Georgia at Work: Assessing the Jobs Landscape

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Too many jobs are in low productivity sectors and some groups are not represented in employment. Jobs are in agriculture, as own-account or unpaid worker.

Highly skilled workers get wage jobs in the city, while low skilled workers remain in self-employment in agriculture, sometimes paid and sometimes unpaid.

New jobs are better jobs.

Job creation has been positive, and new jobs have been better jobs.

Skills are improving, but remain low.

Despite the substantial improvement in education quality, Georgia remains significantly behind other European countries.

Job quality has increased, but some groups do not see improvements.

The average wage in all sectors has increased. However, the variation in wages has increased too. As a result, there are workers who have not seen any improvement in job quality and there are workers for whom education is not paying off.

Among all individual and household characteristics that influence wages, education and gender stand out as most important.

Inactivity and Unemployment.

The typical unemployed person is a young man, or a man close to retirement age, living in an urban area.

Youth and women are the vulnerable groups in the Georgian labor market.

When looking at all the individual and household characteristics influencing the probability of being employed, education, experience, and gender emerge as the most important factors.

For young women, inactivity is driven by housework, while for older women, inactivity is driven by retirement. For men, inactivity is usually due to either “discouragement” or bad health.

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Executive Summary

In April 1991 Georgia seceded from the Soviet Union. In the first four years after independence, there was a coup d'état, and a civil war, causing GDP per capita (measured in 2011 constant US$) to fall sharply from about $8,000 to $2,200. It took Georgia more than two decades to return to pre-independence levels of per capita GDP. Since 1997, economic growth has been strong, GDP grew at about 5.5 percent per annum between 1997 and 2016. Georgia has mostly adopted a pro-market development model, following the Rose Revolution in 2003, and has repeatedly expressed interest in membership in the European Union and in the Organisation for Economic Co-operation and Development (OECD). In 2015, Georgian GDP per capita was $9,025 (PPP 2011 USD), which is less than half of the US$ 18,600 (PPP 2011 USD) average value for Europe and Central Asia (ECA) countries (excluding high income countries).

Economic growth has slowed recently, in large part because of events in partner countries. Lower remittance inflows from the Russian Federation and Greece, and weaker demand for Georgian exports in Azerbaijan, the Russian Federation, and China have impacted economic growth. In 2016, GDP growth fell to 2.7 percent, its lowest growth rate since the Great Recession (2008-09). Though foreign direct investment has remained stable, the current account deficit reached 13.5 percent in 2016. The exchange rate depreciated by 42 percent against the US dollar in 2015-16 and, because most of Georgia’s debt is denominated in US-dollars, external debt (public and private) increased to 108 percent of GDP. However, the central bank’s decision to maintain the flexibility of the Lari helped maintain a moderate level of reserves and controlled the decrease in competitiveness.

Sustained growth experienced since the mid-1990s has reduced poverty and boosted shared prosperity, but Georgia remains one of the most unequal countries in Europe and Central Asia. At the beginning of the millennium, 20 percent of the Georgian population was extremely poor, and almost half of the population was poor (see Figure ES1). By 2013, the extreme poverty rate had fallen to 11.5 percent and the poverty rate had fallen to 28.5 percent. While half of the total population lived in rural areas, two-thirds of the poor population lived in rural areas. This is partly because poverty in rural areas declined by a small amount, but in urban areas, poverty reduction was pronounced. Nationally, the mean consumption of people in the bottom 40 percent grew by 7.5 percent annually between 2010 and 2014, exceeding the growth enjoyed by the population overall (Figure ES1). Inequality is higher than in the Europe and Central Asia (ECA) region on average, with a Gini coefficient of 38.5 in 2015.

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1 World Bank, International Comparison Program database.
2 World Bank, International Comparison Program database.
3 Poverty is measured using absolute poverty lines defined by the World Bank to allow comparability across countries all over the world. Extreme poverty is defined as living with less than USD 1 per day (2005 PPP) or 1.90 USD per day (2011 PPP). Poverty is defined as living with less than USD 2.5 per day (2005 PPP) or USD 3.1 per day (2011 PPP).
4 Consumption growth among the bottom 40 percent was 8.3 percent during 2010–2014 compared with 6.4 percent for the population.
This report analyses the main economic forces driving job creation in Georgia, and attempts to answer four questions. First, is the enabling environment for jobs conducive to good job outcomes? Second, how are formal sector job creators doing? Third, how does the Georgian workforce measure up? Finally, what policy reforms can improve jobs outcomes?

The enabling environment for jobs

Georgia has made considerable progress putting business-friendly policies in place. However, political instability remains a significant challenge for firms. Jobs outcomes have contributed significantly to poverty reduction, but job creation is not keeping pace with economic growth. The country has industrialized well, meaning that the share of manufactured goods has increased with GDP per capita, but more than half of the country’s jobs are in the agriculture sector.

Georgia, with a Doing Business ranking of 9 out of 190, has implemented the highest number of business regulation reforms since the launch of Doing Business in 2003—a total of 47. The country is the only low-middle-income country in the top 20 of the Doing Business index. Georgia also has the best business environment in Europe and Central Asia, followed by Russia (rank 35), Kazakhstan (rank 36), Armenia (rank 47), and Azerbaijan (rank 57). The country does particularly well registering property (rank 4), starting a business (4) and protecting minority investors (2). The country is working to improve the time to connect to electricity (30), trading across borders (62) and resolving insolvency (57) (Figure ES2).
Reducing the time, cost and number of procedures required to start a business has directly contributed to the country’s above-average new business entry density. The regulatory reforms adopted have led to about 17,000 new firms being created in 2014, which corresponds to almost 6 firms per 1,000 working-age adults. Notably, Georgia’s new business density is substantially higher than the regional average of 2.3 firms per 1,000 working-age adults, and above new business density in high income countries.

Challenges remain, and political instability has risen to the top of constraints for firms. In 2013, 42 percent of firms identified political instability as the biggest obstacle to doing business, up from 17 percent in 2008 (Figure ES3, panel b). Among large firms with more than 100 workers, 60 percent identified political instability as a major factor in 2013. The main constraints to doing business have also changed over time. In the early 2000s corruption, tax administration, or customs and trade regulations were among the top concerns; in 2013, more firms experienced difficulties accessing finance, and infrastructure components like transportation and electricity. Similarly, skills shortages are important; in 2013, one in ten firms rated an inadequately educated workforce as a major barrier to doing business (Figure ES3).

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5 New business entry is defined as the number of newly registered corporations per 1,000 working age people, aged 15-64 years. Included are private, formal sector companies with limited liability.
http://www.doingbusiness.org/data/exploretopics/entrepreneurship
Georgia’s poverty reduction record is driven by labor income, employment and social sector reforms. Between 2012 and 2015, the percentage of the population living on less than 2.5 dollars per day fell from 42.5 to 31.2, equivalent to a 27 percent reduction (Figure ES4). This reduction can be traced to improving jobs outcomes—mainly improved wages and new jobs—and social assistance, with the increase in the old age pension.

