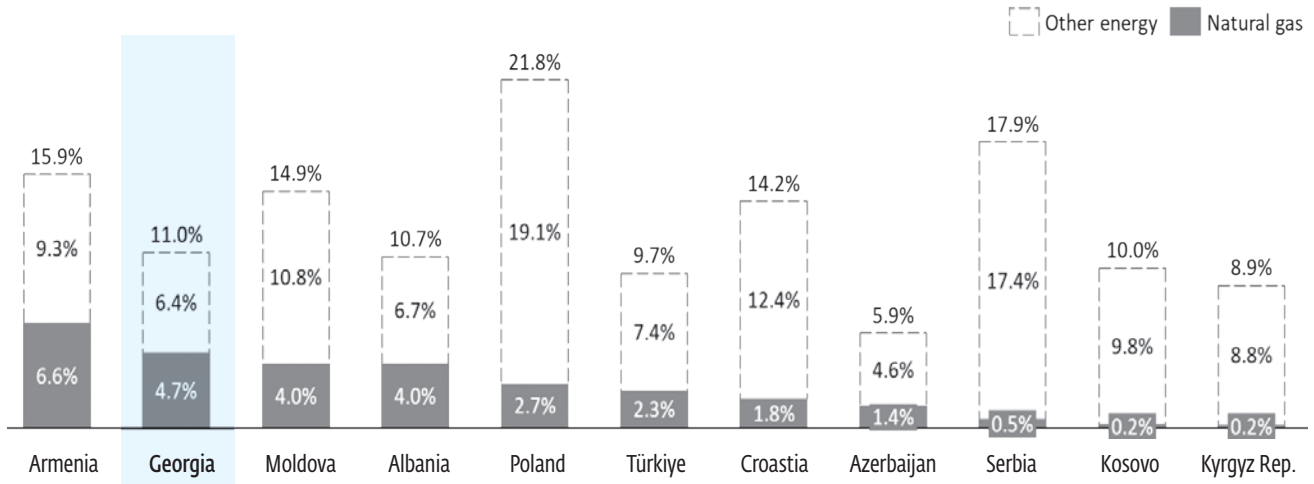
Note: kWh = kilowatt-hour.

FIGURE 4.3: RETAIL GAS PRICE AND ESTIMATED SUPPLY COST (WITH FORECASTS THROUGH 2025) FOR RESIDENTIAL AND INDUSTRIAL CONSUMERS, IN €/KWH



Source: International Monetary Fund

FIGURE 4.4: SHARE OF HOUSEHOLD BUDGET SPENT ON NATURAL GAS FOR SELECTED EUROPEAN AND CENTRAL ASIAN COUNTRIES (%)



Source: International Monetary Fund

Note: Other energy includes electricity, gasoline, diesel, coal, firewood, dung, and other biomass

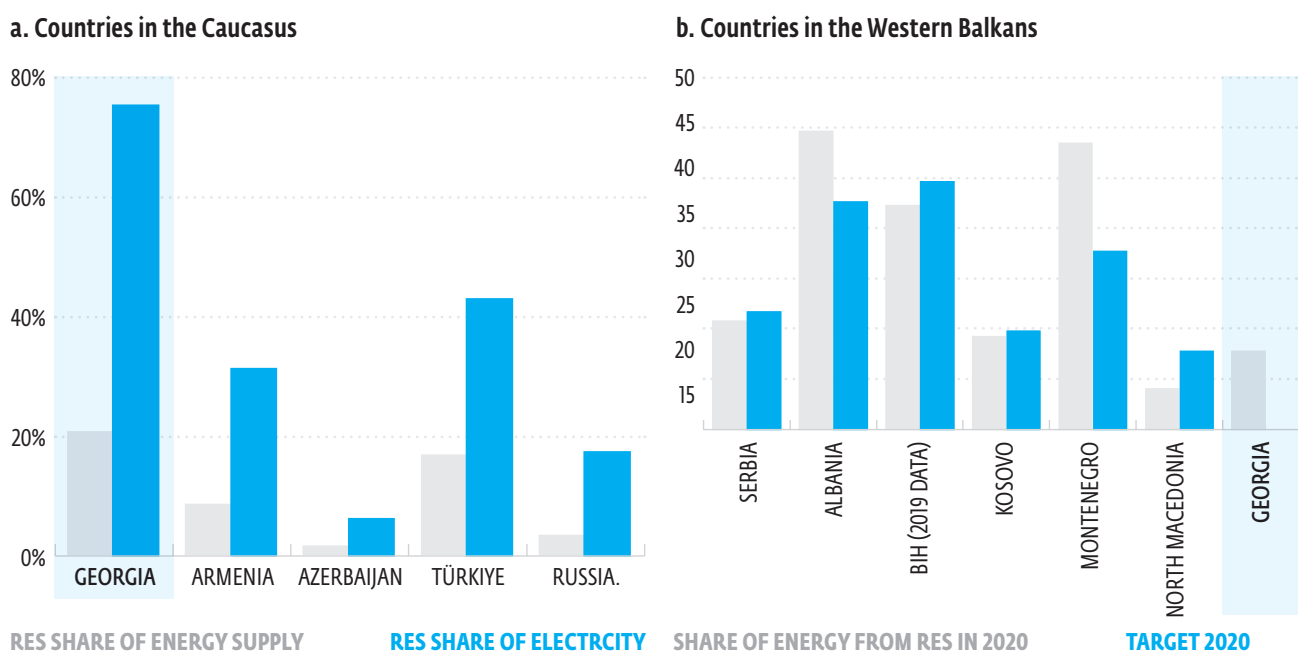
The current situation in the RE subsector

The level of RE development and medium-term prospects

The government aims to diversify the country's energy mix by increasing use of biomass, solar, and wind power. Several projects and initiatives discussed in this section were developed to promote renewable energy development in the country. The government also upgraded to a legal framework to improve the energy efficiency of buildings and industries to reduce energy consumption and strengthen energy security.

In the Caucasus region, Georgia has the highest share of RE in final energy consumption but trails behind its Western Balkan peers. The country is a leader in the Caucasus region, with 20 percent of the RE share in total energy consumption. However, it has the second-lowest share among its Western Balkan peers, leading only to North Macedonia (with a share of 19.2 percent) (figure 4.5). This is due to the low level of RE penetration in its main consuming sectors, including industry, transportation, and agriculture.

FIGURE 4.5: RENEWABLE SHARES IN THE ENERGY CONSUMPTION, 2020 (%)



Source: International Energy Agency (IEA); Energy Community, "Energy Community Meets 2020 Headline Target for Energy Efficiency, Makes Progress on Renewables," February 16, 2022, <https://www.energy-community.org/news/Energy-Community-News/2022/02/16.html>. For the equivalent information on EU countries, see Eurostat, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Renewable_energy_2020_infographic_18-01-2022.jpg.

Note: BIH = Bosnia and Herzegovina; RES = renewable energy sources.

Georgia has substantial potential to utilize renewable energy resources. The country has an estimated 15,000 MW of potential undeveloped hydropower capacity. There are 26,000 rivers in the nation, out of which 300 can be used for generating hydropower. Moreover, wind energy has the potential to produce 1,500 MW of electricity. Georgia also has geothermal water reserves with an annual capacity of 250 million cubic meters. However, the country experiences high levels of solar radiation due to its geographic location. Most of the country's regions experience 250 to 280 sunny days and 6,000 to 6,780 hours of daylight annually.

The government aims to increase the power generation supply. For 2030, the total installed capacity available in the Georgian power system is targeted to increase to 9,740 MW—by 110.3 percent. From this, 4,097 MW will be attributed to regulated hydropower plants (HPPs), 2,438 MW to seasonal HPPs, 1,330 MW to wind farms, 520 MW to solar farms, 110 MW to gas turbines, and 1,245 MW to high-efficiency combined cycle gas turbines as well as coal thermal power plants. The last will replace the older Gardabani thermal power plant's Units 3, 4, and 9. For 2030, it is expected that the share of hydropower will reach 67 percent, including 42 percent to be produced by regulated hydropower plants. This will ensure that water stored during the flood season is used during low flow periods, reducing reliance on imported electricity and fossil fuels. Also, the combined share of wind and solar power plants for 2030 is projected to be 18 percent of total electricity consumption.

The Government of Georgia's long-term strategy also aims at delivering surplus green energy to EU markets. The current initiative will see Georgia take advantage of the Black Sea submarine electricity cable project, an international accord to deliver power from South Caucasus countries to Europe. Georgia has almost completed its feasibility study and is borrowing US\$75 million to conduct a geophysical and geotechnical survey of the Black Sea bed and launch the construction of a high-voltage underwater transmission grid. The interconnection project of 1,000 MW capacity will enable the exchange of electricity between Georgia and the Southeast Europe region through Romania.

The target is to increase the share of RE in its energy mix to 27.4 percent by 2030 to meet increasing demand, enhance energy independence, and become a net electricity exporter in the medium to long term. However, the largest RE projects in the pipeline have been delayed because of social resistance and the absence of financial support schemes. Public opposition delayed the development of Khudoni 702 MW, Namakhvani HPP cascade 433 MW, Oni 1 and Oni 2 HPPs 206.2 MW. This halted the construction of key transmission infrastructure, which has raised grid-connection challenges for small HPPs. In 2017 the government stopped offering power purchase agreements (PPAs). This stalled the development of RE projects which is not bankable without adequate price and offtake guarantees.

The development of new RE generation sources is expected to help Georgia promote economic growth via increased foreign direct investment and the creation of new green jobs. The energy sector was the top recipient of FDI in 2021 and the third largest in 2023 (first half), accounting for 18.8 percent of total FDI. Additional RE development will promote further FDI flows to Georgia. RE development creates both direct and indirect project-based employment opportunities and encourages skills development. Increased RE development can hence improve the quality of jobs, promote equity, and enable workers to acquire new skills. RE projects can also, in turn, reduce the cost of living, providing better wages and increased income for households involved in project-related activities adding to sustained economic and income growth.⁵⁵

Georgia has been developing environmental and energy reforms as part of its Association Agreement with the European Union and the European Energy Community. The country has been making progress in drafting and adopting new legislation to support the energy transformation; however, this has not yet had tangible impacts to reverse the underutilization of the country's RE potential. To fulfill its commitments under the Association Agreement, Georgia needs to implement the following measures:

- Develop a long-term energy strategy based on solid analysis and create proper implementation mechanisms.
- Align the energy strategy with Georgia's development goals to be compatible with strategic climate change documents; sustainable development strategies; and economic, environmental, and social policies.
- Improve energy data availability and transparency.
- Strengthen analytical capacity for energy market and policy analysis, as well as collaboration with think tanks specializing in this field.
- Pass legislation governing the electricity and gas markets to promote energy efficiency and renewable energy.
- Concentrate on the further development of a competitive energy market.
- Protect vulnerable groups who do not have equal access to various services.
- Promote transparency and effectively monitor key sectors.

The government has implemented the following supporting policy measures:

- In 2019, the Georgian government adopted a law on **Promotion of the Use of Energy from Renewable Sources**, which aims to increase the share of renewable energy in the country's energy mix. The law provides incentives for renewable energy projects, such as feed-in tariffs and tax exemptions.
- The government has introduced the **Georgia Energy Efficiency and Renewable Energy Program (GEEREP)**, which provides financing and technical support to RE projects. The program has been funded by the European Bank for Reconstruction and Development (EBRD) and the European Investment Bank (EIB).

- In addition to the GEEREP, the government has launched the **Georgia Energy Sector Reform Project (GESRP)**, which is supported by the EU and the German development bank KfW. The project provides legal, technical, and advisory assistance to the Government of Georgia in developing legislation, regulations, and policies that align with the Energy Community's directives. It aims to promote energy efficiency in the building sector and establish a framework for large-scale investments. The program further promotes RE development and it aims to create a competitive market for electricity and increase consumer awareness for rational energy use.
- The government has also taken steps to improve the regulatory framework for RE development. For example, the Georgian National Energy and Water Supply Regulatory Commission (GNERC) adopted new regulations to support RE development, and the Government of Georgia adopted Resolution 556, **On Approval of the Support Schemes for the Production and Use of Energy from Renewable Sources**, December 7, 2022.
- In 2020, the Government of Georgia adopted the **Electricity Market Model Concept**. The concept introduces general principles for organizing and functioning the wholesale electricity market. The market concept aims to establish an attractive environment for investors and to provide additional options for consumers by developing competitive and transparent electricity markets; to form organized electricity markets, day-ahead and intraday markets, as well as a balancing and ancillary services market and the market for bilateral agreements; to provide a clear distinction between the duties and responsibilities of the entities functioning in the electricity sector; and to form a competitive and liquid market price. It sets out the mechanism for fulfilling the obligations envisaged by the contracts concluded before the Law on Energy entered into force.

Georgia's international and European commitments to sustainable energy development and greenhouse gas emission reduction.

Georgia aims to become a high-income country and a member of the EU. The energy sector is important in achieving this goal by enhancing energy security, developing mutually beneficial partnerships with neighboring states and EU members, and supporting growth through sustainable energy production.

The main targets outlined in the current agreements with the EU include that the energy sector, as the economy's most important sector, must be economically profitable and benefit the country through its activities, including improvements in the energy export-import balance. As a signatory to the Association Agreement, Georgia is implementing energy reforms by gradually harmonizing and enacting EU energy legislation. These measures should establish competitive, transparent, and efficient energy markets with reduced market-distorting state investments and subsidies, secure environmental conditions for international investments, and strengthen economic ties between member states.

Documents prepared by the Georgian government under the UNFCCC include lists of national policies and measures related to improving energy efficiency and expanding RE. Georgia's Second Nationally Determined Contribution commits the country to unconditionally limit greenhouse gas (GHG) emissions to 35 percent below 1,990 emissions by 2030 and conditionally to between 50 percent and 57 percent by 2030. In 2020, GHG emissions in Georgia amounted to 17.8 metric tons of carbon dioxide equivalent.⁵⁶ The energy sector supplying transport, electricity generation, transmission and distribution, and residential/commercial buildings is the biggest emitter, with 60.4 percent. The highest contribution comes from the transport sector. In response, the government developed and approved a National Energy Efficiency Action Plan on December 23, 2019, and a National Renewable Energy Action Plan on October 3, 2019. Other documents with strategic links to the energy sector include the National Environmental Action Program 2017–2021, the draft Low Emission Development Strategy, and the draft State Strategy for the Development of Solid Biofuels.⁵⁷

Legal and regulatory framework for RE development and its enforcement

The Energy Law of Georgia, adopted in 1998, established the legal basis for regulating the energy sector. The law created the Georgian National Energy and Water Supply Regulatory Commission (GNERC), which is responsible for regulating the country's energy and water supply services. The main objective of the GNERC is to ensure that the energy market in Georgia is efficient, transparent, and fair. It regulates energy generation, transmission, distribution, and consumption, and the tariffs and prices for these services. GNERC also issues licenses to energy companies and monitors compliance with regulations and standards.

The energy market in Georgia is a wholesale power market operating since 2006, based on bilateral contracts. Power producers with installed capacity below 65 MW and commissioned after 2010 have been deregulated, while GNERC sets other power producers' tariffs. Energy is traded through the Electricity System Commercial Operator (ESCO). The balancing energy purchase price setting principles are regulated by the Electricity (Capacity) Market Rules and are based on the "pay as you bid" principle, while balancing energy is sold at an average weighted price. Starting July 1, 2024, a new Market Concept is expected to be applied: trading will be possible through directly negotiated contracts or through an intermediary (broker), including a platform. To this end, in line with the EU target model, Georgia will be moving away from a settlement period that lasts a month toward one that spans an hour.

The Georgian power sector, and particularly RE, is regulated by three primary pieces of legislation:

- **Law on Energy and Water Supply** regulates the electricity, natural gas, and water sectors and promotes transforming the current power trade model to the European Union target model.
- **Law on the Promotion of the Use of Energy from Renewable Energy Sources** aims to establish the basis for promoting and utilizing energy from renewable sources.
- **Law on Public and Private Partnerships (PPP)** establishes the legal bases for public and private cooperation and fosters collaboration and coordination of efforts, including rules and procedures related to developing and implementing PPP projects, principles of public and private cooperation, and relevant institutional arrangements.

Several secondary laws supplemented the three primary laws, the most important are related to the power market, renewable energy support, and PPPs. The most relevant secondary act is the Market Concept Design (Market Concept), adopted by the Government of Georgia on April 16, 2020, as Decree N 246. This decree establishes the guiding principles for market organization and operation, the rights and duties of market participants, and the basic outline of market structure. In addition, the decrees are supplemented by the Electricity Market rules, which determine issues relating to the electricity market organization and operation, and by the GENERC's Bilateral Contracts Market Rules finalized in July 2022.

Georgia has made some progress in creating a legal and regulatory framework to support RE investors. The Government has adopted Resolution 556 on Capacity Auction Rules, dated December 7, 2022, approving a support scheme to further develop RE and establishing processes for auctioning of contract for differences (CFD) to private sector projects. In addition, the CFD will be paid based on an hourly day-ahead market price. Therefore, launching the day-ahead market is critical to facilitate the availability of financing for RE projects.

Main issues in the current legal and regulatory framework for RE include the following:

- **Regulatory uncertainty:** The regulatory framework for RE in Georgia is still relatively new, and there have been inconsistencies in its application. This creates uncertainty for investors, making it more difficult to secure financing for RE projects.
- **Grid access:** Georgia's distribution grid needs strengthening to guarantee reliability and the free capacity for new RE integration. The net transfer capacity of Georgia's existing interconnectors to neighboring countries needs to be increased. The current capacity shortages can pose difficulties for RE projects, as they may be unable to connect to the grid and inject generated electricity.
- **Limited financial incentives:** While there are some financial incentives available for RE projects in Georgia, they are limited in scope and amount and are linked with day-ahead market prices. This can make it difficult for RE projects to compete with traditional energy sources that may be subsidized or have lower costs.
- **Permitting process:** The permitting process is slow and bureaucratic and is plagued by a lack of staff/capacity in government agencies. This creates delays and additional costs for project developers.

The legal and regulatory framework for the energy project's social, environmental, and economic impacts should also be improved, particularly regarding environmental and social impact assessments.

Attractiveness of Georgia's RE market for private investors

Dependence on electricity imports has been increasing due to energy demand growth and the impact of climate change on HPP generation. Electricity demand has increased steadily by an average of 4.2 percent annually, driven by average economic growth of 5.6 percent since 2011. The annual domestic electricity production has increased on average by 2.3 percent. The seasonality of HPP generation and strong reliance on weather conditions lead to a higher on average supply-demand gap during the winter months. Therefore, there is a need to diversify the electricity generation mix and develop an additional 5.2 gigawatts (GW) of domestic RE capacity by 2030 to cover the demand fully.

In summer, due to higher water availability, Georgia exports electricity generation surplus to higher price markets. Georgia is interconnected with all neighboring countries, enabling export opportunities to Türkiye, Azerbaijan, Armenia, and Russia, with an installed capacity of 2,530 MW during summer and 2,720 MW during winter. GSE plans to strengthen the interconnection between 2025 and 2032, allowing a 1,050 MW power flow increase with Türkiye, 1,600 MW with Russia, and 700 MW with Armenia. Electricity export and transit hit a record in 2022 as the prices in Türkiye were significantly higher (US\$0.151/kWh) compared with the Georgian market (US\$0.057/kWh). The 2022 electricity export accounted for 971.1 gigawatt-hours (GWh), and the transit 3,160.3 GWh, which brings US\$84.3 million to Georgia.

Georgia has substantial undeveloped RE potential. GNERC estimates that Georgia has a hydro, wind, and solar energy potential of 18 GW, of which less than 20 percent has been utilized. As shown in table 4.1, most of the capacity is still untapped.

TABLE 4.1: GEORGIAN RENEWABLE ENERGY POTENTIAL

TYPE	POTENTIAL (MW)	INSTALLED (MW)	REMAINING (MW)
Hydro	15,000	3,160	11,840
Wind	1,450	21	1,429
Solar	1,500	5	1,495
Total	17,950	3,186	14,764

Source: GNERC.

Note: MW = megawatts.