Figure ES4. Poverty was drastically reduced in the last 10 years due to social transfers and income from economic activities

Source: Poverty note 2017, in progress (Poverty GP). Notes: Panel b shows the result of a Shapley decomposition of poverty incidence using the ECAPOV $2.5/day 2005 PPP poverty line.
Georgia is not creating as many jobs as its economic growth would predict. Despite 5.7 percent GDP growth between 2005 and 2015, employment only grew by 0.29 percent, implying a 5 percent growth elasticity of jobs (Figure E5). Worldwide, the growth elasticity of jobs is 34 percent, meaning that for each percent of GDP growth, employment grows by 0.34 percent. For the Western Balkan countries\(^1\) this elasticity was 16 percent for 2000-2010, and for EU-CEE countries it was 32 percent for the same period.\(^2\) This raises an important question: why is economic growth in Georgia not creating as many jobs as the rest of the world?

**Figure E5. Growth has not created employment in Georgia**

Relationship between GDP and employment growth, 2005-2015

![Figure E5](source: authors using WDI. Notes: The linear fit for the period 2005-2015 is $E = 0.3428 \text{ GDP} + 0.5877$)

The job creators

A detailed analysis of data from Georgia’s Firm Registry, managed by Geostat, reveals important information about Georgia’s firms and their employment patterns, analysis is limited to registered firms only. Despite robust firm entry in Georgia, total employment growth is low because firms are mostly small, and employment is concentrated in larger and relatively older firms. Small and individual firms, while contributing to job creation in the short run, fail to grow to medium-sized firms; they also have high failure rates. Resources are also misallocated, meaning that too many workers are in the least productive firms within each industry.

In 2015, individual firms represented over 70 percent of total registered firms, but accounted for only 11 percent of total employment in registered firms. In the private sector, employment was concentrated in small firms (below 20 employees) or large firms (above 100 employees), this accounted for 40 percent of
total employment each. As a result, there are disproportionately low levels of employment in medium-sized firms and questions about the missing middle are being raised.

**Figure ES6. Employment by firm size and firm type**

(a) All Firms  
(b) Private Firms  
(c) Private firms (non individual)

*Source: Firms registry (Geostat)*

Despite robust firm entry, total employment growth is low because individual and small firms have high exit rates. Among all firms operating in 2012, over 50 percent of individual and small firms (less than 10 employees) exited before 2016. That is, more than half of all individual and small firms do not survive four years in business.

**Figure ES7. Net job creation**

(a) Net Job Creation: All firms  
(b) Net Job Creation: Private firms

*Source: Geostat Firms registry.*

A concern for policymakers in Georgia is that resources continue to be misallocated, both across and within economic sectors. If factors of production were allocated efficiently, total factor productivity could increase by up to 70 percent. This misallocation manifests itself in employment being concentrated in low-
productivity sectors, such as agriculture; wholesale and retail trade; public and social services like education, and health and social work (ES8, panel a). Almost half of total employment is in agriculture, but the sector only contributes 7 percent to GDP. High productivity sectors (e.g., financial intermediation, telecommunications) have created only a few jobs in the last decade, or are still too small to significantly impact employment growth (ES8, panel b).

Figures ES8. The largest economic sectors in terms of employment have low-productivity, while employment growth in high-productivity sectors has been modest

<table>
<thead>
<tr>
<th>(a) GDP per worker: 2006 vs. 2015.</th>
<th>(b) Employment % growth (2006-2015) vs. GDP per worker (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

Source: authors’ calculations based on GeoStat LFS data on employment and GEOSTAT Value added Statistics across sectors.
Size of bubble: % of total employment in 2015

Employment by industry is also concentrated in low-productivity firms. Comparison of productivity across exporting and non-exporting firms shows that exporting firms are more productive than non-exporters. Exporters and non-exporters had similar productivity levels in 2006, but average productivity among exporters increased relative to non-exporters until about 2010, when non-exporters also increased productivity. Firm productivity also increases with age, mainly because the most productive firms are the firms that survive in the market, and because firms learn how to become more productive over time. When there is too much dispersion in firm productivity as it is the case with Georgian firms, there is scope for gains by reallocating labor from less to more productive firms. The distribution of physical productivity shows little to no progress over time, despite the important reforms to the business environment (Figure ES9).

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6 Measured through the marginal returns to labor.
Skills shortages are limiting productivity and firm growth. In Georgia, firms value technical, cognitive, and socio-emotional skills; technical skills are most valuable. In a STEP employer survey, employers report that finding experienced workers with the right technical education is the most important constraint; and about 70 percent of companies say the education system is outdated. Two thirds of firms complain that labor market entrants do not have necessary skills.³

**The Georgian workforce**

A key constraint to competitiveness and growth is a potential shrinking workforce. The population decline is significant among the working age population and children, while the elderly population is growing slightly (Figure ES10, panel a). Since 1990 fertility rates in Georgia have been below replacement rates, outmigration is also significant: between 2000 and 2010, 10 percent of Georgians are believed to have emigrated.
In 2016, the labor force participation rate was 72.9 percent, relatively high by international standards and high for upper-middle income countries (Figure ES11). Male labor force participation is high, at 83.1 percent; and female labor participation, at 64 percent, is the same as the regional and European averages. Labor force participation has risen significantly since 2006 for all groups, except for young people. The LFP rate was 66 percent in 2006 and reached 73 percent in 2016, a 10.1 percent growth rate. However, the gender gap in the labor force participation is almost 20 percentage points. This gap is smaller than the regional average or the average of upper-middle countries, but is three times larger than in Slovenia, Latvia or Lithuania.

Young people are displaying unusually high rates of inactivity. In Georgia, the proportion of young people not in employment, education, or training (NEET) is 30 percent (Figure ES11). In the Czech Republic, Slovenia, and Lithuania, youth NEET rates are less than 10 percent. High NEET rates indicate that Georgia’s young people are not investing in their human capital and are disproportionately at risk of labor market exclusion. The transition from education/training to work differs for men and women. While most young men transition from school to work, most young women remain inactive and out of school for longer periods.
Figures ES11. Composition of the working age population in 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working age population</td>
<td>2,363,391</td>
<td>(64%)</td>
</tr>
<tr>
<td>In the labor force</td>
<td>1,722,146</td>
<td>(73%)</td>
</tr>
<tr>
<td>Not in the labor force</td>
<td>641,245</td>
<td>(27%)</td>
</tr>
<tr>
<td>Employed</td>
<td>1,491,188</td>
<td>(87%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>230,958</td>
<td>(13%)</td>
</tr>
<tr>
<td>Youth (15-24)</td>
<td>255,526</td>
<td>(40%)</td>
</tr>
<tr>
<td>Non-youth (25-64)</td>
<td>381,668</td>
<td>(60%)</td>
</tr>
</tbody>
</table>

| Wage worker            | 703,142    | (47%)      |
| Self-Employed          | 421,174    | (28%)      |
| Unpaid                 | 349,262    | (23%)      |
| Entrepreneur           | 17,610     | (1%)       |
| In school              | 182,518    | (72%)      |
| House-work             | 217,469    | (57%)      |
| Discouraged            | 50,681     | (13%)      |
| Disabled               | 40,252     | (11%)      |

| Not in agriculture     | 138,848    | (32%)      |
| In agriculture         | 286,326    | (68%)      |

Source: IHS 2016. People in working age are aged between 15 and 64 years.

Figures ES12. Low labor force participation for youth is not driven by increases in education

(a) LFP by age group

(b) NEET youth for selected ECA countries

Source: (a) WDI, labor force participation rate, total (modeled ILO estimate). (b) WDI, youth NEET rate, except for Georgia which is from ETF 2015.

Unemployment is 13 percent; this is high and many workers are engaged jobs that they consider low quality. About 42 percent of jobs are in agriculture, either working for themselves (19 percent) or unpaid workers (23 percent). Most of these jobs are not desirable and are low productivity. While there is variation in wage employment, about 47 percent of the employed work in wage jobs. Broadly speaking,
job quality is correlated with skills. Low-skilled workers live in rural areas and generally work in agriculture for themselves or are unpaid workers; while highly skilled workers are in wage employment. Highly educated men above 30 years of age have some of the best job prospects, and young, low-skilled women have some of the poorest jobs prospects.

**Figure ES13. Low-skilled workers are self-employed in farms; highly skilled workers are generally salaried and work in offices in the city**

Distribution of employed workers across type of employment: wage work, entrepreneur, self-employment outside agriculture, self-employment in agriculture and unpaid work.

| Source: authors based on IHS 2016. |

**Policies to improve jobs outcomes**

This Jobs Diagnostic points to four areas for policy reform: (i) policies enabling the overall business environment; (ii) policies enabling the firm-specific business environment and firms’ capacity to create more inclusive and high-productivity jobs; (iii) policies aiming at increasing the size of the workforce; (iv) policies aiming at increasing workforce productivity and skills.

Policies that enable the overall business environment. These include: (i) reducing the volatility of the exchange rate; (ii) continuing fiscal consolidation and reducing the current fiscal deficit; (iii) stimulating FDI and facilitating remittances; (iv) promoting greater Integration into global markets via international coordination, bi-lateral or tri-lateral agreements, via better investments in connectivity infrastructure and by removing existing barriers to trade; and (iv) enhancing political stability.

Policies enabling the firm-specific business environment and firms’ capacity to create more inclusive and high-productivity jobs could include: (i) designing fiscal incentives for export-oriented firms; (ii) providing incentives for private investments in R&D and worker training, especially for medium-sized firms; (iii) easing access to finance especially for small and medium firms; and (iv) increasing public investments in R&D, especially in high value-added sectors.
Policies aiming at increasing the size of the workforce include: (i) improving the quantity and quality of child care facilities; (ii) enhancing part-time female employment and flexible working arrangements; (iii) carrying out information campaigns; (iv) introducing activation measures for selected targeted groups; (v) improving job search activities of both firms and workers favoring the use of new technologies; (vi) improving labor market intermediation channels, both public and private; and (vi) reinforcing and improving the quality of public employment services.

Policies aimed at increasing workforce productivity and skills include: (i) enhancing worker skills for the new economy (revision of curricula, working closer with employers; digital technology; training on non-technical skills, especially soft-skills, and foreign languages); (ii) re-skilling the existing workforce (implement program of re-qualification, on-the-job training; develop labor market information system); and (iii) stimulating the use of new technologies for improving the match between demand and supply of skills.
Chapter 1. Jobs and Georgia’s economic transformation

Summary

This chapter summarizes Georgia’s economic development and its relationship with job creation. The country has made considerable progress towards a well-functioning market economy. These reforms have paid off, with poverty reducing. At the beginning of the millennium, 20 percent of the Georgian population was considered extremely poor, and by 2013, 11.5 percent of the population was living in extreme poverty. However, significant challenges remain, such as a shrinking labor force and low productivity growth.

Structural reforms have affected the labor market, leading to an uptick in productivity growth, at an average of 3.5 percent over the last decade; there was an increase in transformation from rural to urban employment after 2004. However, productivity growth did not immediately translate into jobs growth, mainly because of the reduction in inefficient employment in State Owned Enterprises (SOE). Job growth increased after 2011, leading to a sizeable increase in formal wage employment.

Three significant challenges have emerged. First, the tradable sector, manufacturing in particular, has seen only limited growth, exacerbating the dependency of Georgia’s growth model on domestic consumption. Second, recent years have seen a slowdown in productivity growth because of issues like constraints to firm size and expansion of low-skilled service jobs. Third, the transformation from low-productivity rural to high-productivity urban jobs is not happening fast enough.

The chapter concludes by laying out a threefold framework for analyzing job creation in Georgia: labor supply, labor demand, and the institutional mechanisms that encourage/constrain matching between supply and demand. Policy action along all three dimensions is necessary, for Georgia to continue its hitherto successful transformation process.
Georgia’s structural reforms and economic development

Georgia’s recent development is considered successful because its economic reforms have favored economic growth and poverty reduction. Thanks to an initial phase of structural reforms in the mid-2000s, Georgia has improved its competitiveness and business climate. It has been able to generate sustained growth and positive, but low, net job creation, mostly driven by the expansion of the services sectors in urban areas. These factors, together with an effective system of social transfers, have contributed to halving the poverty rate in the last decade, and to improving the income and living conditions of the bottom 40 percent of the population. Within twenty years, Georgia became an upper-middle income country, and experienced profound demographic changes.

Georgia can be considered an intermediate modernizer with a rapidly ageing population. The pace at which countries in the Europe and Central Asia region moved from a planned economy towards a market system varied considerably. Some countries embraced reforms in a comprehensive manner early on, while others began reforming later or followed a more gradual approach. According to a recent World Bank report, which constructed a typology of economic transformation in the Europe and Central Asia region, Georgia can be characterized as an intermediate modernizer; it made significant progress in improving the business climate and reforming the public sector; it established elements of well-developed financial markets; and became relatively open to international trade and global financial markets. At the same time, given the rapid increase in the old-age dependency ratio in the last two decades, Georgia is considered a rapidly ageing country.

The year 2004 marked a key turning point in structural transformation for Georgia, when the country initiated a series of economic liberal reforms. The transition to an independent and market economy was not quick or simple for the Republic of Georgia. More than ten years passed from the declaration of independence from the Soviet Union in 1991 to the conclusion of the Rose Revolution in 2003 and the achievement of political stability. Once peace was achieved, the country rapidly introduced a series of liberal pro-market reforms that put the country into a sustained trajectory of growth until the global financial crisis of 2008. By 2018, Georgia had climbed to number 9 of the World Bank’s Doing Business ranking.

Georgia’s economic reforms substantially improved the business environment and helped establish a well-functioning market economy. The reform periods have distinctive characteristics and clear start and end dates (Figure 1.1). After independence in 1994, Georgia entered a period of internal and economic stabilization that lasted until 2004. During which, Georgia achieved macroeconomic stability and restored security. Other reforms were important but less consistent. For example, small scale agriculture firms were privatized; the legal and regulatory framework for financial services was established; the judicial system reform was initiated; and a few steps were taken to improve the health and education sectors.