PPAs were the main drivers for RE development between 2008 and 2017. During that period, the Government of Georgia signed several PPAs that were individually negotiated and provided quite favorable terms to investors. The total cost of the signed PPAs is not publicly available, but the estimated levelized cost of energy (LCOE) is up to US\$135 million per year, or roughly US\$60 per MWh. Based on the advice from the IMF on the financial risks of PPAs to the state budget, in 2017, the government suspended the signing of new PPAs. From 2007 to 2017, Georgia received nearly US\$1.5 billion of investment into energy projects with private participation, versus just US\$14 million since the moratorium on PPAs in 2017.⁵⁸

The cost of RE generation in Georgia varies depending on the technology and scale of the project. Various factors, including the availability of financing, regulatory framework, and infrastructure, influence the cost of RE. However, under various conditions, RE projects can become a cost-competitive alternative to fossil fuel-based generation in Georgia. The estimated costs of RE generation in Georgia for some of the most common technologies are

- **Solar photovoltaic (PV):** The cost of solar PV generation in Georgia has been decreasing owing to technological improvements and economies of scale. According to the first RE capacity auction results, the median tariff for utility-scale solar PV in Georgia was around US\$0.06367/kWh.
- **Wind:** Georgia has significant potential for wind energy, particularly in the western part of the country. According to the first RE capacity auction results, the median tariff for wind energy in Georgia was US\$0.06825/kWh.
- **Hydropower:** This is the most significant source of RE in Georgia, accounting for around 80 percent of the country's total electricity generation. The cost of hydropower generation in Georgia varies depending on the size and location of the project. According to the first RE capacity auction results, the median tariff for hydropower in Georgia was US\$0.0685/kWh.
- **Biomass:** Biomass is a relatively underdeveloped source of RE in Georgia. According to the United Nations Development Programme (UNDP) report,⁵⁹ the cost of electricity generation from biomass in Georgia ranges from US\$0.095 to US\$0.160 per kWh, depending on the type and size of the project.
- **Thermal generation,** except for one coal plant, runs on "social gas." The price is between US\$0.033 per kWh (at Gardabani 1 thermal power plant) to US\$0.045 per kWh (at Mtkvari Energy).⁶⁰

Comparing estimated costs of RE with actual import prices suggests that developing local RE generation pays off. The prices for imported electricity show an increasing trend and become even higher than the LCOE of most RE generation except biomass. Further development of RE sources and upgrades of the existing hydropower infrastructure is a realistic scenario to reduce the overall electricity cost. Therefore, both reduced reliance on imported energy and promotion of energy independence are feasible. Strengthening the country's energy independence in the electricity sector (where imports from Russia remain substantial) is a high priority within Georgia's political agenda. This strengthens political support for RE expansion, especially at the national level. However, widespread social and environmental concerns at the community level have significantly reduced this factor's impact.

Access to finance is a critical factor for RE development options in Georgia. Despite the availability of several financing options, access to finance for RE projects in Georgia can be challenging owing to the high initial costs and perceived risks. Nevertheless, the energy sector investments, especially in the RE sector, are of interest to financial institutions, either international or local. For most international financial institutions, RE and climate change are considered their long-term strategic priorities as they enhance energy independence, security of supply, climate change, de-carbonization, and more sustainability efforts. Indeed, in Georgia, a number of international financial institutions are active in the energy sector.⁶¹

Financing options in Georgia include:

- **Debt financing:** Most local commercial banks are active in the energy sector, with TBC Bank and Bank of Georgia holding more than 90 percent of the market (excluding international financial institutions; IFIs). In structuring RE projects, a combination of 30 percent equity and 70 percent loan is the initial goal for any developer in the country. Developers take development risks alone, bearing all the costs needed for feasibility studies and permitting from their equity contributions. Banks usually jump in when most of the developmental work is done, a construction permit is granted, and the investor starts construction.
- **International financial institutions:** IFIs participated in most RE projects over the past decade. They are expected to continue co-financing future investments in the medium term but on a declining scale. The investments were in various types of financing, including loans, equity investments, and guarantees. In Georgia, the energy sector was the top recipient of FDI in 2021 and the second largest in 2022 (first half), receiving 15 percent of total FDI.

The energy sector had its first five-year Euro bond issued by state-owned company Georgian Oil and Gas Corporation in 2012 and again in 2017, later refinance by an EBRD loan in 2021. The initial resources were used to construct Gardabani 1 & 2 thermal power plants.

Perception of investment risks

Investment in RE in Georgia comes with its own set of risks. The private sector usually identifies the listed in table 4.2.

TABLE 4.2: RISKS TO RE INVESTMENT IN GEORGIA

RISKS	DESCRIPTION
Political	Political instability could create an environment of uncertainty for investors. Any changes in the government policies or regulatory framework could significantly impact the RE sector.
Regulatory	Changes in the regulatory environment could impact investor returns. For instance, changes in tariffs, incentives, or licensing procedures could create uncertainty for investors.
Financing	Limited access to capital and a lack of established financing mechanisms affect the revenue stream of the project.
Operational	Risk of losses resulting from inadequate or failed internal processes, people, or systems, or external events. For example, a failure in the supply chain or natural disasters could affect the performance of RE assets.
Market	Changes in the energy market, including fluctuations in energy prices, could significantly affect the returns on RE investments.
Environmental	Construction of RE assets could affect local ecosystems, and the disposal of used equipment could create environmental concerns.

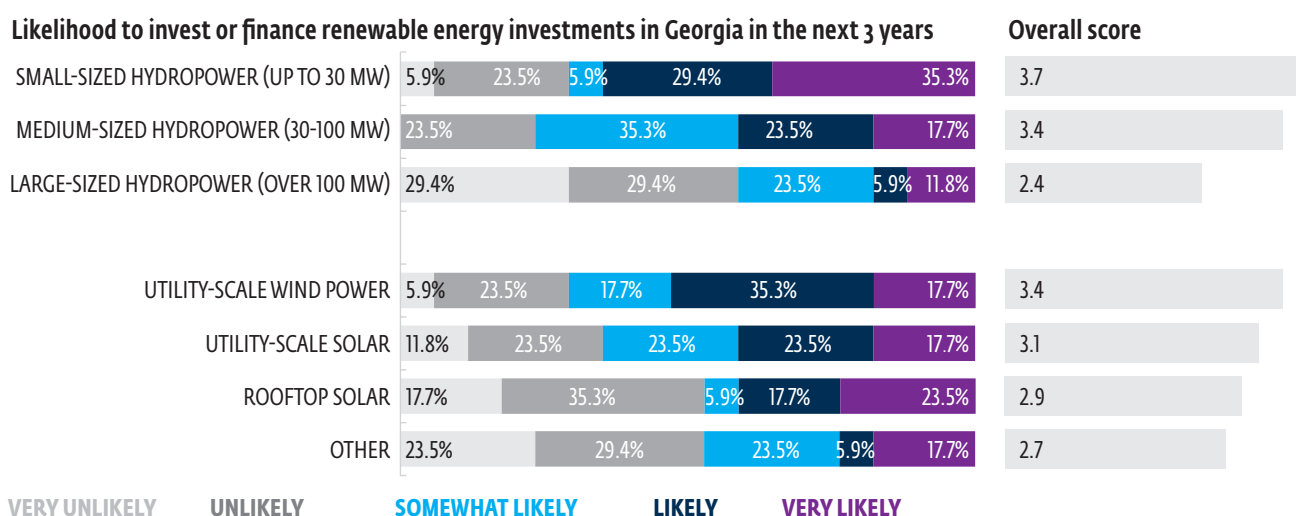
Note: RE = renewable energy.

Investment risks—private sector’s perceptions: Survey-based results

A survey of private investors and commercial financiers currently active or interested in RE investment in Georgia was conducted to get their first-hand assessment of RE investments. Twenty-four investors and financiers participated in the survey, and they are all working or doing business in Georgia and are involved in energy sector activities. Most participants were independent power plant (IPP) developers/operators and portfolio investors.⁶² The following section discusses the survey findings.

The respondents are satisfied with their prior experience of power sector investments in Georgia. Therefore, they plan to invest in the region in the next three years in small-size hydro, medium-size hydro, and utility-scale solar. In terms of readiness for investment the respondents ranked the RE technologies as being attractive in the order illustrated in figure 4.6.

FIGURE 4.6: INVESTMENT LIKELIHOOD

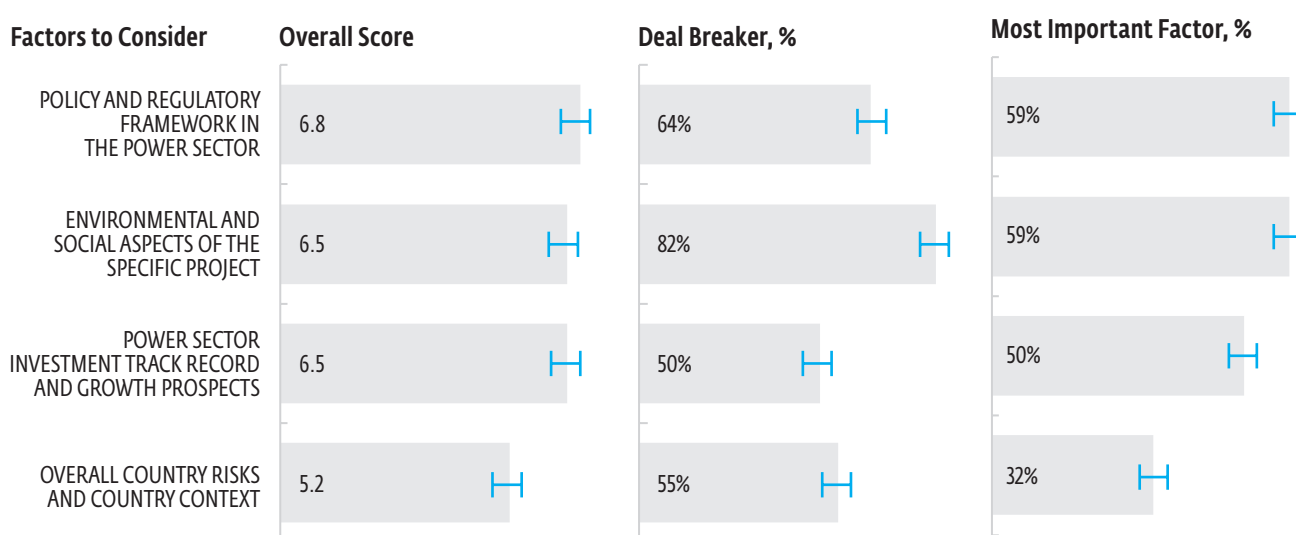


Source: Survey of private investors and commercial financiers.

Note: Based on 17 responses; 7 participants skipped this question. The overall score was calculated as the weighted average of responses, where 5 is "most important" and 1 is "least important."

Surveyed investors identified environmental and social risks and policy and regulatory uncertainty as the keys to RE investment in Georgia. However, the environmental and social aspects are the highest-ranked deal breaker. Country context risks and risks related to the broader power sector context, such as the track record of private investment, are not that important to the survey respondents (figure 4.7).

FIGURE 4.7: KEY FACTORS CONSIDERED DURING DECISION-MAKING

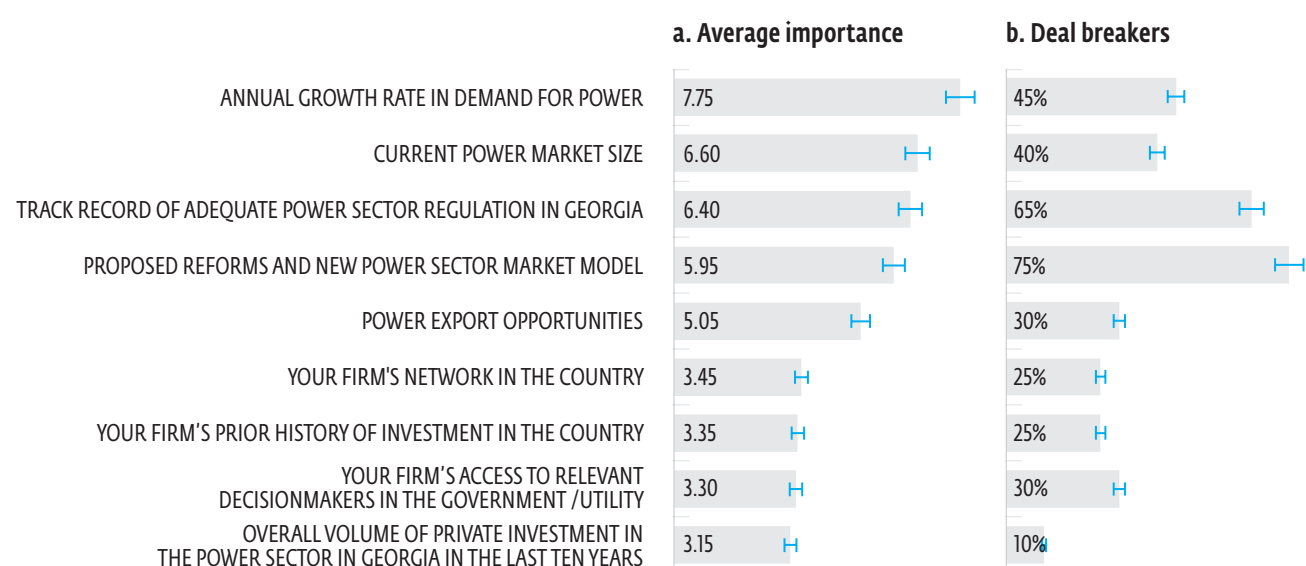


Source: Survey of private investors and commercial financiers.

Note: Scoring is based on the weighted average score of each factor ranked by participants. The most important factor, % shows the appearance of these factors as a first or second ranking. Deal breaker, %, shows what portion of participants indicated this factor as a deal breaker. Standard error is shown as error bars.

Investors who responded to the survey cited demand growth in the power sector as the most important factor that interests them as they make investment decisions, but they said the lack of a regulatory framework and of an inadequate track record in sector regulation are critical factors. Investors see energy demand as the primary driver of RE development and see a slight deviation between expected and actual growth as less of a concern. Regulatory changes, however, have the potential to alter the overall situation and to become a deal breaker for investment decisions. The government should closely monitor the upcoming reform and its implementation, because it is the most important deal breaker, outweighing any investors’ previous experiences and relationships. Export opportunities are seen as one of the drivers but not as a deal breaker. Only 25 percent of respondents considered the firm’s network and previous experience more important than other factors. Despite having a high-ranking score, annual growth—of 8.9, and current market size of –7.6, the market size was mentioned as a deal breaker less than half the time. Figure 4.8 depicts the sub-risks of the RE sector’s investment track record and growth prospects.

FIGURE 4.8: POWER SECTOR INVESTMENT TRACK RECORD AND GROWTH PROSPECTS: KEY RISK CATEGORIES



Source: Survey of private investors and commercial financiers.

Note: Scoring is based on the weighted average score of each factor ranked by participants. Deal breaker, %, shows what portion of participants indicated this factor as a deal breaker. Error bars show 5 percent deviation.

Discussion of the survey results

The power market development potential is a key motivator for investors to pursue opportunities in RE. The investors believe that economic growth is expected to drive a steady increase in electricity demand (despite energy-saving technologies) for heating, ventilation, and air conditioning, as well as increased crypto mining and electric vehicles. In addition, increased natural gas prices in the region, the expiration of the social tariff on Azerbaijani natural gas imports by 2030, and reliance on electricity imports are expected to drive supply and the possibility of exporting to neighboring markets, especially now with increasing price trends. Overall, the current state of the electricity market (both domestic and regional) exposes Georgia to potential electricity shortages and gives confidence to investors to predict an increase in electricity prices. However, the factors mentioned are linked with the overall attractive investment climate (the World Bank's Ease of Doing Business rating), and export opportunities in neighboring countries are factors why respondents are satisfied with the prior experience of power sector investments in the country and plan to invest soon.

The investors perceive small-size hydro, medium-size hydro, and utility-scale solar as ready for private investment in Georgia: Small- and medium-size hydro development has a track record of many years in the country. The technology is mature, and local experience and expertise are available. But despite investors highlighting utility-scale wind and solar farms as ready for investment, Georgia's power generation development shows different tendencies. According to the list of ongoing energy projects published by the Ministry of Economy and Sustainable Development (MoESD),⁶³ 39 wind farms and 68 solar farm projects have either signed Memorandums of Understanding (MoU) or are under discussion with the ministry. However, none of the utility-scale solar and wind farms (except for the Qartli Wind Farm) have been commissioned. The Udabno Solar Power Station, tendered by GEDF in July 2021, is still developing. The delays are caused by several factors, ranging from overconfidence in the future evolution of technology and project development costs and expectations of higher domestic power market prices (> US\$0.045/kWh)⁶⁴ that do not match the reality and hinder project development.

Environmental and social acceptance has been identified as a critical risk for the country's RE deployment. Environmental issues can be mitigated in most cases, but local protests may turn into insurmountable resistance during the construction phase. Social issues have many consequences, from increased financial burdens on the investor to the decision to suspend the project, such as Namakhvani HPP. Facts like flooding villages near some power plants due to heavy precipitation and the construction of reservoirs near historical monuments, changes in riverbeds and local irrigation systems, population resettlement, and damages to some HPP tunnels make locals suspicious of HPP construction. Given their high impact and sensitivity, even though the occurrence of such events is unlikely and is limited to large-scale HPPs with reservoirs, people are generally opposed to even 500 kW HPP construction. Local communities are more receptive to solar and wind projects. But sometimes, their visual impact can be a concern. In addition, investors occasionally complain that the designation of territories with various statuses (such as, Emerald Network—Areas of Special Conservation Interest) is not well grounded, is frequently unexpected, and may distort the overall impact on project design. As a result, significant Corporate social responsibility (CSR) spending raises project costs (1.2–1.4 times) and makes the project's financial viability less likely for small-scale power plant investors.

Georgia is still adopting EU practices in its legal and regulatory framework. There are continuous changes in grid connection permits (especially to the DSO grid), environmental permits, power plant requirements from the grid code, and so on. For example, generation units are obliged to provide different mandatory and not reimbursable ancillary services to the power system whenever required. At the same time, there is no ancillary services market developed. Generation curtailment is not regulated and reimbursable, it is not challenging for plants with reservoirs, but it affects the revenue stream of small power plants, especially wind and solar farms. Continuous adjustments in state targets regarding emission reduction, RE deployment, and import substitution create additional uncertainty regarding a predictable investment environment.

Sector's safeguards concerns: Environmental and social regulations and their public perceptions

Public perceptions of RE in Georgia are generally positive. A survey conducted in 2019 found that 85 percent of Georgians support the use of RE, and 70 percent believe that the government should prioritize RE over fossil fuels. However, there are some concerns about RE's impact on the environment and local communities. One concern is the impact of large-scale RE projects on rural communities. Some people are worried that these projects could negatively affect property values, damage the local environment, or disrupt traditional ways of life. Setting up a one-stop-shop entity with a qualified team and proper authorities that will act as the central and sole point of engagement for investors, both in the early stages of exploration of a project (such as possible locations and their availability) and in the project deployment phase can be helpful to mitigate these concerns. While the suggestion is not for this central entity to take over the duties and responsibilities of other entities, it is envisaged that such a facility would support investors in engaging with the government on their behalf as a facilitator on equal footing across all projects and investors, as well as a coordinator among Georgian entities involved.

Primary investment opportunities in RE for private sector players

The RE sector in Georgia offers attractive investment opportunities for investors, particularly in the areas of hydropower, wind, solar, biomass, and geothermal energy. The Government of Georgia has created a favorable investment environment for RE projects, with a liberalized energy market, a supportive legal framework, and various incentives, including CFD.

A capacity auction and CFD would provide investors with high-price risk assurance while assuring a fair allocation of cost and burden on the investors' side—thereby increasing societal acceptance. Moreover, capacity auctions follow international best practices. They conform with the EU, particularly Energy Community acquis requirements, and assure full market integration of RE to the betterment of the Georgian power system. This increases the projects' bankability, thereby accommodating third-party financing for projects. The MoESD announced the first phase of the auction on February 10, 2023. The winning bids were allocated as follows: hydropower plants (run-of-river)—153 MW; wind power plants—77 MW; solar power plants—70 MW. The winner for auctioned 10 MW other RE power plants was not identified. The second phase will be announced by the end of 2023. The immediate target is to develop 1,500 MW in RE generation over five years.

The CFD capacity auction is open for 45 calendar days. Interested persons are instructed to submit the documentation to the Capacity Auction Commission along with the bid security fee of GEL 10,000.00 per MW. The bidder should identify the RE type, location, installed capacity, average annual generation, and CFD tariff US cent/1 kWh. Participation in the capacity auction is allowed for all projects not moved to the construction phase. The support scheme includes a 15-years support period, and the tariff is set based on the median tariff principle. The electricity day-ahead market calculates the compensated price difference. After every five years from the power plant commissioning date, the interested party has the right to reject the CFD. Table 4.3 lists the support duration and commissioning time per RE type.

TABLE 4.3: SUPPORT DURATION AND COMMISSIONING TIME FOR RENEWABLE ENERGY

RE TYPE	SUPPORT DURATION 15 YEARS AFTER COMMISSIONING	COMMISSIONING TIME AFTER FEASIBILITY SUBMISSION
Hydro	8 months (September–April)	5 years
Wind	9 months (August–April)	4 years
Solar	12 months	3 years
Other	12 months	5 years

Note: RE = renewable energy.

After signing the agreement with the government, the investor is obliged to provide the pre-construction guarantee of US\$10,000/MW and, after moving to the construction phase, US\$20,000/MW in accordance with the exchange rate established by the NBG for that period.⁶⁵

Summary of recommendations

Stakeholder engagement, awareness raising, education, and training can promote RE investment in Georgia. The government should make appropriate efforts to communicate with stakeholders and involve them in RE-related reforms and decision-making processes. Conducting an RE awareness-raising campaign nationwide will facilitate social acceptance of RE projects. To build a successful high-tech economy, the government should prioritize reliable institutions, improve vocational education, hire qualified personnel, and promote sustainable energy development.