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7 World Bank 2014: Back to Work. This typology considers (i) the stage and pace of modernization of the country: this means progress in establishing a healthy business investment climate, privatization of state own enterprises, openness of the economy and so on; and (ii) the stage of demographic transition: whether the country is still enjoying the window of opportunity opened by a relatively young and growing workforce. According to this typology, Georgia is an intermediate modernizer with a fast-declining population.

8 Number of people aged 65 and over as a percentage share of the labor force
2004, with president Saakashvili and the motto “Georgia without corruption” the reformer period began. Achievements were multiple and outstanding, allowing Georgia to climb to the top of the Doing Business ladder. Corruptions dropped drastically, which gave the government the resources to tackle other important reforms including the provision of electricity services (by a state-owned enterprise), the reduction of tax evasion, and the simplification of procedures to start a business. A detailed account of how the Government of Georgia made this change can be found in World Bank (2012b).

**Figure 1.1. In the span of twenty years, Georgia became an upper-middle-income county and lived through a demographic change**

<table>
<thead>
<tr>
<th>Civil war</th>
<th>Stabilization and early reform</th>
<th>Liberalization and pro-market reforms</th>
<th>Social reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP per capita (PPP)</td>
<td>Population</td>
<td>Population, 15+</td>
<td>Employment</td>
</tr>
</tbody>
</table>

Source: authors’ calculations using WDI. Notes: GDP per capita measured on international PPP $ of 2011. Employment is calculated using the Employment rate (from WDI) reported by national statistic offices.

**Georgia has experienced economic growth in almost every year since the early 1990s, despite being exposed to external shocks and volatility. However, growth in per capita income has been slower than in other economies in the region.** Since the early 1990s, GDP per capita in Georgia has been growing almost every year (see Figure 1.2, panel a), but it is still far from the regional average GDP. In 2015, Georgian GDP per capita was $9,109 (PPP 2011 USD): almost half of the average value for Europe and Central Asia countries (excluding high income countries). GDP growth has remained positive for most of the period. The fluctuations experienced closely mirror the regional economic cycle, which reveals the vulnerability of the country to external shocks. In the last decade, GDP growth was negative only in 2009, but the effects of the Russian crisis were apparent in 2013 and 2015 (see 1.2, panel b). Sustained growth has been the main driver of poverty reduction as discussed in the next paragraphs. Growth in per capita income has been slower than in other countries in the region: Figure 1.3 contrasts the per capita income trajectory of Georgia with that of Latvia and Poland (considered advanced modernizers), Romania (intermediate modernizer) and Turkey, a country that experienced broad-based and inclusive growth.
coupled with unprecedented net job creation since 2002. Georgia’s income level remains well below that of these comparators, despite satisfactory growth in per capita income in recent years.

**Figure 1.2. Despite Georgia’s exposure to external shocks, its GDP grew almost every year since the early nineties**

<table>
<thead>
<tr>
<th>(a) GDP per capita, PPP (constant 2011 international $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) GDP growth (annual %)</td>
</tr>
</tbody>
</table>

![Graph showing GDP per capita and GDP growth over years]

**Source:** WDI

**Growth has been driven mostly by the expansion of the services sector.** Since 2004, the economy experienced a steady expansion in the services sector, at the same time agriculture has lagged in terms of productivity improvements and thus, its contribution to total GDP has declined (see Figure 1.4, panel a). Within the industry sector, manufacturing has been stagnating after expansion in 2004 (see Figure 1.4, panel b).

**Growth rates in recent years have slowed, mainly due to a deterioration in the regional economic environment.** The plunge in oil prices and the economic slowdown in China and other major trading partners have significantly weakened Georgia’s economic performance. Growth fell to 2.7 percent in 2016, its weakest performance since the 2008 global Financial Crisis, accompanied by a concurrent fall in remittances which further depressed domestic consumption. The regional slowdown also depressed exports which fell by 4 percent in 2016 after a sharp decline of 23 percent in 2015.
These unfavorable conditions have contributed to a decline in the external environment which has led to heightened macroeconomic vulnerabilities. Notwithstanding stability in levels of FDI, the current account deficit reached 13.5 percent in 2016. The exchange rate depreciated by 42 percent against the US dollar in 2015-16. With most of Georgia’s debt denominated in US-dollar, external debt (public and private) has increased to 108 percent of GDP. However, the Central Bank’s decision to maintain the flexibility of the Lari helped to maintain a moderate level of reserves and limited the decrease in
competitiveness. To limit the pass-through of currency depreciation, the Central Bank has also increased its policy rate in response to high inflation.

Thanks to the process of economics reforms, Georgia is one of the top-performers in the Doing Business Index today. However, the agenda of reforms is not finished. In 2018, Georgia ranked 9 out of 190 countries in the Doing Business index. The country is now among the top ten in terms of registering property (rank 4), starting a business (4) and protecting minority investors (2). Room for improvement exists in terms of getting electricity (30), trading across borders (62) and resolving insolvency (57) (Figure 1.5). Georgia also has the best business environment in the region, followed by Russia (rank 35), Kazakhstan (36), Armenia (47), and Azerbaijan (57).

**Figure 1.5. Georgia’s rankings on Doing Business topics**

Reducing the time, cost and number of procedures required to start a business directly contributed to the country’s above-average new business entry density.\(^9\) Thanks to the regulatory reforms, about 17,000 new firms were created in 2014, which corresponds to almost 6 firms per 1,000 working-age adults. Georgia’s new business density is substantially higher than the regional average of 2.3, and above the values observed in high income countries.

The regulation of firms’ liquidation remains somewhat complex, but significant progress has been achieved in 2017. Effective bankruptcy laws are important to reallocate productive resources from unproductive firms, as such; improving the ease of closing a business is likely to be beneficial to Georgia’s structural transformation. Fast and cheap insolvency proceedings result in the speedy return of businesses to normal operation and in increased returns to creditors. Well-functioning insolvency systems can facilitate access to finance, save more viable businesses, preserve jobs through restructuring, and make

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\(^9\) New business entry is defined as the number of newly registered corporations per 1,000 working age people, aged 15-64 years. Included are private, formal sector companies with limited liability.  
[http://www.doingbusiness.org/data/exploretopics/entrepreneurship](http://www.doingbusiness.org/data/exploretopics/entrepreneurship)
the overall process of resource reallocation more sustainable. A robust bankruptcy system can help promote entrepreneurship and, hence, job creation. In development, firms’ exit could be just as important as firms’ entry, and preventing exit can have strong negative consequences for aggregate firm growth and productivity. Georgia has implemented reforms that are important to addressing stagnant allocative efficiency and supporting productivity growth.

The improved business environment is also evident from firms’ responses regarding their major constraints. Access to finance and infrastructure remain major challenges. In the early 2000s corruption, tax administration, or customs and trade regulations were among the top concerns, but ten years later fewer firms view these barriers as significant. More firms do, however experience difficulties in terms of access to finance, and access to infrastructure such as transportation and electricity. Skills shortages have also become more relevant. In 2013, one in ten firms rated an inadequately educated workforce as a major barrier to doing business (Figure 1.6, panel a). Yet, the biggest challenge to doing business in Georgia lies elsewhere: 42 percent of firms identified political instability as the biggest obstacle to doing business in 2013, up from 17 percent in 2008 (Figure 1.6, panel b). For large firms with more than 100 workers, this figure was 60 percent in 2013.

Figure 1.6. Firms perceived improvements in most of the dimensions of the business environment

<table>
<thead>
<tr>
<th>c. Georgia’s firms report improvements in many dimensions; recently, access to finance and infrastructure are seen as major constraints</th>
<th>d. Political instability has become the biggest obstacle to doing business in Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax administration</td>
<td>52</td>
</tr>
<tr>
<td>Corruption</td>
<td>41</td>
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<tr>
<td>Tax rates</td>
<td>31</td>
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<tr>
<td>Electricity</td>
<td>26</td>
</tr>
<tr>
<td>Customs and trade regulations</td>
<td>24</td>
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<tr>
<td>Crime, theft, disorder</td>
<td>20</td>
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<tr>
<td>Access to finance</td>
<td>10</td>
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<tr>
<td>Business licensing, permits</td>
<td>9</td>
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<tr>
<td>Transportation</td>
<td>8</td>
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<tr>
<td>Workforce inadequately educated</td>
<td>8</td>
</tr>
<tr>
<td>Labor regulations</td>
<td>4</td>
</tr>
<tr>
<td>Access to land</td>
<td>3</td>
</tr>
<tr>
<td>Business licensing, permits</td>
<td>2</td>
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<tr>
<td>Crime, theft, disorder</td>
<td>1</td>
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<td></td>
<td>2002</td>
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<tr>
<td>Access to finance</td>
<td>7</td>
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<tr>
<td>Tax rates</td>
<td>3</td>
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<tr>
<td>Practices of informal competitors</td>
<td>2</td>
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<tr>
<td>Transport</td>
<td>1</td>
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<tr>
<td>Tax administration</td>
<td>3</td>
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<td>Electricity</td>
<td>1</td>
</tr>
<tr>
<td>Inadequately educated workforce</td>
<td>4</td>
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<tr>
<td>Customs/trade regulations</td>
<td>1</td>
</tr>
<tr>
<td>Corruption</td>
<td>5</td>
</tr>
<tr>
<td>Courts</td>
<td>1</td>
</tr>
<tr>
<td>Labor regulations</td>
<td>0</td>
</tr>
<tr>
<td>Access to land</td>
<td>0</td>
</tr>
<tr>
<td>Business licensing, permits</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Enterprise Surveys, Georgia 2002-2013. Notes: Panel a: Percentage of firms reporting relevant dimension as a major constraint. Panel b: What is the biggest obstacle faced by your business?

Georgia’s 2006 Labor Code is considered very flexible, setting only minimal requirements for hiring and firing. The Labor Code was amended in recent years, regulating forms and types of employment contracts, working hours and overtime, and issues related to redundancy dismissals. Measures of job quality highlight Georgia’s generous maternity leave arrangements but also indicate deficits with training on the

12 Doing Business 2015.
job and unemployment protection. Despite recent amendments, the regulatory framework remains liberal, creating a relatively employer-friendly environment. However, there is still no evidence that Georgia’s labor laws are conducive to job creation and economic growth.

**Jobs and social assistance as drivers of poverty reduction**

Thanks to the sustained growth experienced since the mid-1990s, Georgia has made considerable progress in reducing poverty, shared prosperity has also improved. At the beginning of the millennium, 20 percent of the Georgian population was considered extremely poor, and almost half of the population was considered poor (see Figure 1.7). By 2013, only 11.5 percent of the population was living in extreme poverty and 28.5 percent in poverty. While half of the population lived in rural areas in 2014, these areas were home to two-thirds of the poor. This is partly a result of poverty reduction occurring in mainly in urban areas. Rural poverty declined from 47 percent in 2006 to 43 percent in 2014, and shared prosperity has been improving in recent years. Mean consumption of the bottom 40 percent grew by 7.5 percent per year between 2010 and 2014, exceeding the growth enjoyed by the overall population (Figure 1.7, panel b). However, inequality in Georgia remains higher than in the Europe and Central Asia (ECA) region on average, with a Gini coefficient of 38.5 in 2015.

**Figure 1.7. Poverty has halved in the last decade and shared prosperity has grown**

Social transfers (mainly Targeted Social Assistance and Old Age Pensions), and better jobs—and not more jobs—have been the main driver of poverty reduction in recent years. While the process of poverty reduction started before 2012, the percent of the population living on less than 2.5 dollars per day went

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13 Poverty is measured using absolute poverty lines defined by the World Bank to allow comparability across countries all over the world. Extreme poverty is defined as living with less than USD 1 per day (2005 PPP) or 1.90 UDS per day (2011 PPP). Poverty is defined as living with less than USD 2.5 per day (2005 PPP) or USD 3.1 per day (2011 PPP).

14 Consumption growth among the bottom 40 percent was 8.3 percent during 2010–2014 compared with 6.4 percent for the population.
down from 42.5 to 31.2 between 2012 and 2015 (Figure 1.8, panel a). This is equivalent to a 27 percent reduction of poverty in just 4 years. The drivers of the poverty decline can be identified by decomposition analysis, highlighting the main factors behind poverty changes such as household income sources (e.g. labor earnings, public transfers, private transfers, remittances), household characteristics, labor market status, and sector of economic activity (e.g. agriculture). The analysis shows that the largest reduction in the poverty rate can be explained by increases in social assistance and labor earnings (Figure A.1.2.1, panel b in Appendix 1.2 complements this information for 2006-2010). This is likely to be associated with the increase in resources allocated to welfare and the social sector that has been taking place in Georgia since the new administration took over in 2012. It seems less likely that the increased earnings are the result of improvements in the skills of the population. Within social assistance, the largest effects can be attributed to the Targeted Social Assistance (TSA)\textsuperscript{15} program and Old Age Pensions\textsuperscript{16}. Furthermore, a recent World Bank study\textsuperscript{17} shows the absence of work disincentives around the eligibility threshold for the TSA. The only group that exhibit work disincentives are women with young children living in rural areas.\textsuperscript{18}

This wide range of reforms contributed to laying the groundwork and enabling the structural transformation in the country. The change in the economy and the social environment was critical for firms and workers to be able to switch behavior. There is no discussion that the improvement in the business environment was critical for increasing firm productivity and job creation (World Bank 2017, Bertrand and Kramarz 2002); but it was also important for poverty and income inequality reduction, as recently reviewed in the latest Doing Business report (World Bank 2017). Reducing poverty is also important for allowing workers to invest in education and make other labor market decisions. Recent research provides evidence to a well-known fact: people who are mentally taxed, for example by living in poverty and struggling to make ends meet, may not be able to make decisions that take effort, require deliberation, and are costly—even if the decisions are known to result in more positive and less risky outcomes (Schibalch, Schofield, and Mullainathan 2016).