The government should develop a stable and predictable legal and regulatory environment. The Government of Georgia should launch implementation to clear and consistent policies and legal frameworks for RE development in line with the EU standards that provide long-term certainty for investors. However, one concern in connection to the ongoing reform is related to the capacity of entities to implement such international best practice legal framework. Strong international donor support is needed to ensure adequate capacity is in place. The government should, without further delays, introduce the day-ahead and balancing market, shortly followed by the intra-day market, and not opt for further delays as it defines the credibility of the CFD.

Additionally, clear and transparent regulation on grid connections needs to be established to respond to investors' concerns. Also, the government should regularly prepare and publish a reputable and consistent outlook on the Georgian market, including demand and supply forecasts. This publication should be transparent, open to all interested investors, and reflected in official documents. This would lower the entry hurdles for investors.

The government should start offering incentives such as tax credits, subsidies, and other financial benefits that are fiscally affordable. This is especially true regarding projects in energy efficiency, RE, and clean technologies. The government should introduce a GHG pricing mechanism and consider subsidies for selecting energy-efficient technologies, such as, solar panels for households. At the same time, the government should reduce subsidies for electricity and natural gas in the form of a public service obligation in other words, reduce. Since the subsidized price leads to unreasonable waste of energy, phasing out tariff subsidies is suggested.

The Government of Georgia should address environmental and social risks associated with RE projects. The government should require all RE projects to undergo environmental and social impact assessments to identify potential environmental and social impacts and to develop clear measures to mitigate them. For the hydropower sector cumulative impact assessments are recommended. It is also recommended that the government engage local communities to understand their concerns about RE projects and to address them through community consultations and other forms of engagement. The government should ensure that the development and operation of RE projects are transparent and accountable, with clear monitoring and disclosure mechanisms in place to ensure environmental and social standards are met. The government should prioritize the use of degraded and nonarable land for RE projects over the conversion of natural ecosystems or prime agricultural land for energy production when deciding where to locate future projects. Property taxes paid by RE investors should be allocated to municipal budgets for specific communities impacted by specific RE projects. This will provide tangible benefits to communities and local governments that host such projects.

The government should streamline the permitting process and support infrastructure development. The permitting process can be a significant barrier to investment. The government can make it easier for investors to obtain the necessary permits and approvals. The government should facilitate the coordination of state entities to avoid interference with the projects from different sectors such as road and power development. It should encourage the development of a distribution grid and expand capacity to evacuate newly generated power, especially in the mountainous areas thereby supporting small-scale RE projects.

4.2 TRANSPORT AND LOGISTICS

Enhancing Georgia's transport and logistics sector is a priority given the sector's role in improving trade performance and contributing to economic growth. Expanding trade, advancing trade diversification, and facilitating global value chain participation are all critical for economic growth and job creation but will not be possible without significant investments to improve the performance of the transport and logistics sector.

Georgia is at a strategic location serving as the gateway to the Caucasus and Central Asia. This provides ample opportunities to capture transport and logistics flows between the Caucasus, Europe, and Central Asia. In recent years, the Government of Georgia has introduced several supportive policy measures to improve the country's logistics system. This has included easing border crossing procedures, reducing taxes, and concluding free trade agreements.

Georgia aspires to become a regional logistics hub. The logistics industry is a substantial source of economic activity and growth, but its potential is yet to be realized. Trade has grown over the past decade, though Georgia remains a net importer of goods. Exporters are inadequately integrated into GVCs, and primary export goods are low value-added. To support the country's integration into the global economy, Georgia can further reduce barriers to trade in services.

Along with the development of transport infrastructure, Georgia needs to improve and modernize its logistics infrastructure and services to ensure the country's effective participation in global value chains. Given Georgia's transit location, the initial focus should be on developing the performance of the Middle Corridor (MC), previously known as the Trans-Caucasus Transit Corridor (CTC) and the Trans-Caspian International Transport Route (TITR), to become an efficient and competitive corridor for container transport between China and Europe.

The primary objective of this section is to assess Georgia's position as a transit location and explore options to further improve sector performance and contribute to enhancing trade and stimulating economic growth, with a particular focus on areas in which the private sector can enhance operational performance to meet these goals. This assessment focuses on three areas that have been prioritized on the basis of their potential contribution to facilitating and expanding trade. All three areas also contribute to the GVC agenda:

- The performance of transit logistics infrastructure
- The performance of agriculture logistics
- The viability of developing an integrated logistics center

It is important to note that there are several other issues in the transport and logistics sector that are critical for the sector's development and performance, and that may be suitable for private sector development, but that cannot be covered in detail in this report. For example, improving the performance of GR would support the truck-to-rail modal shift, while completing the East-West Highway and making more use of the low tariff Kutaisi airport (which is located in the vicinity of agricultural land), would also enhance Georgia's transportation and logistics options. However, where possible, these additional issues have been integrated into the analysis of the three priority areas.

Transit logistics performance

This subsection assesses the performance of the MC to identify bottlenecks that stem growth and impede the corridor's competitiveness. Special attention is paid to the position of Georgia within the MC network and the effects of Russia's invasion of Ukraine.

Characteristics of the Middle Corridor

The MC is a multimodal transport network that connects Central Asia through the Caspian Sea with the Caucasus and Europe via the Black Sea. The MC comprises roads, railroads, border crossings, ports, and ferry services. The corridor crosses Azerbaijan and Georgia, and it connects Kazakhstan, Turkmenistan, Armenia, and Türkiye. The route and key infrastructure components of the MC are depicted in map 4.1. Serving the MC has several benefits for the Government of Georgia and for the transport and logistics sector in Georgia. The MC generates significant revenue for the government, which can be reinvested in transport infrastructure maintenance and investment in more resilient infrastructure. It also contributes to the integration of Georgia with neighboring countries and can provide a platform for additional cross-border collaboration, which could eventually translate into higher FDI and trade flows.

Traditionally, the MC is a transit route for westbound freight trade, primarily liquid bulk such as oil and petroleum products. These products are transported mainly from Azerbaijan and Kazakhstan to Georgian Black Sea ports, where they are transported to Europe. Imported goods for the local and regional market mostly come in from Türkiye and the Georgian Black Sea ports. Until recently, eastbound trade from Azerbaijan to Central Asia had been insignificant.

The MC transit route is highly exposed to risks and general uncertainty. The route is highly exposed to demand risk, particularly for containerized freight, and the effects of Russia's invasion of Ukraine. There is also significant uncertainty regarding the cost estimates and demand data required to support significant investment in improvements to the route and associated subsector infrastructure, including the perceived need to increase port capacity. The data presented in this report are subject to timing, assumptions, and various methodologies but are presented to provide current best available information on the MC.

MAP 4.1: KEY COMPONENTS OF MIDDLE CORRIDOR ROUTE

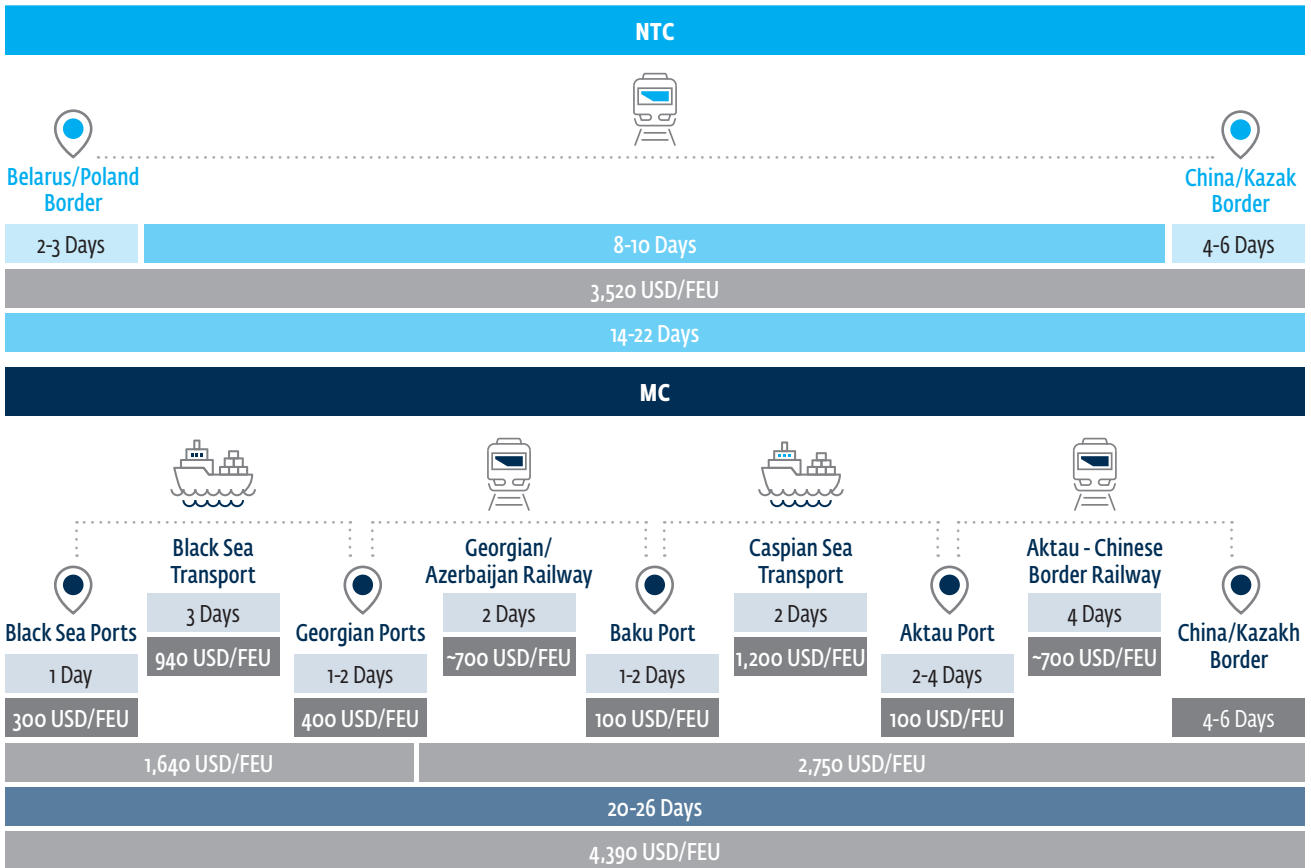
Source: Ministry of Economy and Sustainable Development.

The MC has not yet played a significant role in the transport of containerized freight. Most European-Chinese trade is being transported in containers. The preferred route for containerized goods between China and Europe is by sea, as this is the cheapest way to transport containers over long distances. An alternative route between China and Europe is an overland rail connection through Russia, known as the Northern Trade Corridor (NTC). Another major overland route is the International North-South Trade Corridor (INSTC).

The competitive landscape for transit freight: An uneven playing field

The MC competes with other corridors, such as the NTC, for transit traffic to and from Europe. The MC has a comparative disadvantage with the NTC in terms of costs and travel times. Figure 4.9 depicts a breakdown of the travel times and costs of transporting a forty-foot equivalent container unit (FEU) over the NTC and the MC. The figure shows that due to the multimodal characteristics of the MC, the total transit time and cost are higher.

FIGURE 4.9: NTC AND MC COST AND TIME COMPONENTS



Source: Georgia Ministry of Economy and Sustainable Development.

Note: CTC = coast to coast; FEU = forty-foot equivalent unit; MC = Middle Corridor; NTC = Northern Trade Corridor; USD = US dollars.

To compete for end-to-end transit freight from China to Europe, the MC must reduce costs and improve transportation and transit times. The MC network is inefficient across transport modes. For example, Caspian Sea crossings between ports involve lengthy procedures, creating long waiting times and congestion, and delaying cargo loading onto trains. Mountainous terrain on the main line of the Georgian rail section limits speeds to a maximum of 60 kilometers per hour, and annual freight throughput capacity is limited to 27 million tons. Finally, adverse weather conditions, including about 90 windy days, negatively impact docking operations in the Caspian Sea. As a result of these factors, the NTC is better positioned to capture end-to-end rail freight from China.

The Chinese government has actively promoted rail freight from China to Europe via the NTC. Until 2018 China subsidized about 50 percent of freight costs, but subsidies have recently been scaled back. In recent years, China has scaled down subsidies for rail freight, supported by market conditions. Supply-chain bottlenecks caused by the COVID-19 pandemic led ocean freight rates to soar, which stimulated demand for rail freight for certain goods. As global shipping costs return to pre-pandemic levels, it is uncertain how this will affect rail freight on the Eurasian corridor or whether China will continue to scale down subsidies.

Effect of Russia's invasion of Ukraine: Shifting regional supply chains

The impact of the COVID-19 pandemic and the effects of Russia's invasion of Ukraine have emphasized the need for resilient supply chains. The MC has emerged as a viable option for diversified transport routes to connect China with Europe, and Central Asia with the global economy. Containerized traffic along the MC amounted to about 45,000 twenty-foot equivalent units (TEU) in 2021. In 2022, container freight grew almost 50 percent to approximately 67,000 TEU. Border data from the Georgian Revenue Service show a stark increase in traffic from May onward, suggesting that the additional traffic along the MC is linked to Russia's invasion of Ukraine, which escalated in February 2022. The additional container traffic volumes can be attributed to cargo rerouted from the NTC.

In addition to containerized goods, bulk cargo transport from Central Asia increased significantly during 2022. Additional goods transported over the Georgian Railways (GR) amounted to approximately 2 million tons. Specific commodities include petroleum products, carbamide, methanol, and raw sugar. Western sanctions in response to Russia's invasion of Ukraine include a ban on imports of Russian oil, necessitating alternative commerce routes. Central Asian economies, most notably Kazakhstan, are thus encouraged to diversify their trade links with the rest of the world.

Global supply chains are adapting to the new geopolitical turmoil, and the MC is emerging as an alternative trade corridor. While much remains uncertain, long-term predictions on future cargo flows along the MC are challenging. However, Russia's invasion of Ukraine has been a catalyst for renewed interest among MC countries and EU trade partners in developing this alternative transport corridor. Since the Russia's invasion of Ukraine, commercial relations between Central Asian and Caucasus countries have grown considerably. This is directly relevant to the success of the MC, for example, in helping the unification of tariffs and the harmonization of customs procedures.

Additional opportunities created by mid- to long-term drivers of demand for transport along the MC, particularly energy and mineral resources, are also appearing.

The energy transition is causing a surge in demand for minerals for clean energy technologies, raising concerns about the sources and security of supplies of critical materials. Central Asia will likely become a new hotspot for mineral extraction and a major global supplier of selected critical materials for clean energy technologies. Recognizing this potential, the EU has activated channels for energy cooperation by signing memorandums of understanding with Kazakhstan, Turkmenistan, and Uzbekistan. Increased cooperation between the Central Asian countries, the Caucasus, and the EU will contribute to the long-term use and success of the MC.

Containerization is currently not well-developed in Central Asian countries. Most cargo is shipped in bulk or broken bulk, such as in big bags, pallets, and crates. Key enabling infrastructure, such as dedicated container terminals at the Caspian Sea ports, freight stations, and container handling equipment, is required to promote the use of intermodal containers. Investing in improved infrastructure will create business opportunities for value-added logistics, such as container stuffing, cleaning, and repair; warehousing; and distribution. Such investments would allow the MC to capture part of the substantial container market of Central Asia and northwest Iran. A high-level container market assessment determined the total potential for westbound container trade of these countries approximates to 875,000 TEU in 2023.

Enhancing transport and logistics performance to stimulate transit freight

Overall logistics performance is not just a matter of time and cost but also a component of predictability and quality. The Logistics Performance Index (LPI)—a benchmarking tool created by the WBG—was used to help identify the challenges and opportunities in the affiliated MC countries. The LPI scores of the MC-affiliated countries are summarized in table 4.4. Scoring categories include customs, infrastructure, ease of arranging shipments, quality of logistic services, tracking and tracing, and timeliness. The scores indicate that Georgia’s performance has improved significantly over the 2018–23 period and the country has closed the gap and even exceeded its MC-affiliated partners across many of the LPI scoring categories. However, there are still areas for further improvement if Georgia hopes to become a regional hub, particularly in enabling infrastructure development. Smaller countries in the Balkans could be the next benchmark for Georgia. For example, Montenegro, Bosnia and Herzegovina, and North Macedonia all have 2023 LPI scores higher than Georgia.

TABLE 4.4: LPI SCORES OF MC-AFFILIATED COUNTRIES, 2018 AND 2023

COUNTRY	RANK		OVERALL SCORE		CUSTOMS		INFRA-STRUCTURE		EASE OF ARRANGING SHIPMENTS		QUALITY OF LOGISTICS SERVICES		TRACKING AND TRACING		TIMELINESS	
	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023	2018	2023
MIDDLE CORRIDOR																
Georgia	119	79	2.44	2.70	2.42	2.60	2.38	2.30	2.38	2.70	2.26	2.60	2.26	2.80	2.95	3.10
Armenia	92	97	2.61	2.50	2.57	2.50	2.48	2.60	2.65	2.20	2.50	2.60	2.51	2.30	2.90	2.70
Kazakhstan	71	79	2.81	2.70	2.66	2.60	2.55	2.50	2.73	2.60	2.58	2.70	2.78	2.80	3.53	2.90
Uzbekistan	99	88	2.58	2.60	2.10	2.60	2.57	2.40	2.42	2.60	2.59	2.60	2.71	2.40	3.09	2.80
Average			2.61	2.63	2.44	2.58	2.50	2.45	2.55	2.53	2.48	2.63	2.57	2.58	3.18	2.88

Source: World Bank Logistics Performance Index, 2018 and 2023.

The MC’s performance is constrained by various bottlenecks. The corridor needs to expand its transport infrastructure capacity to enable the MC to emerge as a competitive alternative to other regional routes for the transport of goods, especially containerized goods. The maximum attainable throughput of the MC is constrained by the weakest link in the transport chain. Based on an assessment of the container and bulk handling capacity along the multimodal network, it is estimated that the MC can accommodate about 100,000 TEU and about 12 million tons of bulk cargo.

The MC has sufficient capacity to facilitate container growth in the short term.

However, there is a need for increased investment in port infrastructure to sustain growth in the medium to long term. A review of the expansion plans of ports along the MC, including the ports of Aktau, Baku, Poti, and Batumi, revealed that many are in very early stages of development and will not be “shovel ready” for years to come. Project preparation and structuring generally range from 24–30 months (and roughly account for 5 to 10 percent of total project investment).

Capacity limits in the Caspian Sea are the most significant bottleneck for the movement of containerized cargo along the MC. The installed container handling capacity of the port of Baku in Azerbaijan is 100,000 TEU. The port handled 52,250 TEU in 2022, a 16 percent increase from the previous year. If the current trend continues, congestion will hamper operations from 2026 onward. The construction of a dedicated container terminal has been announced. The terminal would expand the harbor’s container handling capacity up to 500,000 TEU, but timing is unclear. At the same time, Kazakhstan plans to build a new cargo terminal in Aktau, increasing its capacity to 215,000 TEU in 2025. The installed container handling capacity at the Georgian seaports of Poti and Batumi is 650,000 TEU and 200,000 TEU, respectively. Georgia’s ports are expected to handle about 610,000 TEUs in 2023, and capacity is expected to be reached soon.

The bulk handling capacity of the Georgian seaports needs additional handling equipment and storage space. Currently, the port of Poti can handle about 5.5 million tons of bulk cargo, whereas the port of Batumi can accommodate about 3 million tons. The rising demand for the Caucasus corridor has eroded the available spare capacity. Problems include the following:

- The ports can accommodate container feeder vessels only up to 1,500 TEU, due to depth limitations. This has resulted in high shipping rates and limited-service frequencies and port calls.
- Poti is rundown because of previous underinvestment, and containers must be stored at off-dock terminals 7 kilometers away.
- Batumi has little scope for further development. Expansion of Poti would be very expensive.
- Limited competition between the two ports has resulted in high port charges.

Private sector participation can be leveraged to address bottlenecks and increase port capacity, aligned with subsector needs. The Government of Georgia recently announced that it will revive a PPP project to build a port, logistics park, and special economic zone at Anaklia, about 35 kilometers north of Poti (65 kilometers by road). The government plans to take a controlling share of 51 percent in the new port and aims to start the construction work on the breakwater and dredging of the port as soon as possible. In addition, APM Terminal Poti is in final negotiations with the government to expand the port of Poti. The two-phase expansion could double the container capacity at Poti Sea Port to over 1 million TEU, subject to the terms of any concluded agreement between APM Terminal Poti and the government. The timeline for construction is estimated at 24–30 months. The government should ensure that any decisions on whether to proceed with the development of port infrastructure at Anaklia and Poti are based on subsector needs and capacity requirements.