\textsuperscript{15} The Targeted Social Assistance Program is covers 12 percent of the total population and targets the poorest people in Georgia.
\textsuperscript{16} Georgia does not have a private savings pension pillar. Old Age pensions are flat transfers.
\textsuperscript{17} See Kitts and Santos (2015).
\textsuperscript{18} Work disincentives for this group are not associated with the design of the TSA program but with other constraints that women living in rural areas may face.
Continuing Georgia’s structural transformation

To become a high-income country, Georgia needs to continue with the structural transformation, and expand the manufacturing sector. Drivers of growth can be summarized in two seminal theories that complement each other: (i) the Lewis dual economy models where growth happens by reallocating resources from low productivity sectors (traditionally agriculture) to modern urban sectors (traditionally manufacturing) (Rodrik and McMillan 2011). This report will loosely refer to this as structural transformation of the economy. As technology continues to influence the structural transformation process, high-income countries need to focus on avoiding fast de-industrialization, and low- and middle-income countries need to expand the manufacturing sector. (ii) Under the Neoclassical model of growth, growth depends on the following incentives: to save, to accumulate physical capital, to enhance skills, and to innovate. Each of these two theories, alone, is not supported by empirical evidence, however, they can be combined in a unified framework of growth (Rodrik, McMillan and Sepulveda 2017).

Georgia has shown a fair progress towards industrialization. As countries develop, the contribution of manufacturing to GDP grows. Figure 1. shows the positive (nonlinear) relationship between the share of industry value added (as a percentage of GDP) and GDP per capita across countries, and indicates an average performance for Georgia, which has been progressing along the fitted line during the last 20 years. Georgia is not as industrialized as Indonesia, but is twice as industrialized as Albania.
Despite moving along the fitted line, the industrialization trend resembles South-East Asia economies more than European high performers. When compared with other countries in Europe or in other regions with similar trajectories of growth (see appendix on selection of comparators), Georgia stands out as a country with growing industrialization, especially from 2011 to 2015. The other countries have been going through a process of de-industrialization like what has been observed in the US over the last fifty years (Figure 1.10, panel a). The industrialization trajectory—not the level—is closer to that observed twenty years ago by Indonesia, Malaysia, Thailand and Vietnam (Figure 1.10, panel b). For these fast-industrialized countries, the current concern is the recent and fast deindustrialization, as it affects economic growth and income polarization.

**Figure 1.9. Industry contribution to GDP grows with economic development**

Manufacturing as a share of GDP and GDP per capita, 2015

![Graph showing industry contribution to GDP and GDP per capita](image)

*Source*: authors’ calculations based on WDI. *Notes*: Scatter plot includes 170 economies with data on GDP per capita and manufactures. GDP per capita based on purchasing power parity (PPP) in constant 2011 international dollars. Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator. The quadratic trend line is \[ \text{Manufacturing} = -0.3286 \text{GDP}^2 + 7.5117 \text{GDP} - 28.486 \]

**The evolution of productivity is consistent with the industrialization trend.** The world is becoming more complex and Europe and Central Asia countries are moving away from one another in terms of levels of productivity, as measured by value added per worker. Figure 1.11 shows the evolution of the value added per worker over the last 20 years for Georgia and for selected comparator countries. Georgia’s
productivity has increased, in the last 20 years GDP per worker has more than tripled, from USD 3,152 in 1996 to USD 17,707 in 2016. In the Europe and Central Asia region, only Azerbaijan grew faster. However, part of the productivity gain is driven by reductions in employment due to demographic change in the country. In addition, the gap between Georgia’s average productivity level and that of the Europe and Central Asia region (or that of EU countries) is still large. At this pace of growth, it will take Georgia another 24 years to reach the level of productivity that Europe and Central Asia has today and 30 years to converge to the EU.

The service sector’s contribution to the economy increased rapidly and partly explains the slow-down of overall labor productivity growth in the last three years. The contribution of the service sector to the economy has been substantial from 2006 to 2016. The growth of value added in the service sector was 6 percent per year during this period, compared with 8 percent in manufacturing (see Figure 1.10). Value added in the service sector is more vulnerable to the economic cycle, there were important losses in value added in the years marked by crisis (for example 2009 and 2014).

Figure 1.10. Unlike other countries in Europe and Latin America, Georgia is becoming industrialized.

(a) Select comparators in East Europe and America  (b) South East Asia countries

Source: authors’ calculations based on WDI. Note: the time period for the analysis is 1995-2015 for all countries (computed as a 5-year average), except for USA: 1947 to 2016, and the Asian Tigers: 1990-2013. GDP per capita is expressed in PPP (2011 constant international $).
**Figure 1.11. Productivity is growing but the distance to high income countries is large**

The increase in productivity over the period is mostly driven by factor reallocation across sectors. The growth of value added per worker can be decomposed into the contribution coming from increases in productivity within each economic sector and the movement of workers from less to more productive sectors (Figure 1. panel b). From 2006 to 2016, the value added per capita grew 3.5 percent per year (or a change of 0.1 million USD per thousand persons). Value added per worker increased by 0.27 percent between 2006 and 2015, caused by a 0.51 percent increase driven by the inter-sectoral movement of workers, which compensated for the losses in within-sector productivity experienced by all sectors during this time, namely -0.1 percent in agriculture and services, and -0.03 percent in industry. was been observed from 2012 to 2015, especially in services. This might signal challenges in the capacity of firms to spur innovation and productivity growth, despite the gradual movement of workers from less to more productive firms and sectors over time.
Is growth creating jobs?

In the last decade, growth did not create jobs. All gains came from productivity. In the last three years, growth was driven by increases in labor force participation that were strong enough to compensate the losses in productivity.

This rather positive story of economic and productivity growth is not matched by employment growth. However, during the last 5 years timid employment growth has been observed. There is a positive relationship between growth and job creation worldwide, this growth elasticity is 34 percent. The magnitude of this elasticity varies when estimated for subsets of countries or time periods. For example, for the Western Balkan countries this elasticity was 16 percent from 2000 to 2010, and for EU-CEE countries it was 32 percent for the same period. Figure 1. shows that from 2005 to 2015, Georgia’s GDP grew by a yearly average of 5.7 percent, while employment remained stagnant. The case of Georgia’s growth without job creation has happened in many countries in the region such as Bulgaria, Serbia, Latvia, and Moldova where job destruction has taken place during periods of economic growth. Conversely, growth with strong job creation took place in Armenia, Macedonia, and Tajikistan.
Figure 1.13. Growth has not created employment in Georgia

(a) Relationship between GDP and employment growth, 2005-2015

(b) period 2005-2010

(c) period 2010-2015

Source: authors using WDI. Notes: The linear fit for the period 2005-2015 is $E = 0.3428 \text{GDP} + 0.5877$