Attracting private sector participation will also require improvements to port subsector governance. The governance of the port sector in Georgia is misaligned with European and global best practice, and is also dysfunctional. This has affected attempts at private sector participation, for example through protracted delays in approving the expansion of Poti and the prior cancellation of the Anaklia bidding process. These governance issues prevent the Government of Georgia from properly planning and developing the ports subsector. Reforming port sector governance is therefore a crucial upstream prerequisite to facilitate private sector investment in not only ports (including Poti, Anaklia, and Batumi), but also in adjacent subsectors, including rail last-mile connectivity, logistics centers, logistics facilities, truck drayage services, and the city-port interface.

In addition to investments in port infrastructure, there is a need for better coordination between intermodal services along the MC. Intermodal services for transit cargo require that rail and port services can handle roughly the same amount of cargo concurrently. The ability to attract transit traffic depends on the performance of other parts of the transport logistics chain, including ports and shipping services on the Black Sea and Caspian Sea, trucking, GR, Azerbaijan Railways (ADY), the railways in Central Asia, and on route logistics terminals and border crossings. However, shortages of rail wagons often cause delays at ports where cargo must be stored until there is rail capacity to move the cargo to the destination.

GR operates a capital-intensive business in a low-margin environment. With a significant portion of the fleet already close to the end of its daily economic life, GR now needs to invest in fleet modernization. The railway is currently competitive for bulk cargo that is difficult to carry by truck. However, road transport is dynamic, and intense competition among road transport operators has reduced profit margins. Rail freight volumes have steadily declined owing to heightened competition from oil pipelines, alternative regional transit corridors, and road transport. This reduces the revenue that GR can generate to finance investments in infrastructure renewal.

In 2017, the MC added a new connector with Türkiye when the Baku-Tbilisi-Kars (BTK) railway became operational. The BTK provides a direct rail connection between Baku and southern Türkiye via Georgia and avoids having to cross the Black Sea. This development has improved the connectivity between Central Asia and the West. In 2021, some 25,000 TEU—over half of the containerized rail freight in Georgia—was routed via the BTK. This situation points to the dynamic nature of the corridor.

The unification of tariffs and the harmonization of regulatory and customs procedures for transit cargo along the MC are important. The Government of Georgia and GR have only limited control over the price of long-distance traffic, given that most cross-border freight travels a greater distance on other countries' railways than on Georgian rail. Therefore, the rail tariffs and port and shipping charges of other countries play an important role in determining the price competitiveness of transit cargo on the MC. Price quotations for cross-border shipments also take a long time to coordinate across multiple railways.

The national railway operators of affiliated MC countries and their port authorities all have a monopoly in their respective segments. The quality of ports and shipping services on the Black and Caspian seas is low, and charges are high. This circumstance is due to inadequate facilities, lack of customer orientation, and monopolistic practices. Market feedback revealed that a lack of collaboration between operators and customs authorities impairs transit time, as do multiple transportation regulations along the MC.

Recommendations to improve the performance of Georgian transit logistics:

- **Expand the capacity of Georgian seaports based on demand projections.** The development of additional deep-sea port capacity may be required to meet subsector needs and maintain competitiveness.
- **Develop a national intermodal transport strategy.** Prepare an intermodal strategy to facilitate an integrated service offering of transport services across the corridor, involving train, port, ferry, and container operations. The Government of Georgia should set up a stakeholder working group to support the harmonization and simplification of freight transportation.
- **Strengthen information flows and access to data.** Create a centralized information system to offer a single window for commercial, operational, and financial purposes and promote ease of shipping of transit cargo along the entire corridor. This should include improving (a) real-time operations (such as the locations of vessels, trains, and containers); (b) online information on operational issues, incidents, or alerts (weather, accidents, and so on); (c) statistics and data processing; and (d) alignment with transport regulations, customs, and tariff structures.
- **Improve the reliability of railroad operations.** Modernize the rail fleet and rolling stock to improve competitiveness. There is also further scope for commercializing railway operations. Examples include attracting private operators to utilize GR's railway infrastructure, increasing competition among freight forwarders and logistics service providers, and strengthening sales and marketing. Additional harmonization with ADY should facilitate transportation of transit cargo over the Caucasus.
- **Promote enabling infrastructure for containerized cargo.** Install or improve intermodal facilities to connect maritime routes with the railways and roads more efficiently. The development of dedicated container terminals, logistics facilities, connections to rail and road networks, storage space for containers, exchange facilities, and improvements to the handling of equipment and the management of empty containers all are required at the Caspian Sea ports. The government should assist in developing a joint port master plan and road map for broader MC development.
- **Harmonize transnational agreements for cross-border operations.** Continue to harmonize regulations across Georgia and the other affiliated MC countries to streamline customs procedures and minimize delays at the border. The government should formulate an action plan with Azerbaijan to identify harmonization goals for the MC.
- **Improve governance arrangements to improve transport performance and harmonization.** The development of upstream governance reforms in the ports subsector is necessary to improve subsector performance. Significant improvements in the regulatory framework for trucking are also required.

Agriculture logistics performance

Improving the MC connectivity supports the integration of Georgia's agriculture into the global economy. Georgia is a traditional agrarian country with fertile soil and a favorable climate. Agriculture accounted for 7–8 percent of GDP for the past five years and provides employment to an estimated 38 percent of the population. Agricultural exports account for about 25–30 percent of total exports. These include grapes and wine, berries, nuts (hazelnuts, almonds, walnuts, and chestnuts), citrus fruits, apples, peaches, and apricots. Georgia's geographical location makes it an ideal exporter to regional and European markets.

Georgia is a net importer of agricultural products, but its trade balance deficit is steadily decreasing as exports to the EU grow. Most of Georgia's agricultural exports are destined for markets in the Commonwealth of Independent States (CIS). Russia is the biggest market for Georgian fruits and vegetable products. In 2021, Russia imported US\$21.8 million of vegetables, US\$72.2 million of fresh fruits and nuts, and US\$8.8 million of prepared foodstuffs, amounting to about 35 percent of the total. However, Georgia is now increasingly targeting EU partners with high-value commodities. Countries in the EU imported a total of US\$0.7 million in vegetables, US\$82.8 million in fresh fruits and nuts, and US\$11.7 million in prepared foodstuffs, amounting to about 33 percent of the total.

Agriculture production ranged between 1.0 million tons (minimum in 2010) and 1.6 million tons (maximum in 2013). Annual crop production accounted for 63.5 percent of Georgia's agricultural production over the past five years. From 2010–21, production oscillated between 706,000 tons (2010) and 1.1 million tons (2013). The production of perennial crops has grown from 297,000 tons in 2010 to 567,000 tons in 2021. The compound annual growth rate (CAGR) over this period is 6.1 percent.

A modernized agricultural logistics network is key to improving the efficiency of agricultural production and upgrading the market for agricultural products. There are various challenges in Georgia's agricultural logistics system. Five key areas constrain the efficient operation of agricultural logistics: (a) the scale of operation, (b) packaging standards, (c) product grading and food safety, (d) market information systems, and (e) cold chain technology. Improvements in agricultural logistics also offer a way to reduce the waste of agricultural products. Without cold storage and other basic logistics facilities, 20–30 percent of perishable agricultural products are estimated to be lost before reaching consumers.

Most farms in Georgia are smallholdings, and the small scale of Georgia's farms imposes a key constraint on the efficiency of the agriculture sector. Farms generally have a low level of productivity and are disconnected from markets, and agrifood export products and destinations remain highly concentrated. Because of the scale of operation, smallholdings often rely on local collectors. These collectors drive from farm to farm, negotiating prices separately with each farmer they visit, collect produce, and transport it to local wholesalers. This collection system is a relatively labor-intensive, high-cost method of moving goods, increasing differences between producer and consumer prices. In addition, farm products are seldom packaged properly, leading to increased spoilage, damage, and potential food safety hazards. Georgia has no widely adopted packaging standards for fruits, vegetables, and meat products.

Grading food products and inspecting food for safety are difficult in Georgia because the distribution of agricultural products is highly fragmented, involving many different individual producers, traders, brokers, wholesalers, and retailers. The Government of Georgia has made significant steps to align its food safety legal framework with the EU's Deep and Comprehensive Free Trade Area (DCFTA) requirements. In addition, progress has been made on inspection and practical implementation of the normative acts dealing with food safety. Ultimately, Georgian food products need to fulfill essential food safety and quality requirements to enter high-end markets, domestically and abroad. However, safety inspections often take place for fresh produce after the goods enter the wholesale markets. These markets (especially those markets close to production) lack quality inspection and quarantine equipment.

Farmers often have limited outlets for their products and are unable to take advantage of spatial arbitrage possibilities. The availability of up-to-date market information can enable farmers to check on the prices they receive, compared with the prevailing market prices. Information on market conditions may change farmers' marketing strategies. While individually Georgian farmers may be unable to take advantage of spatial arbitrage possibilities, collectively, with better market information, farmers may be able to organize transport to more distant and profitable markets.

Current and projected cold storage capacity is insufficient to enable Georgian producers to enter higher-end export markets and compete with other regional producers. At least 70 percent of domestic fruit and vegetable production should pass through cold chain infrastructure to stop spoilage and extend the lifetime of fresh products. However, most agricultural produce is currently still stored in the open air. Cold warehousing is often not commercially viable as an independent business. Most local cold warehouses are active only during the harvesting season and remain empty otherwise due to high storage fees and lack of demand. In addition, there is a lack of post-harvest management and cooling equipment, interrupting the temperature-controlled supply chain. However, cooling equipment such as refrigerated trucks require high one-time investment costs and consumes more energy than ordinary equipment during transport. This leads to low utilization of cold chain systems.

Recommendations to improve agriculture logistics in Georgia:

- **Increase the scale of operations.** Increasing economies of scale in production and distribution is an important step in modernizing agricultural logistics. Both the government and private enterprises can play a key role in catalyzing change through (a) regional consolidation, (b) the development of third-party logistics, and (c) vertical coordination.
- **Stimulate product packaging standards.** Establishing uniform, standardized packaging for different agricultural products will enable faster processing of products and lower damage and loss rates. The Government of Georgia should provide farmers, traders, and wholesalers with detailed instructions about appropriate packaging methods. In addition, wholesale markets should refuse to accept products from sellers not packaged according to these standards, forcing market participants to adopt uniform packaging and labeling.

- **Expand safety inspection and grading along the supply chain.** Enforce food safety standards to encourage value chain participants to adopt grading and labeling and ensure safe food for consumers in Georgia and abroad. Invest in institutional capacity building to implement planned and unplanned official controls. This includes the provision of funds and supportive programs for purchasing lab equipment.
- **Enhance market information.** Increase market transparency and information visibility through the creation of a central electronic marketplace for agricultural products. The government discloses quarterly agriculture and food security information through the National Statistics Office of Georgia (Geostat). Developing a centralized, integrated market information system would help farmers connect to buyers beyond their traditional reach. This effort requires a platform to collect, process and disseminate relevant market information in an accessible, usable manner.
- **Develop logistics facilities and cold chain capacity.** Invest in cold chain infrastructure, including regional agriculture logistics centers at strategic locations, to stimulate domestic consumption and the export of agricultural products. Such centers can provide localized assistance to access local and regional supply chains, including linking producers to wholesalers and distributors. These centers should initially be developed at large wholesale markets near population centers such as Tbilisi, Kutaisi, and Gori. Additional cost–benefit analysis should determine the optimal approach for financing the centers, including the use of public funds.

3PL logistics and the Tbilisi Integrated Logistics Center

Promoting 3PL logistics

The logistics service offering of Georgia can be promoted by developing projects or facilities at strategic locations and can provide services required to support growth in Georgia’s transport and logistics sector. These projects should be aimed at improving fair and transparent access, high integration of transport modes, regulatory harmonization, and the use of intelligent transport systems. There is potential/increasing demand for outsourcing logistics services (3PL services), via PPP arrangements, driven by the entrance of international retailers and distributors into the Georgian market. Demand for these services is also complementary to broader needs in the transport and logistics sector in Georgia. As noted, agricultural logistics will increasingly require better quality cold chain storage and distribution capacity. In addition, by virtue of acting as extended gateway to ports, these facilities could help alleviate port congestion issues by helping remove containers faster and allowing operators to conduct logistics activities at the 3PL facilities instead of at the port and support the truck-to-rail modal shift by creating a more predictable demand source for GR.

The 3PL facilities are typically located close to main consumer/industrial areas and preferably far from the seaport to enable large volumes to be transported directly from the seaport to the dry port. The goods are stored/deconsolidated and transported in small batches to the final customers, close to the facility. The centralized location of the inland port aids in cargo consolidation and distribution, leading to lower costs and improved supply chain efficiency. Additionally, the inland port offers greater flexibility in terms of shipping routes, modes of transportation, and delivery methods, allowing shippers to adapt to changing market conditions and customer demands while optimizing transportation costs. Finally, the diversion of cargo traffic from congested seaports can help reduce delays and congestion, saving shippers time and money.

Imports, exports, and overall transit volumes have increased in recent years, creating additional demand for 3PL logistics. Trade flows in Georgia over the period 2016–20 show that imports have increased with a CAGR of 4.2 percent from 6.1 million tons in 2016 to 7.2 million tons in 2020. The increase in imports is due to the rise in imports by road, which grew substantially from 3.4 million tons in 2016 to 4.6 million tons in 2020, driven primarily by cereals, bottles, and cigars and tobacco. Meanwhile, rail imports declined from 2.7 million tons in 2016 to 2.5 million tons in 2020. Exports have also increased to 2.5 million tons in 2020, with a CAGR of 5.1 percent, again mainly due to road exports, which grew from 1.0 million tons in 2016 to 1.4 million tons in 2020, driven by a substantial rise in copper ores and concentrates and mineral waters and wine, as well as ferroalloys exported by road. Overall transit volumes increased from 9.1 million tons in 2016 to 11.0 million tons in 2020 with a CAGR of 5.1 percent, due to significant increases in road transits, which almost doubled from 2.9 million tons in 2016 to 5.5 million tons in 2020. The total market size for Georgia’s import, export, and transits in 2020 was 20.7 million tons.

The Georgian logistics market is currently dominated by classical 2PL companies with limited services and low-efficiency levels. Unmet logistics needs in Georgia include a fragmented warehousing market in Tbilisi, a lack of modern warehousing facilities, an incomplete cold chain, uncompetitive railway transport, limited supply of 3PL services, lack of scheduled block train services, an unregulated truck transport market, supply chain reliability issues, lack of LCL/LTL service, limited integrated IT solutions, and limited one-stop-shop availability. There is potential for a 3PL market due to increasing demand for outsourcing logistics services driven by the entry of international retailers and distributors into the Georgian market.

To successfully develop PPPs, it is essential to ensure that the government has the capacity to procure and manage such projects under a clear and transparent regulatory framework. The Government of Georgia recognized the importance of including the private sector in infrastructure financing and expressed its intention to promote PPPs. In May 2018, the government adopted the PPP law, which acknowledges the benefits of PPPs for the state. To create a PPP-friendly environment, the government has established a regulatory framework, followed by a PPP law and extensive secondary legislation. However, implementing the new PPP law has yet to occur. The Anaklia Deep Sea Port Project will be the first opportunity for the Government of Georgia to gain experience in implementing a PPP project under the new law under a learning by doing approach. Further awareness building of PPPs and the new PPP law is required across government officials, the business sector, and the public.

Recommendations to develop 3PL Logistics:

- **Competitive rental rates.** Set rents to reflect current low rental fees in Georgia, including a small premium reflecting the added value of the 3PL to importers/exporters. In addition, financial incentives are likely required to attract start-up/anchor tenants.
- **Government support.** Encourage the government to secure and prepare land and expansion areas, invest in connecting road and rail infrastructure where required, and ensure access to main utilities for 3PL sites. Enhance the Government of Georgia's knowledge of PPPs to increase the likelihood of a successful transaction.
- **Centralized/coordinated strategy for developing integrated logistics centers in the Tbilisi region.** Develop 3PL facilities through a coordinated approach. The government has a crucial role in avoiding a value-destructing proliferation of facilities, through direct (via selective sponsorship of PPPs) and indirect (via regulating the facilities that GR connects to) actions.
- **De-stimulating scattered warehousing.** Implement a policy to discourage the establishment of more scattered warehouses, particularly around Tbilisi. Implement dedicated zoning plans for logistic activities, avoiding heavy trucks during peak hours, increasing the costs of building permits, and increasing land rental rates. Relocate old/inefficient warehouses to suburban areas to avoid heavy load trucks and congestion in urban areas.
- **Classification standards for warehouses.** Establish standards for classifying warehouses to ensure companies operate within proper regulations. The current deregulated market environment undermines the development of a sustainable and competitive logistics sector in Georgia.
- **Efficient railway transport (block-train services).** Support GR, through its subsidiary GRLT, to ensure an efficient railway transport network that is reliable, fast, and cost-effective compared with road transport. This will be critical to increasing rail's competitiveness with truck transport and will drive the potential for 3PL facilities.

Tbilisi Integrated Logistics Center

The Tbilisi Integrated Logistics Center (TILC) project involves the development of a dry port and 3PL logistics facilities. Given Tbilisi's location and connection to agricultural logistics, consumer markets, and industry, the government wishes to prioritize the establishment of a 3PL logistics center in Tbilisi first, although Georgia will eventually need similar facilities elsewhere in the country. Locating the first project in Tbilisi will help decongest other facilities in Georgia's logistics system, such as its maritime ports and the main East-West highway, and it will facilitate the modal shift from truck to rail and promote multimodality. The development of this modern integrated logistics center, the TILC project, will be through a PPP concession.

The Kumisi site in southeast Tbilisi has been selected as the location for the TILC, with a total area of 64 hectares (with potential for 20 hectare expansion). The site is mostly agricultural land adjacent to the Tbilisi-Yerevan railway line but requires a substantial investment for road accessibility. Electricity and drinking water supply are limited, and a power substation investment is needed, especially for cold chain and refrigerated storage facilities. Ground conditions in autumn-winter are unknown, and soil investigations are needed. The site is also adjacent to the Baku-Tbilisi-Ceyhan crude oil pipeline, which may pose geopolitical risks. The distance between the pipeline and the TILC plot border is about 20 meters. The potential location of the TILC could serve as an extended gateway to the Poti and Batumi ports and could help to alleviate congestion issues at both ports.

A financial feasibility analysis indicates that the business case for the TILC project is positive, with an estimated net present value of US\$22 million. This surplus value could be used to partially recover the government's investments in the project, estimated at US\$26 million, possibly through annual concession fees from the private concessionaire. In addition, the estimated net present value of US\$22 million also allows room for additional private sector capital expenditures, which would result in lower government capital expenditures and concession fees.

Two main tendering options are available for the TILC PPP project: an integrated concession contract between the Government of Georgia and a private concessionaire or separate concession contracts between the government and a private dry port operator and logistic center developer. The Government of Georgia should conduct a competitive PPP transaction process to attract the best possible financial value, maximize the project's potential benefits, and ensure its long-term success. In terms of tendering options, the integrated PPP concession contract is recommended because it allows for economies of scale and synergies and is less complex to implement than two separate PPP transactions. Under this option, a public authority acting as the landlord would establish the concession contract with the private concessionaire, encompassing the dry port and logistic center operations. The private concessionaire has the right to operate or subconcession the dry port operations. In addition, separate rental agreements would be established with logistic tenants.

Two possible structuring options are available for the TILC PPP project: 100 percent private sector participation or a public-private joint venture. One hundred percent private sector participation is recommended. The government would lease out the land of the TILC area and provide all necessary licenses and permits for operation. The implementation structure of a 100 percent private concessionaire offers the government a fixed lease fee, as a comparatively lower-risk alternative compared to the second alternative, which involves dividend payments.

Recommendations to develop the Tbilisi ILC

The general recommendations for 3PL logistics in Georgia apply equally to TILC. In addition:

Financial feasibility of the TILC. Ensuring the financial feasibility of the TILC is paramount to its success. A market-based approach to development is recommended, incorporating modular development strategies to minimize upfront investments for initial site development. Attracting one or more launch customers could encourage other logistics companies to relocate to the TILC.

Summary of policy recommendations

A more detailed list of policy recommendations with proposed actions is provided in **appendix I**. These recommendations have been prepared to enhance the performance of the logistics industry in Georgia. They address the main structural challenges that hamper private sector-led growth in the short and medium term. Although a full cost-benefit analysis of policy recommendations is beyond the scope of this study, key areas in which policy changes can promote efficiency improvements are highlighted.

The policy recommendations in the appendix are structured into the following:

- Recommendations that focus on improving transit freight logistics.
- Considerations that enhance the flow of products and information in the agricultural product supply chain.
- Recommendations that promote the development of the Tbilisi ILC.

APPENDIX

APPENDIX A: CLIMATE CHANGE LAWS IN GEORGIA

Georgia's European Union Climate Change-Related Accessions

The climate commitment under the agreement is tackled in two directions: (a) norms with general character promoting efforts combating climate change and (b) a specific normative framework requiring Georgia's legal alignment with the EU climate acquis.

The general norms are

- Article 230 (4) reaffirms Georgia's commitment to the international climate change regime in reaching the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC) and development of the future international climate change framework under the UNFCCC and its related agreements and decisions.
- Article 307 requires parties to develop and strengthen their cooperation to combat climate change; Article 308 lists the specific areas aiming at mitigating and adapting to climate change.
- Article 310 stresses development and implementation of the (a) national Adaptation Plan of Action (NAPA) and (b) Low Emissions Development Strategy (LEDS), including nationally appropriate mitigation actions.