**Growth without jobs is consistent with various hypotheses:** growth can happen with increases in productivity due to physical capital investments or technology that substitutes labor. The results of this type of growth are increases in labor productivity and thus wages, and labor shedding. The same outcome is achieved through allocative efficiency gains, by moving labor from less to more productive firms. Increases in productivity and wages may occur in parallel with higher structural unemployment, especially if there are job search frictions. As such, the new equilibrium may require similar levels of employment, but the reallocation of labor leads to higher unemployment. Furthermore, even with job creation, there may not be enough to provide jobs for all new labor market entrants.
All these factors/theories may have been at play in Georgia. Figure 1. shows growth decomposition by changes in the following: working age population, labor force participation, the employment rate, and the productivity effect. Between 2006 and 2015, 54 percent of annual growth was due to increases in the participation rate; about 31 percent is explained by increases in employment, and only 13 percent by increases in productivity. The results look very different when decomposition is carried out for sub-periods. Until 2012, growth was explained by increases in productivity. From 2006 to 2010 there were even reductions in labor force participation that were compensated for by other factors; and from 2012 to 2015, productivity slowdown has significantly hampered growth. However, during 2012 to 2015, there was an increase in labor force participation. During this period, demographic change exerted a small negative impact on growth for the first time: just above 1 percent of annual GDP growth was lost because of a shrinking population.

Figure 1.14. In the beginning productivity gains were driving growth, but in the last 3 years it was the increase in labor force participation that managed to compensate for productivity loses.

<table>
<thead>
<tr>
<th>Yearly Contribution to Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic Change</td>
</tr>
</tbody>
</table>

Source: (a) Jobs Structure Tool using Geostat, and (b) authors’ calculations based on IHS. Notes: Value added in million GEL in constant USD of 2010.

Employment grew strongly in the service sector, while employment in industry and agriculture remained constant. Figure 1.15, panel a), shows total employment growth by main economic sectors between 2006 and 2015; this can be compared with growth in value-added shown in Figure 1., panel a) above. The chart shows the high incidence of agriculture employment, even though most value added is currently generated by services and industry. The decomposition exercise shown in Figure 1.15, panel b), replicates the decomposition from Figure 1.14 for the whole period between 2006 and 2015, showing those sectors that have been driving the economy expansion. Interestingly, the results for the whole period look quite different from what is observed by sub-periods. Between 2006 and 2015, the service sector expanded substantially, explaining more than 80 percent of the average yearly employment growth. The rest comes from the industry sector, while agriculture remained constant. Instead, from 2012 to 2015), agricultural employment decreased by about 1 percentage point, and needed to be compensated for by job creation in the other sectors.
Is growth creating better jobs?

Growth contributed to increases in wage employment and wages, but Georgia has much to do to catch up with other countries with similar levels of GDP per capita.

The high incidence of employment in agriculture suggests that Georgia is still lagging in the process of reallocation of labor towards more productive sectors. Figure 1.16 shows the relationship between GDP per capita and the distribution of employment by type of work (wage versus self-employment) and the sector of work (agriculture versus non-agricultural) across different levels of economic development. As countries develop, the share of total employment in the industry and service sectors tend to grow, and this trend is associated with an increase in wage employment, typically in urban areas. For the current level of economic development (GDP per capita), Georgia is an outlier: too many workers are still employed in agriculture (more details will be provided in chapter 3), and too few in wage employment. Another striking result from the chart is the relatively low incidence of employers. This is despite the numerous pro-business environment reforms undertaken since 2004. In countries with similar levels of GDP per capita, about 5 percent of workers are entrepreneurs, but in Georgia this figure is only 1 percent of total employment.

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19 World Bank 2017
Figure 1.16. Wage employment increases with development

Distribution of type of work across countries

Sources: Share of workers by work type and GDP using I2D2, for Georgia HIS 2015. Notes: Details for Georgia provided in chapter 3. The values of the categories not included in the graph are: 1% Non-ag employer; and less than 1% non-ag unpaid.

Wage employment is usually associated with higher wages. Chapter 3 shows this relationship is observed in Georgia, and thus in this respect Georgia is not an outlier. Figure 1.17 shows how hourly wage grows with GDP per capita, for men and women, and that this relation is not linear, there is a higher elasticity of wages to GDP when countries become upper-middle- and high-income countries. Data limitations mean we cannot compare Georgia with other peer countries with similar levels of income. However, once the first round of the new labor force survey becomes available, information on hours of work will be available to calculate this.\(^9\)
A framework to organize the policy discussion

Jobs are the result of many interconnected forces. Some forces act at the micro level, for example, regulations and social norms affect people’s incentives to work or firms to invest in technology and hire workers. Others act at the macro level, and despite the less direct link still have an impact on job creation. Macro stability is critical for foreign and domestic investments that lead to job creation. Jobs are created within this complex system.

All governments are interested in increasing jobs. Governments understand that increasing and improving jobs is how development happens, development that reduces poverty and boosts shared prosperity. The general population is also interested in jobs, and employers are interested in growing their businesses, which usually means hiring more workers.

Jobs outcomes are often suboptimal due to information failures and barriers to access, which may justify government intervention. Various metrics can be used to assess jobs outcomes. The number and quality of jobs need to be contrasted with available resources, e.g., physical resources (land, capital, and technology), as well as worker skill levels. There are also equity considerations regarding access to jobs, and quality of jobs. Suboptimal outcomes may be the result of time lags, geographic distortions, heterogeneous impact of policies, and more. When distortions are present, the state may need to intervene to reach the optimal jobs outcomes or equilibrium.

This report analyses the main economic forces driving job creation in Georgia, and attempts to answer four questions. First, Chapter 1 investigates whether the enabling environment is conducive to good job outcomes? Second, Chapter 2 investigates how formal sector job creators doing? Third, Chapter 3
investigates how does the Georgian workforce measure up to the needs of employers? Finally, Chapter 4 recommends a set of policy options that can improve jobs outcomes?

Figure 1.18. More, better, and inclusive jobs are created when constraints are removed

Constraints affecting labor demand need to be removed to achieve the goal of more and better jobs. Figure 1.18 shows that jobs depend on labor demand, labor supply, and the ability of employers and jobseekers to find each other, usually called job matching. There are other mechanisms at work that also need to function without constraints, for this to happen. Governments need to adopt policies that provide stability at the macro level and create a business environment conducive to business growth; policies that act at the micro level of the firm are also needed to stimulate investment, innovation, and job creation. The government of Georgia will need to remove constraints that (i) prevent productivity growth, this was negative in the period 2012-2015; (ii) promote further integration with global markets to increase the level of production; and (iii) facilitate allocative efficiency but diminish the costs of reallocation of factors across sectors, and from less to more productive firms, including easing the exit of low productive firms.

The goal of more and better jobs also requires removing constraints on the labor supply side. These constraints are manifold and can be grouped into constraints that affect the size of the workforce and those that affect quality of the workforce. The size of the workforce can be considered by: demographics,
labor force participation, and employment. Georgia needs to pay attention to the factors affecting population aging to maintain the size of the working age population, this includes constraints that lead to lower fertility rates, especially given that life expectancy in Georgia is growing.