As for the specific normative framework, climate-designated Annex XXVII covers two regulations of the EU to be approximated in due time into national acquis:

- Regulation (EC) No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases.
- Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

Georgia's EU Accession Commitments with Relation to Energy Policy

The following acts (namely, the Third Energy Package) with particular significance to the renewable energy investment and power market development are stipulated by Annex XXV to be transposed into nation acquis:

- Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources.⁶⁶
- Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity.
- Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity.
- Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006 concerning measures to safeguard security of electricity supply and infrastructure investment.

Georgia's UN/UNFCCC Commitments with Relation to Climate Change

Georgia's international climate and energy commitments arising from UN/UNFCCC agreements stem from two sources: Agenda 2030 and the Paris Agreement.

Agenda 2030

In 2015, as a pledge to Sustainable Development Agenda 2030, all member states of the United Nations adopted the 2030 Agenda, which included 17 Sustainable Development Goals (SDGs) and 169 targets. Although the SDGs are not legally binding, each government is expected to establish an integrated, national SDG strategy with an aim to implement the new sustainable development agenda by 2030. Georgia is committed to the process as reinforced by the Decree of the Government of Georgia on the Approval of National Strategy Document of Sustainable Development Goals (12/11/2019). The strategy sets out 93 Action Points and 201 Indicators on 17 SDGs to nationalize, coordinate, and monitor implementation of the global development goals. Among other things, the strategy points out the importance of SDG 13 (climate action) and places its emphasis on sectoral strategic development processes, such as Nationally Determined Contribution (NDC), CAP, NAP, and long-term strategies.

Paris Agreement

Georgia ratified the UNFCCC in 1994 and the subsequent Kyoto Protocol in 1999 and the Paris Agreement in 2017. As non-Annex I party to UNFCCC, Georgia submitted its first international legally binding climate commitment, or Nationally Determined Contribution in 2017 and a second version in 2021.

In the NDC Georgia committed

- To an unconditional limiting target of 35 percent below 1990 level of its domestic total greenhouse gas (GHG) emissions by 2030 (that is, not exceed 29.25 million tonnes carbon dioxide equivalent—not including the Land Use, Land Use Changes and Forestry [LULUCF] sector);
- Or, with international support, to a total of 50–57 percent of its total GHG emissions by 2030 compared with 1990, in case the global GHG emissions follow the 2 degrees or 1.5 degrees scenarios, respectively.

Georgia's National Climate Strategy and Action Plan

Georgia's 2030 Climate Change Strategy and 2021–2023 Action Plan, a tool for the determination of mitigation measures, does not set new commitments but reinforces the NDC and serves more as guidance on achieving of the NDC targets by setting goals in seven sectors, as follows:

- Goal 1: Reduce greenhouse gas emissions in the energy generation and transmission sector to 15 percent below the reference scenario projections by 2030.
- Goal 2: Reduce greenhouse gas emissions in the transport sector to 15 percent below the reference scenario projections by 2030.
- Goal 3: Support development of low-carbon approaches in the buildings sector by promoting climate-smart and energy-efficient technologies and services.

- Goal 4: Support development of the low-carbon approaches in the industry sector by promoting climate-smart and energy-efficient technologies and services to reduce greenhouse gas emissions to 5 percent below the reference scenario projections by 2030.
- Goal 5: Support the low carbon development of the agriculture sector by encouraging the climate-smart and energy-efficient technologies and services.
- Goal 6: Support the low carbon development of the waste sector by promoting climate-smart and energy-efficient technologies and services.
- Goal 7: Increase the carbon capturing capacity of the forestry sector by ten percent for 2030 compared to 2015.

This is supplemented by the State Energy Policy, which upholds the NDC targets and puts the following indicators forward to achieve the NDC goals:

- By 2030, reduce greenhouse gas emissions by 15 percent in the energy generation and transmission sector compared to the baseline scenario.
- By 2030, limit greenhouse gas emissions by 15 percent compared to baseline forecasts in the transport sector.
- Develop low-carbon approaches in the building sector by encouraging energy efficient technologies and services.

To achieve these goals, the following tasks are to be fulfilled:

- Increasing the share of renewable energy (wind, solar, hydro) up to 87 percent in Georgia by 2030.
- Improving the average efficiency of thermal power plants. With the commissioning of new combined cycle thermal power plants, by 2030, the average efficiency of thermal power plants will increase by up to 50 percent.
- Strengthening Georgia's transmission network and increasing renewable energy integration capabilities. Increasing the share of renewable energy (wind and solar stations) in the installed capacity of the Georgian energy system up to 18.2 percent.
- Increasing the share of technically sound private cars with low and zero emissions in the fleet (electrical -five percent and hybrid -20 percent of vehicles).
- Encouraging the use of biofuels. Promoting the use of environmentally friendly fuels and increasing the share of energy from renewable sources in transport, including biofuels, with 10 percent by 2030.
- Encouraging nonmotorized mobility and public transport and implementing innovative initiatives. Increasing the share of nonmotorized transport (bicycles and walking) and public (metro, bus, minibus) transport in Tbilisi by 2030 up to 35 percent and 45 percent, respectively. As a result, reducing the use of private cars down to 20 percent.
- Creating an energy efficiency certification system for buildings. By 2030, 100 percent of new buildings subject to certification must be energy efficient.
- Informing the customer through standardizing-labeling energy-consuming devices and providing more information to the customer to increase the market share of energy-efficient devices.

- Encouraging energy-efficient approaches to residential, commercial, and public buildings, and energy-efficient lighting in buildings.
- Promoting the use of solar energy and energy efficient stoves for water heating.
- Training of personnel with high professional standards in energy efficiency issues.

APPENDIX B: DISRUPTIVE DIGITAL TECHNOLOGIES

TABLE B.1: DEFINITIONS OF DIGITAL SUBSECTORS

SUBSECTOR	DEFINITION
3D Printing	Developing and using 3D Printing, or additive manufacturing, refers to the manufacturing process and the technology related to printing a three-dimensional object. This sector encompasses the actual printer as well as software related to 3D printing.
AerospaceTech	Developing and using technology to provides services, research and innovation related to spaceflight, aviation, satellite, and space exploration. This subsector includes but is not limited to satellite operations management software, products enabled by satellite connection (such as real-time aerial mapping), spacecraft and aircraft development software, and spatial communication technology.
AgTech	Developing and using digital technologies to enable the agriculture technology value chain—including but not limited to digital agriculture software and hardware (sensors, imagery, precision ag), mixed and integrated agriculture innovation, plant and crop science, animal and livestock science, post-farm agriculture value chain (agrimarketplace, delivery, logistics, supply chain innovation), and agriculture waste management.
Artificial Intelligence & Machine Learning	Developing and using technology for machines to autonomously learn and act through data analytics. This sector will inevitably be closely related to Big Data and Analytics since AI and ML utilize a large quantity of data to perform its given functions.
Big Data & Analytics	Developing and using technology for recording, collection, distribution, and usage of large volume of data. Big data refers to data that are too large, fast, or complex that are difficult to process using traditional methods. This sector includes firms that use data as a service, data analysis and visualization services, and data collection services
BioTech	Developing and using biotechnology to create products that are dependent upon developing and creating new products by utilizing and manipulating biological systems and living organisms. This subsector includes firms developing databases for biotech research and Internet of Things (IoT) devices for biotech.
Blockchain & Cryptocurrency	Developing and using technology to use blockchain applications and the distributed ledger technology. This subsector includes but is not limited to firms using smart contracts, crowd funding, supply chain auditing, cryptocurrency, identity management, intellectual property and file storage, and so on. Cryptocurrency space includes companies providing services or developing technology related to the exchange, storage, facilitation of payments, and securing cryptocurrency.
Business ManagementTech	Developing and using technology to improve business operations. This subsector includes but is not limited to operations management/optimization software, customer relations management (CRM), customer service tools, enterprise resource planning (ERP) products, and corporate digitization consulting.
CivicTech	Developing and using technology to improve and aid the relationship between civil society, governmental functions, and humanitarian well-being. This subsector includes but is not limited to government management systems, data analytics on political and governance processes, taxation management, civil society reporting systems, and monitoring products and services.

SUBSECTOR	DEFINITION
CleanTech	Developing and using technology to improve the creation, distribution, usage, and monitoring of clean and sustainability products and services. This subsector includes but is not limited to digitally enabled clean energy products and services, sustainable product e-commerce, clean technology logistics technology, and recycling and waste management technology.
ConstructionTech	Developing and using technology to improve the construction value chain. This subsector includes but is not limited to construction operation management software, construction safety IoT services, and construction logistics software.
Digital Media	Developing and using technology to improve the creation, editing, storage, access, distribution, publishing, analysis, and delivery of media on digital settings. This subsector includes but is not exclusive of digital journalism, social media, e-media searching and subscription platforms, and publishing logistics management products and services.
Drones	Developing the technology, utilizing, servicing, and delivering automated or remote-controlled mechanical devices and technology, including unmanned aerial vehicles, subsea vehicles, and land vehicles.
e-Commerce	Developing and using digital technology to facilitate and improve the sale of products over internet networks. BEA considers e-commerce to include digitally ordered, digitally delivered, or platform enabled transactions. ^a This subsector includes but is not limited to online marketplace, aggregator e-Commerce, e-Commerce analytics, e-Commerce transaction, e-Commerce logistics.
EdTech	Developing and using technology to enhance teaching, learning, and training process in and outside of classrooms. This subsector includes but is not limited to learning devices (tablets and interactive smart boards), educational institution management systems, virtual learning products and services, remote learning products and services, and instructor and student assistance program.
EntertainmentTech	Developing and using technology to improve the creation, distribution, delivery, analysis, and usage of entertainment products and services. This subsector includes but is not limited to e-sports, e-casino, movies, animation studios, and gaming (hardware and software) products, music and video streaming platforms and services, arts, music algorithm software, and entertainment event online management and entertainment-oriented social media.
Fintech	Developing and using technology for financial services usually offered by traditional banks including loans, payments, wealth and investment management as well as software providers automating financial processes or addressing core business needs of financial firms.
FoodTech	Developing and using technology to improve food and beverage production, distribution, purchasing, and consumption. This subsector includes but is not limited to restaurant aggregator/review platforms, food e-marketplaces, food lifestyle media as well as prepackaged food subscription firms.
Gig-Economy	Developing and using technology to connect gig-economy workers to gig-economy opportunities including different sharing economy opportunities. This subsector includes but is not limited to freelancer/gig-worker hiring platforms, gig worker workflow management software, and gig worker insurance platforms.
HealthTech	Developing and using technology to improve the creation, facilitation, delivery, safety, reliability, and analysis of health care services. This subsector includes but is not limited to telehealth, e-health platforms, pharmatech, technical medical device development, medical laboratory management, and diagnostic algorithm development.

SUBSECTOR	DEFINITION
HRTech	Developing and using technology to improve the management, research, analysis and organization of human resource (HR) functions. This subsector includes but is not limited to human resource management software/ platforms, recruitment algorithms, job posting platforms, employee performance and time tracking, employee training (remote and/or virtual) and reporting tools.
InsurTech	Developing and using technology to improve the creation, distribution, delivery, usage, and analysis of insurance products and services.
Internet of Things	Developing, producing and using Internet of Things (IoT) devices—physical objects that are embedded with sensors that monitor, store, and send data for use in the physical space.
LegalTech	Developing and using technology to improve creating, distributing, using, interpreting, organizing and assessing legal products and services. This subsector includes but is not limited to tele-legal service, legal service aggregator, algorithmic legal service and caseload management solutions
LogisticsTech	Developing and using technology to improve the movement of goods. This subsector includes but is not limited to digital supply chain management, cargo management software, supply chain tracking and operation management software
ManufacturingTech	Developing and using technology to improve the operation and management of the manufacturing value chain. This subsector includes but is not limited to automation solutions, smart factory products and data-based production analytics tools
MarketingTech	Developing and using technology to improve the marketing value chain. This subsector includes but is not limited to digital marketing content creation, digital marketing consultancy, marketing data and analytics, search engine optimization (SEO) technology and customer tracking and interaction products and services
MiningTech	Developing and using technology to improve the mining value chain. This subsector includes but is not limited to seismic data analytics, mining operation optimization, supply chain management software and risk detection technologies
MobilityTech	Developing and using technology to improve the movement of people. This subsector includes but is not limited to passenger transportation (air travel, train, automobile) logistics, traffic monitoring and tracking, on-demand ride share and haul (both for motorized and non-motorized means of transportation), passenger transportation repair platforms and online maps
NanoTech	Developing and using nanotechnology to create products that are dependent upon the ability to manipulate materials at an atomic level, usually due to the materials exhibiting novel properties at the sub-atomic level
PetTech	Developing and using technology to improve products and services regarding animal and pet care. This subsector includes but is not limited to animal care matching platforms, tele-vet care, animal product e-Commerce, animal monitoring IoT and wearables and animal care social media
PropTech	Developing and using technology to improve the real estate and property development value chain. This subsector includes but is not limited to property sale and renting platforms, property management software, renter verification software, and smart home applications

SUBSECTOR	DEFINITION
QuantumTech	Developing and using digital technology through quantum computing principals (using Qubits instead of normal computer bits of 0 and 1). This subsector includes hardware and software components of quantum computing
RealityTech	Developing and using technology that provides user experience in a different reality environment. This includes both virtual and augmented reality
Robotics	Developing and using technology for remote-controlled mechanical devices including machineries programmed to perform repetitive tasks and precision tasks
SecurityTech	Developing and using technology to improve safety and security products and services. This subsector includes but is not limited to cybersecurity-related products and services, security monitor and security IoTs, and wearables
Social Network	Developing and using technology to enables users to connect and communicate with each other by posting information, comments, messages, images through a dedicated website or applications. This subsector includes social media, messaging platforms, services conducted through social media, and content sharing platforms
Software & SaaS	Developing and using technology to offer software as a service (SaaS) or product. This subsector includes but is not limited to digital infrastructure software, application and web design/coding, industry specific software etc.
Tech Hardware	Producing or contributing to the process of producing physical parts of computer, machinery and related devices that enable digital infrastructure and digital usage. Includes firms making or servicing internal and external hardware for devices that enable digital connectivity and software installment
Telecom	Developing and deploying telecommunication technology to enable digital infrastructure and digital connectivity. This subsector includes but is not limited to telecommunication service providers, telecom infrastructure developers (tech hardware related to broadband, fiber optics), internet connectivity services (internet and mobile network service) for both individual consumers and businesses
TravelTech	Developing and using technology to improve the travel and tourism value chain. This subsector includes but is not limited to travel booking platforms, travel review and discovery platforms, and travel security software
UtilitiesTech	Developing and using technology to improve the utility value chain including water and waste management utility. This subsector includes but is not limited to utility management software, utilities monitoring and tracking services, mobile payment for utilities, leak detection IoTs, technology-enabled toilets, sanitation IoTs, sanitation monitoring tools, and sanitation-related tele-health products and services
Wearables	Developing and using wearable devices with sensors that collects and analyzes data based on the user's activities. This subsector includes firms developing soft and hardware related to wearable technology
Web Services	Developing and using technologies to connect users to access web-based application and data source via standard web protocol. This subsector includes but is not limited to hosting services, cloud services, web and application development, web application engineering and ICT connectivity solution providers

a. Kevin Barefoot et al., "Defining and Measuring the Digital Economy" (working paper, Bureau of Economic Analysis, Washington, DC, 2018).

APPENDIX C: DIGITAL BUSINESS DATABASE METHODOLOGY

About the Database

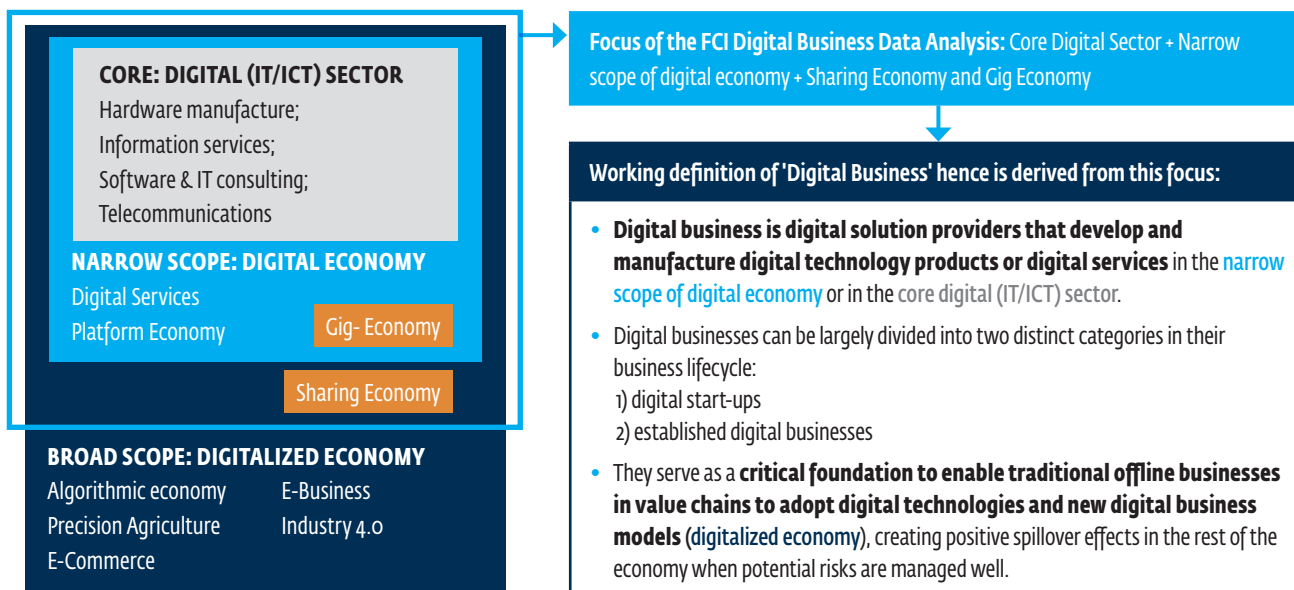
The World Bank Global Business Database contains firm-level data of digital solutions firms from four proprietary data sources: Crunchbase, CB Insights, Pitchbook and Briter Bridges. The data was collected using different techniques, including web scraping, and gathering of firm information from entrepreneurship networks, VC or other investment deals. The data source providers specialize in collecting information on tech start-ups or digitalized firms that may be attractive for VC/PE investors due to certain innovative elements in their business models or core product offering.

- **Crunchbase:** Business analytics platform and global database that provides market intelligence on digital businesses and startups, investors, and funding rounds.
- **CB Insights:** Business analytics platform and global database that provides market intelligence on private companies and investor activities.
- **Pitchbook:** Subsidiary of Morningstar, delivers data, research and data platform covering private capital markets, including VC, PE and M&A transactions.
- **Briter Bridges:** Crowdsourced data-driven research company with a pan-emerging markets focus

Coverage and focus

The combined World Bank database covers more than 200,000 digital businesses in 190 countries across all World Bank regions and 44 digital subsectors (see below).

The database provides a conservative estimate of the universe of digital businesses using a narrow definition of the digital economy, namely digital solution providers that develop and manufacture digital technology products or provide digital services (i.e., tech firm, ICT sector, digital sector). Traditional “offline” businesses and digitalized traditional businesses are excluded in this database (see below). Digitalized traditional businesses were filtered out by applying a list of digital solution-related keywords in company descriptions: software, automate, cloud, application, AI, data etc. though there is no clean cut of digital firm vs. digitalized firm. Applying these keyword filters resulted in at least 90 percent of the sample being digital solution firms compared with manual checks of a random subsample. Given the narrow definition of digital businesses overall digitalization is likely bigger than what this database captures.



Source: Rumana Bukht and Richard Heeks, "Defining, Conceptualising and Measuring the Digital Economy" (Development Informatics Working Paper 68, University of Manchester, August 3, 2017).

Limitations

As the data sources collect firm-level data of digital firms seeking investments, the database may be focused on operating firms with presence in investor networks but do not cover very early-stage firms such as student projects. Moreover, as the data is collected through web scraping and self-reporting (though the data providers also check the information) some digital solution firms in stealth mode or are unfamiliar with these data companies may not be covered in the database.

Variables covered by the database.

MODULE 1		Firm Characteristics					
Firm identification	Company ID	Name of the company	Company Description	Founding Year (age)	Operating Status	Subsectors (Firms can have more than 1 subsector)	Firm contact information and website
MODULE 2		Incorporation Location					
Global Landscape	Headquarter Country			Operating Country			
MODULE 3		Digital Business Model Variables					
Business Model Identification	Digital Business vs Digitalized Business		Platform Business Model (Y/N)		Data Business Model (Y/N)		Digital Business Ecosystem Hub (Accelerator, Incubator, Coworking space etc.)
MODULE 4		Funding Performance Variables					
Funding and Exits	Total Funding Amount		Latest Funding Amount, Date, Type		Exit Date and Type		Name of investors over time

APPENDIX D: EXAMPLES FOR SECTORAL DIGITAL TRANSFORMATION DEEP-DIVES

Example Digital Transformation Deep-Dive for Tourism

Digital Applications in Tourism

FOUNDATIONAL TOURISM DIGITAL SERVICES:					
Digital Infrastructure & Skills	Digital Financial Services	Digital Government	Destination Asset Management		
Internet & Connectivity Expansion	Currency Exchange Platform	E-Visa Service	Micro-Grid Clean Energy		
Tech Training for Tourism Sector Workers	E-Travel Insurance	Digitization of Tourism Ministry & Statistical Office (Centralized Platform and data collection)	IoT and Drone for Sustainable Land Management		
DIGITALIZATION OF TOURISM VALUE CHAIN:					
Organization of Travel/ Marketing & Outreach	Transport	Accommodation	Excursion and activities	Shopping & Restaurants	Entertainment
Travel Comparison, Booking & Review Platform					
Travel Planning Software/ AI Applications/ Platform	Data-Based Tourism Operation Optimization (Market analysis, marketing, review tracking, translation)				
	Rideshare/ transport	Hospitality Operations Management/ CRM Software/ FinTech			
Travel Route Optimization	Traveler Information Sharing				
	Sustainable tourism E-Certification & Monitoring			E-Commerce (handicrafts, music)	
Digitalized Utility Mgmt					
VR/AR Tourism					
Robotics for services and operations (esp. in hospitality)					

Digital Applications in Agribusiness

FOUNDATIONAL AGRIBUSINESS DIGITAL SERVICES:					
Finance & Insurance		Post-harvest Services	Full Value chain Management		
Digital Payment	Crowdfunding	Smart/IoT-enabled product quality control	E-Commerce Platform		
Data-enabled/digitally delivered insurance		Procurement management software	Commercial product smart sourcing/tracking		
Alternative credit scoring		Smart Warehousing/Warehouse management	Waste Management Platform/Software		
Lending & collateral management		Logistics management software	Commodity Trading and Forecasting Platform		
DIGITALIZATION OF AGRIBUSINESS VALUE CHAINS:					
Research & Extension	Input Supply	Production	Processing	Distribution & Marketing	
Digital Agronomy		Traceability software (incl. DLT)			
Precision Ag Inputs Management		IoT monitoring	Manufacture efficiency management	Supplier to vendor marketplace	
Precision pest, irrigation, chemical management				Supplier to consumer platform	
	Equipment sourcing platform	Precision farm prep	Supply chain sustainability and compliance software		
	Veterinary services platform	Precision pollination		Smart contracts and blockchain	
Field monitoring and sensor					
Farm management software; chemical, water, labor, etc.					

APPENDIX E: STATUS OF THE OPEN BANKING IMPLEMENTATION IN GEORGIA

#	FUNCTION	ROLES / ACTIVITIES	STATUS	
			CURRENT STATUS	ISSUES / OPEN ITEMS
1	Licensing or accreditation of participants	Setting rules and criteria	NBG has set framework for licensed institutions and draft requirements	The specific rules and requirements for TPPs to be developed
		Vetting or assessing firms	Rules are being developed	
		Authorizing or accrediting	Partially implemented	
2	Supervision & Enforcement	Compliance & methodology	Fintech companies can monitor compliance; The Association facilitates testing of compliance	NBG measures still need to be defined and developed
		Monitoring, Assessment, & Enforcement	Not yet defined or implemented	
3	Product, service, use case & processes	Use case scope, rights, services	Narrowly defined around AIS and PIS	NBG's Intent is to mirror the EU
		UI/UX & process approach	Some limited UI/UX standard setting	Seems to be under discussion still
4	On-boarding & registration	Registration	Registration is confirmed by the NBG	Operation registry req'd
		Issuance of certificates	CA issuer consults NBG on status of license before issuing certificates	Technically compliant with the EU standards
		Testing	Banking Assoc providing test certificates	BAG role under review
5	Registry		Static registry; not machine-readable registry to date	Noted as an open item to be addressed in the roadmap
6	Standard setting and management	Setting standard scope and depth	Set by the Banking Association of Georgia (BAG). They are a member of the Berlin Group SCA is under NBG but association	Role of the BAG in expansion to open finance and provision of services seems to be object of debate for the roadmap
		Compliance and homologation	BAG is providing basic testing facilities and listing of API Sandbox facilities	
7	Market development	NBG and BAG have conducted communication campaigns but still limited awareness		Sequencing and timing of further efforts req'd
8	Other Central infrastructure	Certificates for tests provided by the association. Production are EU compliant; directory will be maintained by NBG		Should be considered with appropriate governance transition roadmap
9	Monitoring and reporting	Ad hoc and manual today; Analyzing possibility for providing hub is ongoing process and looking for tools; association will host and provide reporting for supervision and for consumers		Plan is / should be further developed in the roadmap

APPENDIX F: REGIONAL COMPARISONS IN FINTECH AND OPEN BANKING

Latvia and Estonia and Estonia may be considered reference markets. An important difference between Georgia and these economies is the overall size of their addressable market. Membership of Latvia and Estonia in the EU enables local companies there to service not just domestic but also other economies within the European Economic Area (EEA). The Second Payment Services Directive (PSD2) regulatory framework has spurred investment and development of specialized Payment Initiation and Account Information Service Providers across Europe. In Estonia and Latvia, countries with smaller populations than Georgia (1.1m in Estonia and 1.8m in Latvia), several licensed providers of new Account Information (AI) and Payment Initiation (PI) services defined by PSD2 have ‘passported’ their license to operate in other countries within the EEA.

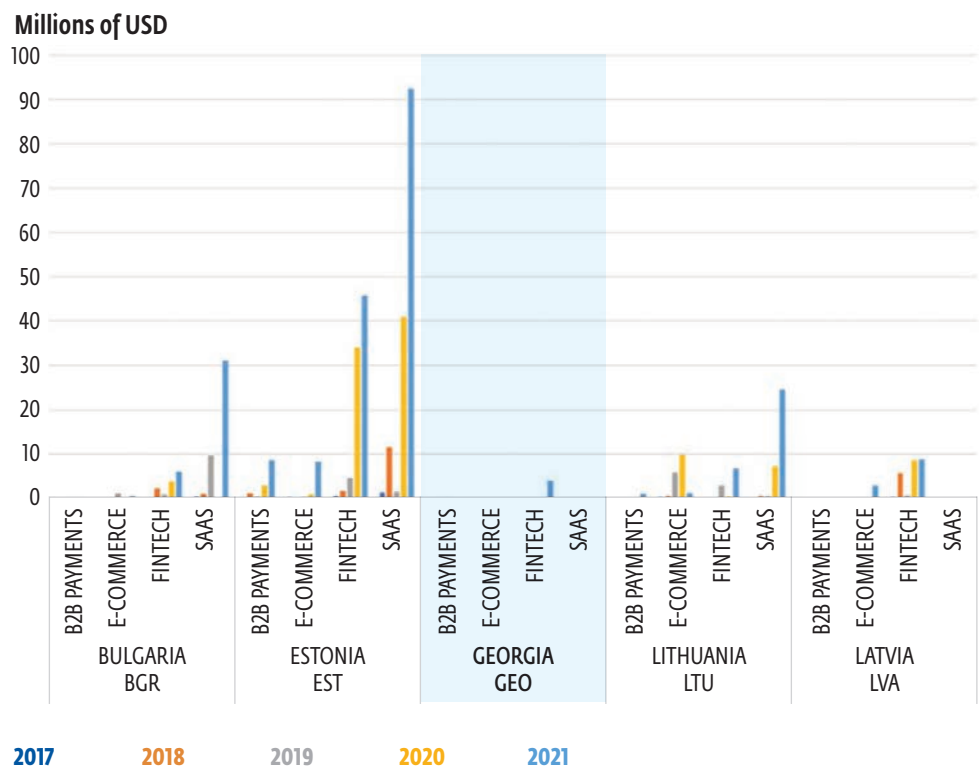
There are currently 447 companies authorized to provide payment services in Estonia and 441 in Latvia. The majority of these are licensed by a home country regulator in another EEA market. Of these, 19 are based in Estonia and 10 in Latvia. The overall level of competition from firms across the EEA is high. Among these companies, some provide AI and/or PI services as defined under PSD2. By way of comparison, In Georgia, there are currently 30 licensed payment companies. The domestic companies listed in the table on the right include credit bureaus and registers, specialist payment service providers and account analytics and bank API integrators such as Nordigen. While there are not yet any formally licensed equivalents in Georgia, these markets provide some indications of the number and kinds of firms that one might anticipate developing in Georgia.

HOME COUNTRY AUTHORITY	YEAR OF REGISTRATION	COMPANY NAME	EMI	PIS	AIS	NO OF EEA COUNTRIES IN WHICH REGISTERED
Estonia	2017	Mksekskus		X	X	7
	2018	Krediidiregister			X	3
	2019	Inhouse Pay	X	X	X	6
	2020	Crumblo		X	X	1
		Meieni		X	X	3
	2021	Creditinfo Eesti			X	3
		IPF Digital	X	X	X	3
		MyFinancier		X	1	
	2022	Modena Payments		X	X	1
	2022	Paywerk		X	X	30
Latvia	2014	Transact Pro	X			27
	2020	Andele Mandele	X			1
		Mobilly	X			1
		Nordigen		X	30	
	2021	SIA Mintos Payments	X			27

AISP: Account Information Services EMI: Electronic Money Issuance; PISP: Payment Initiation Services Source: European Banking Authority EUCLID Database, accessed on February 13, 2023

Independent venture capital investment in Georgian Fintech companies lags other countries in the region. compares start-up investment in specific subsectors as per Pitchbook data between Georgia and other markets. Services relevant to open banking include general FinTech, B2B payments, e-commerce and Software-as-a-Services business, such as for accounting or procurement. While this does not include investments by large corporates such as BoG and TBC, the low levels of investment indicated for Georgia and some peer group markets highlights the gap with markets like Estonia and Latvia and the potential for further growth in attracting international investment.

FIGURE 1: EARLY-STAGE INVESTMENT IN START-UPS, SELECTED COUNTRIES AND SEGMENTS



APPENDIX G: OPEN BANKING SERVICES AND PREREQUISITES

END USERS	SERVICE TYPES	ROLE OF OPEN BANKING	PREREQUISITES	CURRENT STATUS
Individuals & Households	Account aggregation	Enables clients to view and manage accounts across multiple institutions	Must be users that have multiple financial services providers	Many customers using two main banks but less evidence of broader multi-banking
	In-app top-ups	Facilitates seamless consumer experience in and usage of tech app services	User-apps with significant in app payments and consumer usage	No significant super-app market, but developments continuing
	Customer on-boarding	Facilitates solicitation, acquisition, and KYC	Array bank and non-bank service providers competing for client acquisition and product customization	Only limited evidence of diversity in financial products, provider and acquisition channels.
	Product Comparison	Enables third parties to offer price and product comparisons to prospects		
	Credit file enhancement	Enables clients to apply other data outside banking sector to inform their rating	Alternative data and credit providers	Limited development of alternative lenders
	Loyalty and subscription management services	Enables providers of new value-added services to be layered on top of payments and banking services	Competitive retail commerce market or banking sector using these services to acquire or retain customers	Limited evidence of strong competition for consumer retail services, but some providers of analytics services for banks
SMEs	Merchant payments	Enables merchants and consumers to exercise more choice over the type of payment instrument and system to use	High fees to merchant service quality; low penetration of acceptance; competing payment networks / instruments (such as a Fast Payments System) that can differ on price, acceptance	While fees for retail payments remain high compared to int'l standards, there are not notable network alternatives through which price competition can operate
	ERP integration	Enables businesses to integrate accounting, operations, and a/c payable/receivable processes directly with banking and support analytics and distribution of	Significant portion of SMEs using modern integrated ERP or SaaS platforms to manage business ops and finance	Interviews suggested very low uptake of new ERP and accounting systems by SMEs
	SME finance analytics	bespoke financial services to optimize cash management, borrowing	Nascent market in specialized SME finance providers or services	No significant evidence of these specialists in the market yet

APPENDIX H: RESULTS OF SURVEY ON RENEWABLE ENERGY IN GEORGIA

Framework of Risk Categories and Factors

The four key categories in which the survey was structured were as follows (see details in table below):

1. Country content - Overall country risks, which includes factors such as macro-economic risks, overall governance, business or banking environment, rule of law, etc.
2. Power sector context, which includes factors such as growth prospects (market size, demand expectations, export opportunities), investor's personal track record and sectoral track record.
3. Policy and regulatory framework in the power sector includes factors such as certainty of cash flow, clarity of policy or ease of market entry.
4. Environmental and social aspects include factors such as environmental impact, social issues, and government's support.

A score was allocated to each risk category for each survey participant. We then weighed each risk score to get the ranking of all sub-risks. To make scores of different categories comparable we scaled them into a similar scale (10 is highest and 0 is lowest) and weighted by category score. The table below summarizes all categories and factors included into the survey grouped into contextual sub-categories (marked as Latin letters):

RISK CATEGORY AND FACTORS TO CONSIDER

1 COUNTY CONTEXT

a Governance and political risks

- i Rule of law
- ii Political stability
- iii Government effectiveness
- iv Regulatory quality
- v Control of corruption

b Macro-economic framework

- i Economic growth
- ii Manageable foreign exchange risk
- iii Fiscal discipline
- iv Overall track record of private sector investment in the country
- v Reasonable level of domestic inflation

c Banking and capital markets

- i Availability and sustainability of local debt financing
- ii Active presence of international financial institutions in the sector
- iii Availability and sustainability of local equity financing

d Business environment

- i Qualified local work force
- ii Presence of local subcontractors

2 POWER SECTOR CONTEXT**a Sectoral growth**

- i Current power market size
- ii Annual growth rate in demand for power
- iii Power export opportunities
- iv Proposed reforms and new power sector market model

b Sectoral track record

- i Track record of adequate power sector regulation in Georgia
- ii Overall volume of private investment in the power sector in Georgia in the last ten years

c Firm's personal track record and access

- i Your firm's network in the country
- ii Your firm's prior history of investment in the country
- iii Your firm's access to relevant decision-makers in the government / utility

3 POLICY AND REGULATORY FRAMEWORK**a Clarity of policy**

- i Clear and transparent national plan and targets for renewable energy expansion
- ii Clarity of roles of stakeholders in the power sector
- iii Clear and detailed policies on desired service levels and technical standards
- iv Level of support from the various public stakeholders for private sector solutions in the sector

b Certainty of cash flow

- i Reliable government support mechanisms for project revenue or for backstopping under-payment by contract off-takers
- ii Clear and transparent mechanism for curtailment or forced spilling
- iii Track record of payment from off-takers and the Government
- iv Well-documented and transparent guidelines for tariff-setting to ensure predictable recovery of reasonable costs and investment returns
- v Clear and transparent balancing responsibilities
- vi Mechanisms to enforce payment from end-users or off-taker utility company
- vii Ability to export and predictable demand for exports

c Ease of market entry

- i Clear, transparent, and enforceable rules on entry and exit for the private sector in the power sector
- ii Clear and transparent regulations on grid connection
- iii Conducive legal framework for private sector to invest in the power sector

4 ENVIRONMENTAL AND SOCIAL RISK FACTORS

a Social

- i Absence of social protests
- ii Ease of land acquisition, processes for compensation, and land access
- iii Ease of communication with community on social aspects related to the project

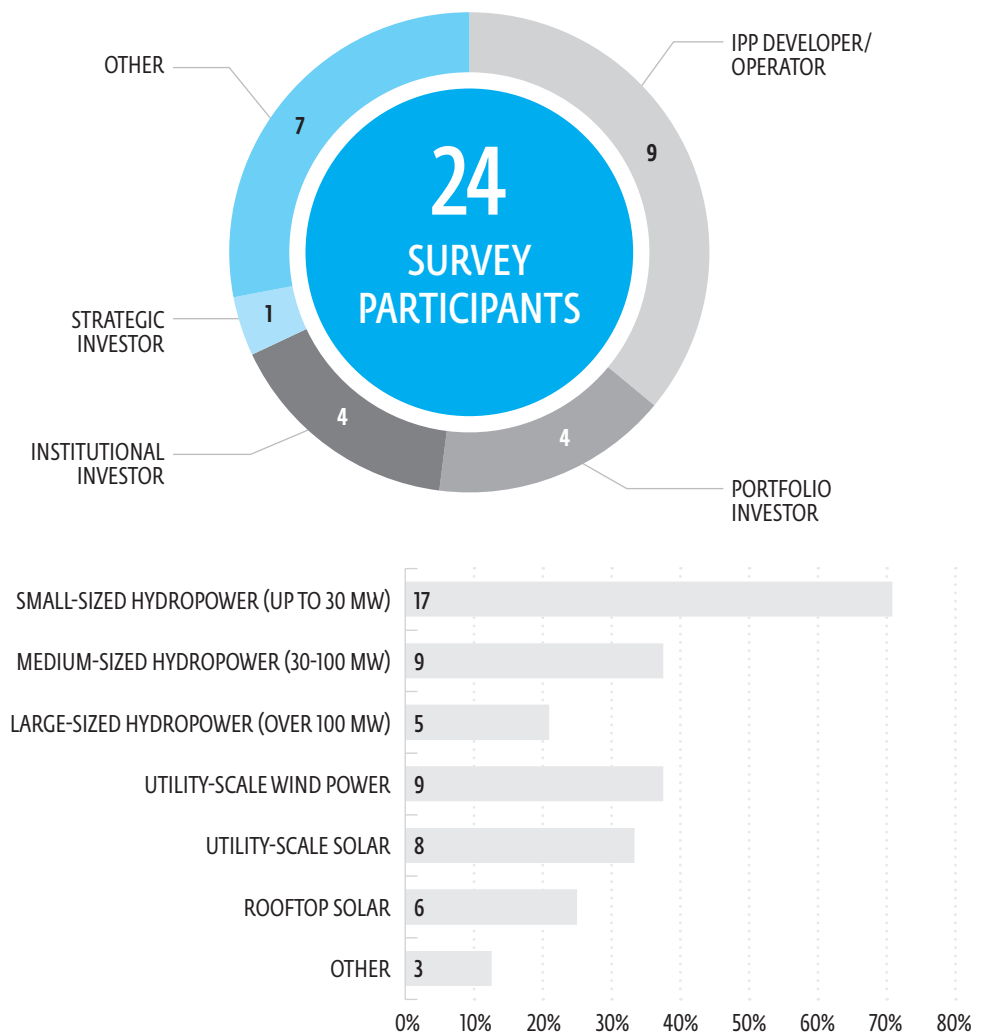
b Environmental

- i Natural hazards, imposing risks to operations
- ii Management of environmental impacts of the project which could not be mitigated

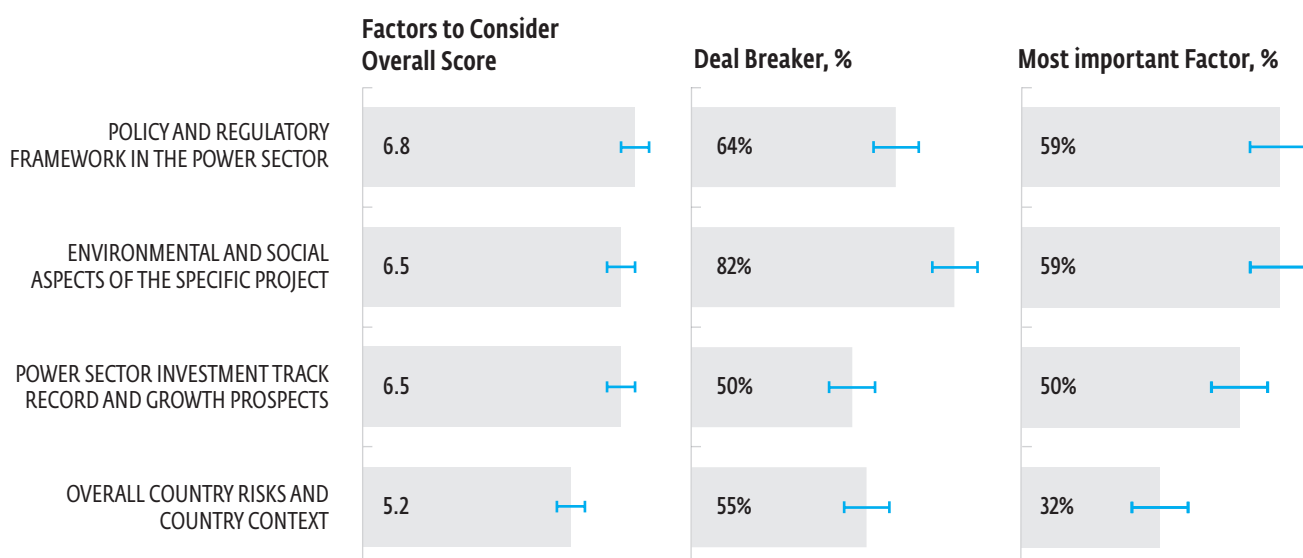
c Government support

- i Clear regulatory requirements and ease of processing of government approvals of environmental studies
- ii Government involvement in facilitating land access and management of environmental and social aspects of the project

CHARACTERISTICS OF SURVEY PARTICIPANTS

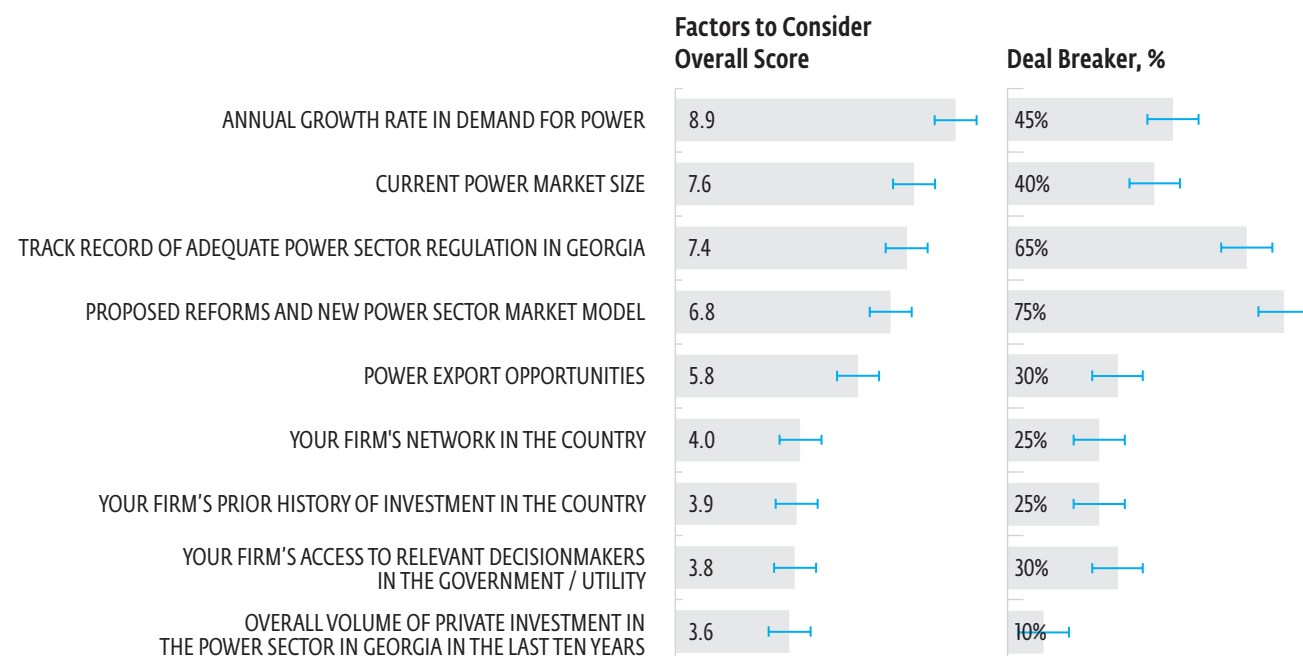


KEY FACTORS INVESTORS CONSIDER DURING DECISION MAKING: AVERAGE IMPORTANCE, SCORES, MOST IMPORTANT FACTOR, AND DEAL BREAKERS



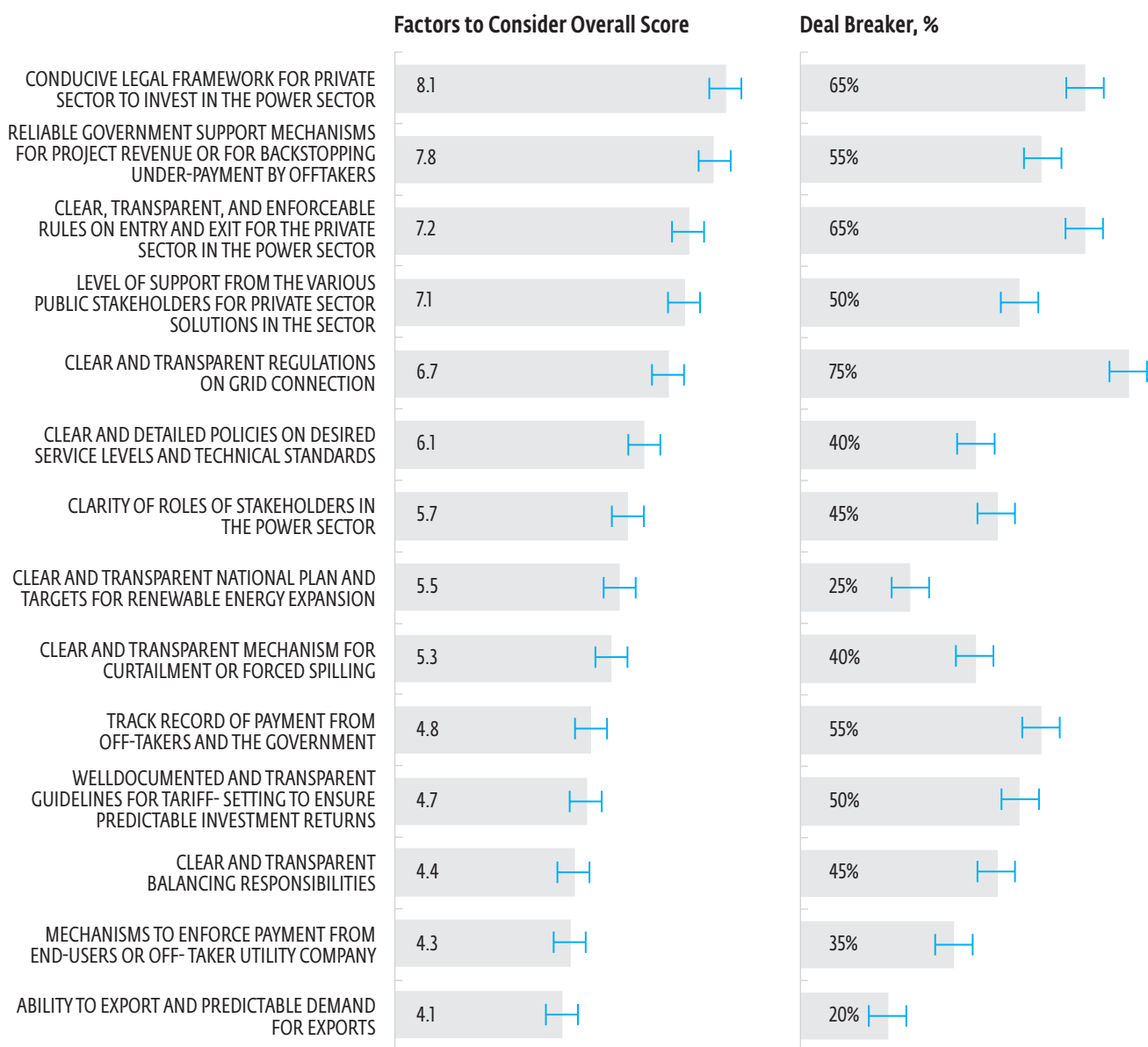
Note: scoring is done based on weighted average score of each factor ranked by participants. Most important factor, % shows appearance of these factors as first or second in ranking. Deal breaker, % shows what portion of participants indicated this factor as deal breaker. Standard error as error bars.

POWER SECTOR INVESTMENT TRACK RECORD AND GROWTH PROSPECTS: KEY RISK CATEGORIES, AVERAGE IMPORTANCE, AND DEAL BREAKERS



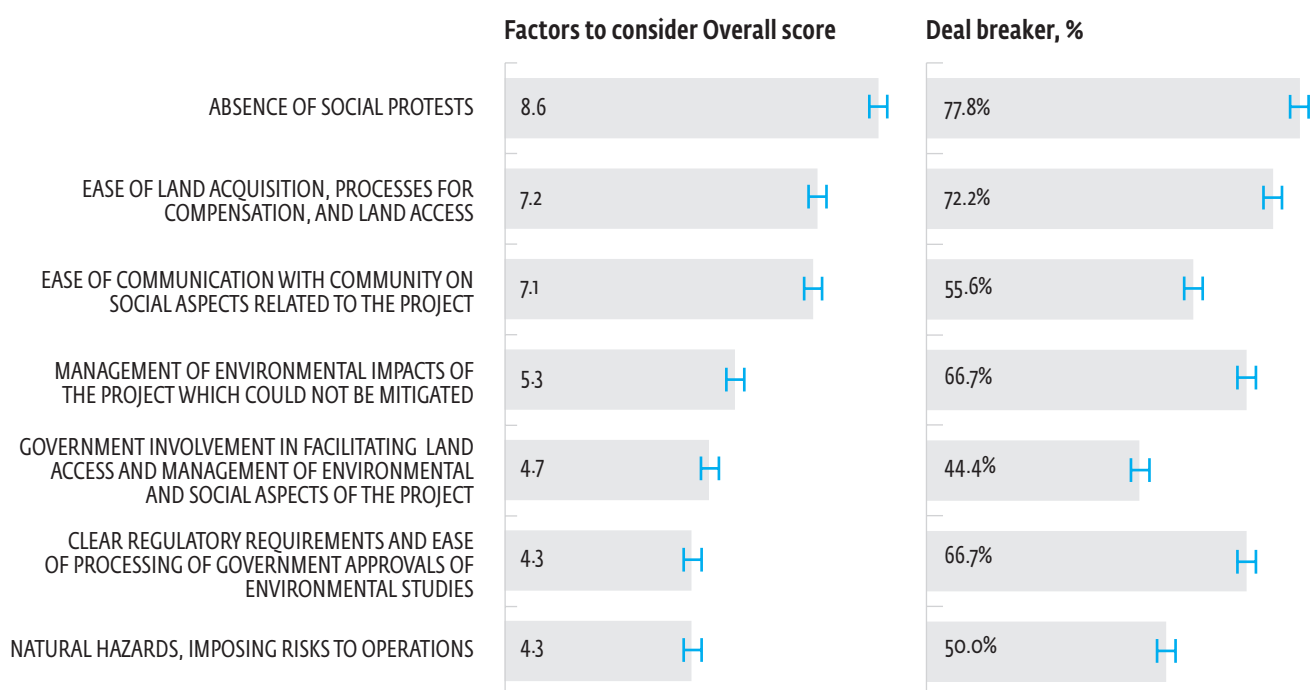
Note: Scoring is done based on weighted average score of each factor ranked by participants. Deal breaker, % shows what portion of participants indicated this factor as deal breaker. Standard error as Error bars.

POLICY AND REGULATORY FRAMEWORK IN THE POWER SECTOR: KEY RISK CATEGORIES, AVERAGE IMPORTANCE, AND DEAL BREAKERS



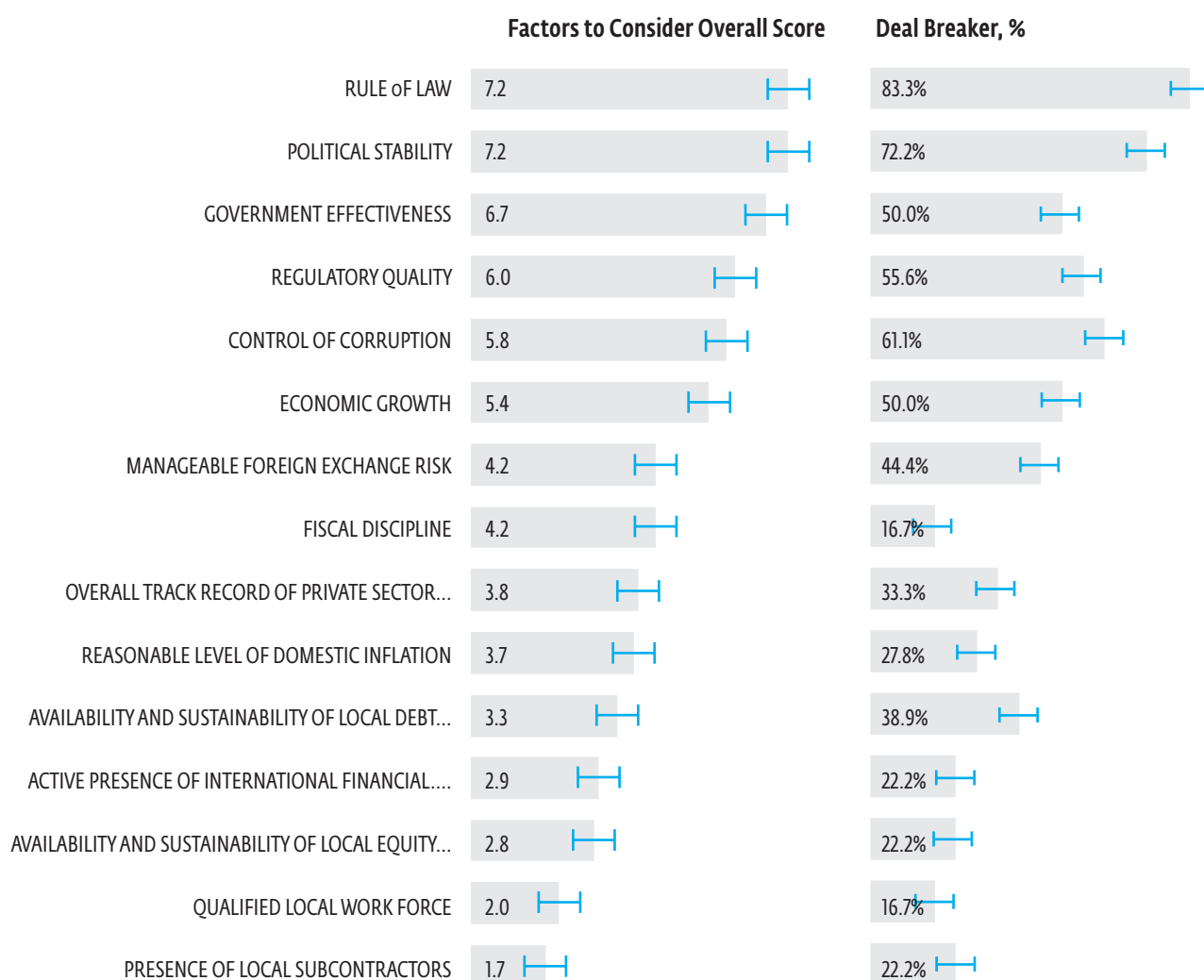
Note: Scoring is done based on weighted average score of each factor ranked by participants. Deal breaker, % shows what portion of participants indicated this factor as deal breaker. Standard error as Error bars.

ENVIRONMENTAL AND SOCIAL ASPECTS OF THE SPECIFIC PROJECT: KEY RISK CATEGORIES, AVERAGE IMPORTANCE, AND DEAL BREAKERS



Note: scoring is done based on weighted average score of each factor ranked by participants. Deal breaker, % shows what portion of participants indicated this factor as deal breaker. Standard error as Error bars

ENVIRONMENTAL AND SOCIAL ASPECTS OF SPECIFIC PROJECT: KEY RISK CATEGORIES, AVERAGE IMPORTANCE, AND DEAL BREAKERS.

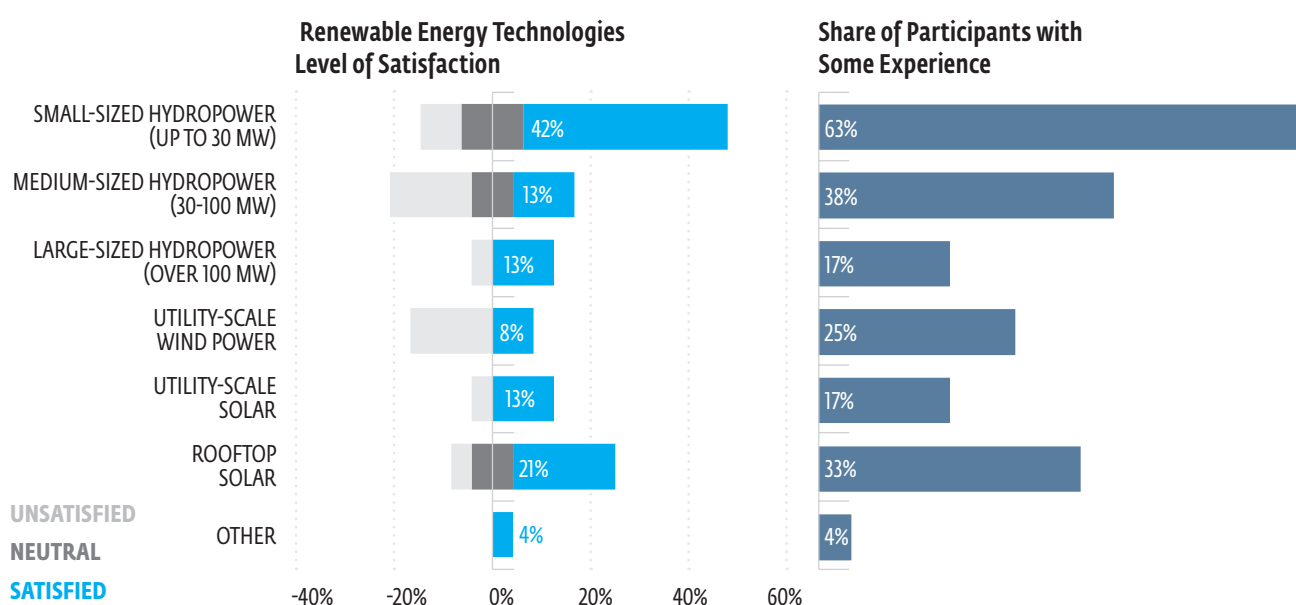


Note: Scoring is done based on weighted average score of each factor ranked by participants. Deal breaker, % shows what portion of participants indicated this factor as deal breaker. Standard error as Error bars.

AGGREGATE OF FACTORS TO CONSIDER AND RISK ASSESSMENT

RICK CATEGORY AND FACTORS TO CONSIDER	SCORE	DEAL BREAKER
Policy and Regulatory	6.8	64%
a. Clarity of policy	6.1	40%
b. Certainty of cash flow	5.1	43%
c. Ease of market entry	7.3	68%
Environmental and Social risk factors	6.5	82%
a. Social	7.6	69%
b. Environmental	4.8	58%
c. Government support	4.5	56%
Power sector context	6.5	50%
a. Sectoral growth	6.4	44%
b. Sectoral track record	7.5	53%
c. Firm's personal track record and access	3.8	22%
County context	5.2	55%
a. Governance and political risks	6.6	64%
b. Macro-economic framework	4.3	34%
c. Banking and capital markets	3.0	28%
d. Business environment	1.8	19%

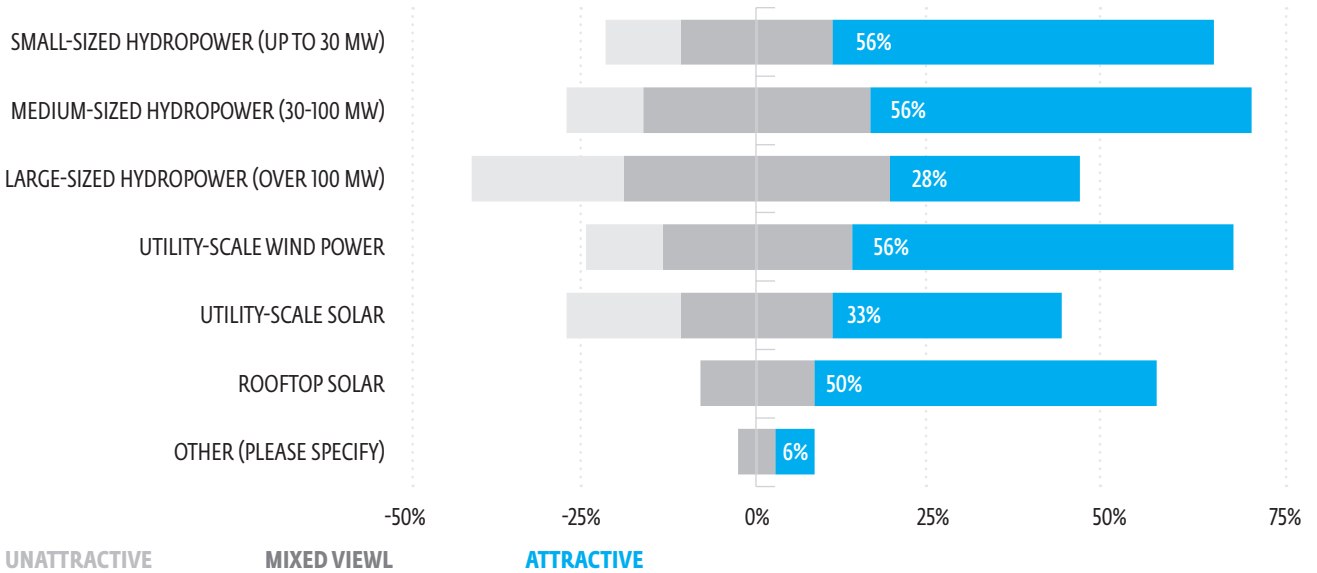
PREVIOUS EXPERIENCE WITH RENEWABLE ENERGY PROJECTS AND LEVEL OF SATISFACTION



Note: Scale of 1 and 2 were aggregated in category - "unsatisfied", scale of 3 - "neutral", scale of 4 and 5 were aggregated in "satisfied."

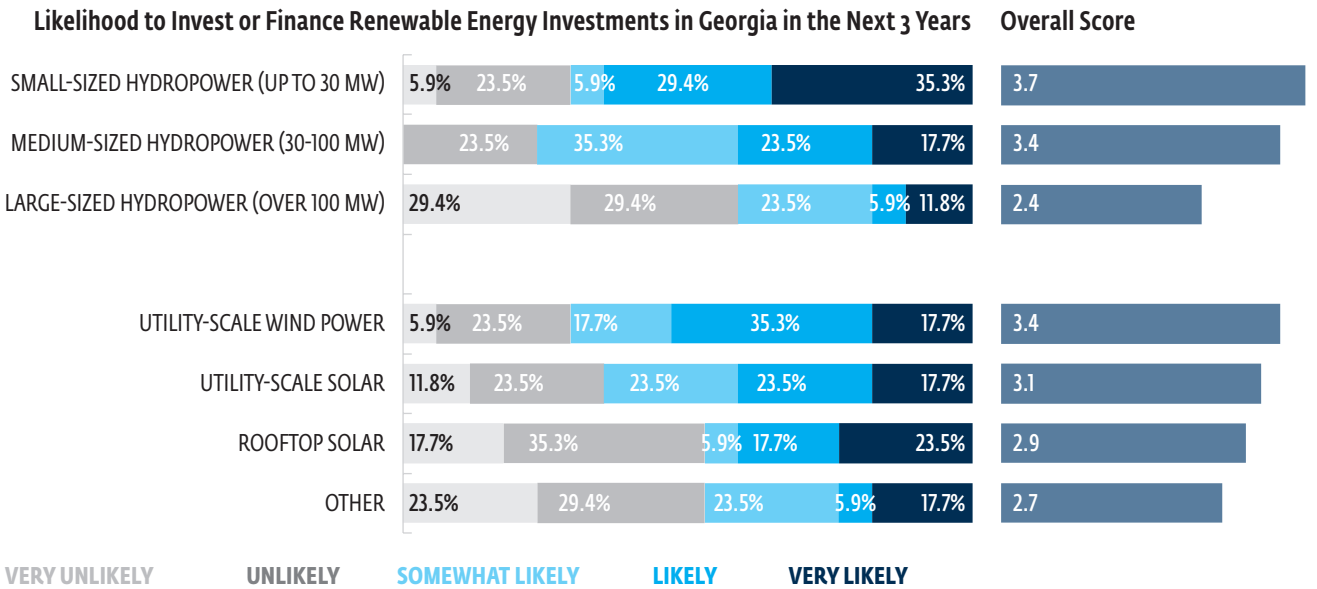
ATTRACTIVENESS OF DIFFERENT RENEWABLE ENERGY TECHNOLOGIES FOR INVESTMENTS

Renewable Energy Technologies Level of Attractiveness



Note: Based on 18 unskipped responses.

ATTRACTIVENESS OF DIFFERENT RENEWABLE ENERGY TECHNOLOGIES FOR INVESTMENTS



Note: Based on 17 responses, other 7 participants skipped this question. Overall score was calculated as weighted average of responses, where 5 is most important and 1 is least important.

APPENDIX I: SUMMARY TABLE OF TRANSPORT AND LOGISTICS POLICY RECOMMENDATIONS

POLICY	ACTIONS	TIMELINE
<p>R1</p> <p>Expand the capacity of Georgian seaports</p>	<p>Policy measures</p> <ul style="list-style-type: none"> • Develop deep sea capacity in Georgia, preferably at the port of Anaklia. • Approve the expansion plan of port of Poti <p>Private sector opportunities</p> <ul style="list-style-type: none"> • Technical assistance for the development of the marine infrastructure • Private port operator to leverage expertise and experience. • Opportunities for 3PL services to connect the new port to the hinterland • Value-added container services (container depot, storage, stuffing, cleaning, etc.) • Improved connectivity to global maritime routes via Black Sea • Development of special economic/industrial zones 	ST
<p>R2</p> <p>Operationalize the National Transport and Logistics Strategy for 2023-2030</p>	<p>Policy measures</p> <ul style="list-style-type: none"> • Set up a joint working group that includes the main stakeholders on the Georgian section of the corridor to harmonize and simplify freight transportation. • Operationalize the recently adopted National Transport and Logistics Strategy and align priority actions and investments. Specific points of attention include examining the possibility of pooling existing assets and commercial services, such as wagons and network slots). • Study the ideal business structure for a commercial joint venture between the main infrastructure providers and operators. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> • Provision of technical assistance and education. • Feasibility and bankability assessment of integrated supply chain services. 	ST
<p>R3</p> <p>Strengthen information flows and access to data</p>	<p>Policy measures</p> <ul style="list-style-type: none"> • Create a centralized information system to offer a single window for commercial, operational, and financial purposes. This includes, among others: track and tracing, tariff transparency and harmonization, and information on shipping schedules. • Clear guidance for public access to tariffs. In line with the above point, a requirement for infrastructure managers is to be set to publish access tariffs, to ensure transparency and equal access to transport services. • Launch pilot projects to identify and integrate the requirements of the transport industry. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> • Drafting of functionalities of a centralized information system. • Implementation of proposal of a centralized information system. • Technical maintenance and development. 	ST

POLICY	ACTIONS	TIMELINE
<p>R4</p> <p>Improve the reliability of railroad operations</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Invest time and effort in customer orientation. Perform studies on the railway's customer base to understand key requirements and areas for improvement. Invest in adequate equipment and rolling stock to increase service frequency and avoid delays. Encourage the private sector to expand its role in rolling stock , which requires the commercialization of the public railway network. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Private operations in railroad services. 	<p>MT</p>
<p>R5</p> <p>Promote enabling infrastructure for containerized cargo</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Develop dedicated container facilities at the Caspian Sea to promote the movement of containerized cargo. Enabling infrastructure includes container terminals, logistics facilities, connections to rail and road networks, the handling of equipment, storage space for containers, and exchange facilities for the management of empty containers. Prepare a joint port master plan and roadmap for the CTC development related to container cargo transport, including detailed demand and capacity forecasts, and the associated investment costs. Co-invest/participate in common CTC infrastructure. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Value-added container services (container depot, storage, stuffing, cleaning, etc.). Collaborate or be part of the joint venture companies. 	<p>MT</p>
<p>R6</p> <p>Transnational agreements for cross-border operations</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Prepare an action plan with Azerbaijan to further improve border and customs operations. Work together with affiliated CTC countries to harmonize regulations to create an open access policy for the participation of third-party operators and private investors on the CTC (using the example of European Union regulations on open access). Involve the main potential beneficiaries of the CTC, e.g., senior partners such as China and the EU, to expand their engagement with other CTC stakeholders and encourage their more cooperative behavior by providing them special investment incentives. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Border automation & digitalization services. Joint venture opportunities for private companies to work with governmental bodies. 	<p>MT-LT</p>

POLICY	ACTIONS	TIMELINE
<p>R1</p> <p>Increase the scale of operations</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Promote regional consolidation of smallholdings by providing incentives to farmers' marketing groups that reach a certain size of operation. Encourage the development of third-party logistics enterprises that perform professional marketing and supply services for farmers and agricultural organizations. Establish support programs that allow for co-financing of investments and leveraging risks to incentivize vertical integration and cooperation, e.g., for obtaining additional assets, resources, and expertise needed to bring in previously outsourced operations in-house. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Investment opportunity in commercial farms Providing 3PL services Guaranteed access to regional markets and vendors/retailers 	MT-LT
<p>R2</p> <p>Stimulate product packaging standards</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Enforce national packaging standards at wholesale markets. Use industry and marketing associations to develop and promote packaging standards. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Establish logistics-focused educational and training programs 	ST
<p>R3</p> <p>Expand safety inspection and grading along the supply chain</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Enforce food safety legislation as well as inspections, both planned and unplanned Invest in institutional capacity building, including the provision of funds and supportive programs for purchasing lab equipment, providing more services in the field such as sample collection and tests, and raising awareness among producers about good agricultural and processing practices, hygiene practices, food safety and quality requirements and internationally recognized standards. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Institutional training and support regarding food safety and quality regulations Provision of equipment 	ST

POLICY	ACTIONS	TIMELINE
<p>R4</p> <p>Enhance market information</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Promote the development of electronic marketplaces to increase market transparency and information visibility at various levels, including both domestic markets and potential export markets. Identify the requirements of buyers in high-end markets in terms of food safety, quality, traceability, sustainability, etc. Conduct in-depth value chain studies for (high value) fruit crops and nuts. The purpose is to understand the specific handling requirements, food safety and quality requirements, high-quality input requirements to support production, specific post-harvest technologies and affordable packaging solutions. Increase the frequency of agriculture and food security information through the National Statistics Office of Georgia. Relevant market information should be disclosed in an accessible, usable manner for farmers. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Technical assistance with the development of functional requirements Implementation of the proposal 	<p>MT</p>
<p>R5</p> <p>Develop logistics facilities and cold chain capacity</p>	<p>Policy measures</p> <ul style="list-style-type: none"> Conduct market demand studies for key crops that offer the most potential for export markets to inform where and how much additional cold storage capacity should be developed. Encourage the development of regional logistics centers at strategic locations, for example at large regional wholesale markets where short-shelf-life products are stored at large volumes and/or are transported over great distances. It is found that there is a shortage of cold chain storage capacity in urban centers such as Tbilisi, Kutaisi, Gori, Batumi, and Poti. The government could spur the development of logistics facilities (including cold chain infrastructure) by identifying suitable locations on state-owned land. Subsidies and grants can be made available to the private sector to conduct market research to assess the commercial and financial feasibility of developing integrated agriculture logistics facilities. This requires private-sector participation, which could be encouraged by public tenders and marketing activities abroad. Additional cost-benefit analysis should determine the optimal approach and justify whether it is worthwhile to invest public funds in common and central logistics and value chain infrastructure. Promote awareness and education in cold storage and operations among farmers. Pilot activities should be initiated to demonstrate the value of critical equipment such as precoolers or refrigerated transport where possible. <p>Private-sector opportunities</p> <ul style="list-style-type: none"> Leverage private sector capital and expertise. Providing value-added services / 3PL services Creating value-added food products 	<p>MT</p>

POLICY	ACTIONS	TIMELINE
<p>R1</p> <p>Increase PPP knowledge in Georgia</p>	<p>Policy measures</p> <ul style="list-style-type: none"> • Increase awareness and understanding of PPPs among government officials to ensure the involvement of potential private counterparts in PPP projects. • Provide the government with support in the implementation of the new PPP law in Georgia. <p>Private sector opportunity:</p> <ul style="list-style-type: none"> • Participating in PPPs, e.g., Tbilisi Integrated Logistics Center 	ST-MT
<p>R2</p> <p>Create centralized/ coordinated policies for the warehouse market in Tbilisi</p>	<p>Policy measures</p> <ul style="list-style-type: none"> • Establish a policy aimed at discouraging the proliferation of scattered warehouses throughout Tbilisi. • Stimulate the relocation of old/inefficient warehouses to suburban areas to avoid heavy load trucks and congestion in Tbilisi city center. • Implement regulations to limit heavy truck transport (semi-trailer and/or containers) to Tbilisi city center. • Establish standards for classifying warehouses. • Centralize and coordinate the development of integrated logistics centers within the Tbilisi region. <p>Private sector opportunity:</p> <ul style="list-style-type: none"> • Developing and operating A Class warehouses • Providing 3PL services 	ST-MT
<p>R3</p> <p>Implement the Tbilisi ILC Project</p>	<p>Policy measures</p> <ul style="list-style-type: none"> • Implement the Tbilisi ILC project and proceed to the development and implementation of the Tbilisi ILC project. • Invest in the ILC project and raise the funding for the land preparation and external infrastructure investments related to the ILC development. • Prepare a competitive PPP Transaction (Procurement) process to attract the best possible financial value from the ILC business case. <p>Private sector opportunity:</p> <ul style="list-style-type: none"> • Participating in the Tbilisi Integrated Logistics Center 	ST-MT

NOTES

- 1 World Bank, *Georgia Systematic Country Diagnostic Update: Keeping the Reform Momentum* (Washington, DC: World Bank, 2023).
- 2 International Trade Center data, 2022.
- 3 European Commission, *Georgia 2023 Report* (European Commission, Brussels, Belgium, 2023); Organisation for Economic Co-operation and Development (OECD), *Anti-Corruption Reforms in Georgia: Pilot 5th Round of Monitoring under the Istanbul Anti-Corruption Action Plan* (OECD Publishing, Paris, 2022); OECD (2022a). Transparency International, "From Concentrated Power to State Capture: Georgia's Backsliding Anti-Corruption Reforms" (Voices for Transparency Blog, February 14, 2019), <https://www.transparency.org/en/blog/from-concentrated-power-to-state-capture-georgias-backsliding-anti-corruption-reforms>.
- 4 World Bank, *Georgia Systematic Country Diagnostic: From Reformer to Performer* (Washington DC: World Bank, 2018).
- 5 While preferential gas prices are funded through price discounts obtained through operations of the transit gas pipeline, it is still considered a subsidy public service obligation.
- 6 "The recent trends for 2022-2023, however, have been more positive, with significant increases in power generation, exports, and transit. Moreover, electricity exports exceeded imports in 2022. But this shift could not be interpreted as a reversal in the long-term trends underlying the analysis in this report. It is likely that the main factors explaining the recent shifts in electricity balance are temporary and include unusually high prices in Türkiye and better weather conditions for hydro generation in Georgia."
- 7 In the energy world, *contract for difference* is a subsidy model in which both positive and negative deviations from a fixed reference price are paid out to the contractual partner. Contract for difference is also called symmetrical market premium.
- 8 The four components are (1) institutions, (2) infrastructure, (3) ICT adoption, and (4) macroeconomic stability. World Economic Forum, Global Competitiveness Index, 2019.
- 9 World Bank, *Georgia Country Economic Memorandum* (CEM) (Washington, DC: World Bank, 2022).
- 10 Transparency International, "Corruption Risks in the Process of State Property Privatization," June 30, 2020, <https://transparency.ge/en/post/corruption-risks-process-state-property-privatization>.
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- 12 World Bank, "Georgia: Skills toward Employment and Productivity (STEP), Survey Findings (Urban Areas)" (World Bank, Washington, DC, January 2015).
- 13 World Bank, *CEM*.
- 14 European Training Foundation, "Skills Mismatch Measurement in Georgia" (ETF, Turin, Italy, 2019), https://www.etf.europa.eu/sites/default/files/2019-10/skills_mismatch_measurement_georgia.pdf.
- 15 Three percent of university graduates work as unskilled laborers, 13 percent work in low-productivity agriculture, 25 percent have manual, blue-collar jobs, and 16 percent have middle-skilled jobs as clerical, service, or sales workers. Altogether, two out of five university graduates hold jobs that do not require university education and a graduate degree. Their investment in acquiring a university education and earning a master's degree has not fully paid off. J. Rutkowski and M. Honorati, "Georgia Labor Market: Underutilization of Human Capital," 2021.
- 16 And 15 percent of the firms reported that an inadequately educated workforce was the biggest obstacle to their operations.
- 17 World Bank Enterprise Survey, 2019, <https://www.enterprisesurveys.org/en/data/exploreeconomies/2019/georgia>.
- 18 Ministry of Economy and Sustainable Development of Georgia, "Survey of Business Demand on Skills," 2020.
- 19 The difference can be explained by the sample structure and by the predominance in the Enterprise Survey sample of larger firms, which are more likely to provide training to their staff.
- 20 Within Georgia, the Ministry of Economy and Sustainable Development (MoESD) is the primary ministry tasked with promoting digital transformation and innovation, primarily through Georgia's Innovation and Technology Agency (GITA) and, to a lesser extent, Enterprise Georgia. Additionally, the National Bank of Georgia is tasked with regulating the financial sector (including fintech), and the National Communications Commission regulates telephone and internet services.
- 21 The Network Readiness Index (NRI) ranks economies based on four pillars populated by a total of 58 variables: Technology, People, Governance, and Impact. Initially launched in 2002 with the World Economic Forum, the NRI in 2019 was redesigned by its founders and coeditors, Soumitra Dutta and Bruno Lanvin, now is under the auspices of the Portulans Institute in Washington, DC. See <https://networkreadinessindex.org/>.

- 22 The peer countries used for data benchmarking throughout this chapter are Armenia, Bulgaria, Croatia, Estonia, Lithuania, Moldova, Slovak Republic, and Türkiye. An initial longlist of countries was selected based on geographical proximity, income level, population size, education levels, and the desire to have countries at varying levels of digital business ecosystem development. The longlist was then trimmed and finalized into the final list based on consultations with the World Bank Group regional and country teams and MoESD.
- 23 The Digital Business Database's coverage of all financing rounds that have occurred is unlikely to be complete. However, relative patterns among Georgia and peer countries are nevertheless instructive as the funding rounds covered by the database can be viewed as a sample of the universe.
- 24 However, it should be noted that investor interest in blockchain/cryptocurrency in Georgia and leading peer countries such as Estonia and Lithuania may be partly driven by such jurisdictions' relatively lax anti-money laundering restrictions. Policy makers must therefore balance the desire to develop the subsector against other policy goals such as preventing money laundering and crime.
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- 27 S. Cohen et al., "The Design of Startup Accelerators," *Research Policy* 48, no. 7 (2019): 1781–97; K. Qian, V. Mulas, and M. Lerner, *Supporting Entrepreneurs at the Local Level* (Washington, DC: World Bank, 2018).
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- 30 This report builds on the earlier 2020 fintech landscape report that was produced as part of the World Bank's Financial Inclusion and Accountability Project.
- 31 Tracxn data.
- 32 Credit transfers are one of the main types of interbank payment types, along with direct debits. They are usually facilitated by national interbank automated clearing houses or so-called giro systems between participating banks.
- 33 See World Bank, *CEM*.
- 34 Erik Feyen, Harish Natarajan, and Matthew Saal, *Fintech and the Future of Finance: Market and Policy Implications* (Washington, DC: World Bank, 2023).
- 35 Chainalysis, *The 2022 Geography of Cryptocurrency Report* (Amsterdam, the Netherlands: Chainalysis, 2023).
- 36 Joe Robison, "World's Most Crypto-friendly Cities," moveBuddha, last updated August 16, 2023, https://www.movebuddha.com/blog/crypto-friendly-cities/#top_international_bitcoin_atm_residents.
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- 38 See https://cis.visa.com/content/VISA/cemea/britishenglishlanguage/master/en_G/E/home/about-visa/newsroom/press-releases/prl-01022023.html?fbclid=IwAR2FDE1XARtOAXf6h7XaZxGjjYmKPSHCWLyJQJUFkD3xkBT5ColwP4ZW6kQ.
- 39 "Digital Bank Licensing Process," information sheet, National Bank of Georgia, https://nbg.gov.ge/fm/ზედამხედველობა/ფინტექ_დეპარტამენტი/ციფრული_ბანკი/digitalbanklicensingprocess-eng.pdf?v=wz9lg.
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- 41 The analysis reflects the operations of the sandbox and does not seek to provide recommendations on the wording of the decree.
- 42 Order No 110/04 on the creation of regulation laboratory.
- 43 The Berlin Group is a pan-European initiative for payments interoperability standards and harmonization with the primary objective of defining open and common schemes and processor-independent standards in the interbanking domain between the Creditor Bank (Acquirer) and the Debtor Bank (Issuer).
- 44 In fact, Space, launched in 2018, is the first digital-only banking unit in Georgia and is wholly owned by TBC. Some Georgian IT companies are providing fintech-related technology systems and services to banks and financial institutions in other countries. Fintech start-ups provide transaction classification, scoring, and chatbot services that Georgian banks are beginning to integrate into their products and services.
- 45 For a broader discussion of the economics of digital market integration, see https://cerre.eu/wp-content/uploads/2022/03/220321_CERRE_Report_Interoperability-in-Digital-Markets_FINAL.pdf.
- 46 Refer to broader discussion of the impact of unbundling and fintech innovation in the 2022 World Bank technical note, "Fintech and the Digital Transformation of Financial Service: Implications for Market Structure and Public Policy," <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099735304212236910/p17300608cded602c0a619of4b8caaa97a1>.
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- 48 World Bank, "Global Experience from Regulatory Sandboxes" (Fintech Note 8, World Bank, Washington, DC, 2020), <https://openknowledge.worldbank.org/entities/publication/b688bc5a-af76-5a96-ab04-37c9ad657baf>.
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- 53 Geostat, "Energy Consumption in Households," <https://www.geostat.ge/en/modules/categories/787/energy-consumption-in-households>.
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- 55 World Bank, "Greening Firms in Georgia 2023" (World Bank, Washington, DC, 2023).
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- 62 Full survey questionnaire and the findings are listed in appendix H.
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