The goal of better jobs also needs skills of the relatively well-educated workforce to continue to improve and adjust to the changing demands of employers. As the structural transformation continues, the workers’ skills will need to adapt. The quality of education needs to improve to support the structural transformation, and to catch up with higher income countries as these countries are serious about quality of education. The challenge will require substantial efforts ranging from re-training to behavioral shifts because some adults were raised under a soviet system.
Chapter 2. Labor demand

Summary

This chapter examines labor demand in Georgia. To do that, the chapter examines where jobs come from; which sectors and firms create jobs; and what constraints to labor demand exist. Labor demand grew slowly up to 2011, followed by some years of fast job growth in the social, public, and retail and wholesale sectors, resulting in the creation of more than 480,000 formal wage jobs. Other, high productivity sectors have not yet contributed to job growth.

Job growth picked up momentum after 2011; the largest demand for labor, 30 percent of total employment, comes from large firms in the social and public sectors, including SOEs. Twenty percent of employment comes from small firms in the services sector, mainly wholesale and retail; this is consistent with government’s increasing social sector spending, and jobs created in the low-skilled service sectors. High-productivity services and manufacturing provide a limited number of jobs. The clustering of firm size may point to a “missing middle”, indicating institutional constraints that impede the growth of small firms.

Impediments to job creation are caused by the market distortions typical of a transition economy, evidenced by the high variation in Total Factor Productivity (TFP) within sectors and low correlation between firm size and productivity. Eliminating allocative distortions could increase TFP by up to 70 percent.

Where are formal jobs concentrated in Georgia?

Despite a large pool of small young firms, employment in Georgia is concentrated in large firms that have been around for more than 5 years. Most firms in Georgia are small, i.e., individual firms or firms below 10 employees, and relatively young. However, most employment is concentrated in large firms (above 100 employees) that have been operating for 6 years or more, and especially in firms that have been around for more than 15 years (Figure 2.1 panel a and b). This is also true for private firms\textsuperscript{10} (which include Limited Liability Companies, Joint Stock Companies, Joint liability companies, Limited Partnerships, Cooperatives, Individual entrepreneurs). The incidence of medium-sized firms is even less for private firms (Figure 2. 2 panel a) and employment is relatively more concentrated in larger firms (Figure 2. 2 panel b).

The pool of firms is dominated by individual and micro-firms in the wholesale and retail sector, while employment is concentrated in public and social services in large firms. Individual and micro-firms (below 10 employees) represent almost 90 percent of all firms in Georgia, of which 50 percent is accounted for by the wholesale and retail sector (Figure 2.3, panels a and b). Large firms (at least 100 employees) represent less than 1 percent of all firms but account for 43 percent of total employment; medium-sized firms (between 20 and 99 employees), represent only 5 percent of total firms but and small
firms (below 20 employees) together account for 28 percent of total employment. Public and social services (public administration and defense, education, health and social work) in firms with 100 or more employees, account for over 37 percent of total employment. The largest economic sector is wholesale and retail trade, which accounts for almost 20 percent of total employment. This is followed by education (17 percent), real estate and professional services (9 percent), manufacturing (9 percent) and health and social work (8 percent).

**Figure 2.1. Firms and employment distribution by age and size of firm, 2016 (All firms)**

(a) Firms distribution by age and size  
(b) Employment distribution by firm age and size

*Source: Authors’ calculations using firm registry (Geostat)*

**Figure 2.2. Firms and employment distribution by age and size of firm, 2016 (Private firms)**

(a) Firms distribution by age and size  
(b) Employment distribution by firm age and size

*Source: Authors’ calculations using firm registry, Geostat*
Employment in Georgia is concentrated in wholesale and retail and in the public and social services sectors. Employment in Georgia is concentrated uniformly among young firms: companies that are less than 5 years old absorb 33 percent of total employment; medium-age firms, those that have been operating for between 6 and 10 years account for 34 percent of total employment; and older firms around for more than 10 years account for 32 percent of total employment. New firms and start-ups\(^\text{11}\) account only for 8 percent of total employment while firms operating for at least 15 years account for over 20 percent of the total workforce. Almost 30 percent of total employment is accounted for by firms operating...
for more than 5 years in public and social services; and an additional 20 percent by firms aged more than 5 years in wholesale and retail trade, real estate and professional services, and financial intermediation.

Sectors and firm types that have been expanding and driving formal job creation

A thriving private sector is key to creating more and better jobs. Building on the business climate discussion introduced in Chapter 1, this section looks at and patterns of job creation in Georgia using firm level data. The analysis seeks to find potential constraints to employment growth. It builds on previous analysis of the private sector in Georgia and adds information with, for example, richer and more recent data, such as Firms Business Survey up to 2014, and Firms Registry data for 2012-2016; and a longer timeframe covering the last 10 years, which can lead to a more complete understanding of the long-term impact of the reforms of 2004; and (iii) new analysis of firms’ entry and exit from firms’ registry data. The aim of this analysis is to identify directions for policy to boost job creation, and to enhance the reallocation of resources across sectors and firms, which is expected to lead to higher wages as resources and inputs are being used more productively. The availability of multiple data sources also allows the analysis to be broken down into different sub-periods, focusing on job creation and labor reallocation in the short-term (using firms’ Registry data), and the long-term (using firms’ Business surveys).

Short term: job creation in 2012-2016

Short-term job creation has been driven mostly by large firms that have operated in the private sector for more than 5 years. Private domestic firms have been the main driver of job creation in the short run, between 2012 and 2016. Of around 80,000 new jobs created in registered firms between 2012 and 2016, private domestic firms accounted for over half. State owned enterprises and other public entities accounted for around one fourth of the jobs created, followed by individual firms; the contribution of private foreign firms to job creation has been negligible (Figure 2.5 panel a). There is a clear bi-modal pattern with firm size: most jobs have been created in large firms (with 100 employees or more), but nearly one third are in single-person firms (registered self-employed). Other micro-firms (with fewer than 20 employees) and medium firms (between 20 and 99 employees), have either marginally or negatively contributed to total job creation (Figure 2.5 panel b). Finally, job creation has been mainly concentrated in firms operating for more than 6 years (Figure 2.5 panel c). More recently, jobs have been lost in firms that have been operating for less than 5 years, which could signal difficulties faced by younger firms with expanding their activity and workforce.

20 World Bank 2014b
Job creation patterns reflect the increasing importance of services in the economy, although not driven by high productivity sectors. Job creation in Georgia since 2012 has been driven by the following sectors: public administration and defense, wholesale and retail trade, and to a minor extent manufacturing, transport, and health and social work (Figure 2.6). While this pattern reflects the increasing tertiarization of the economy, not all expanding sectors are high productivity, as will be discussed later in this chapter. Services sectors that are expanding tend to be lower productivity sectors; in addition, wholesale and retail trade is characterized by a high share of individual firms which tend to be low-productivity ones. Further, potentially high-productivity sectors such as real estate and financial intermediation have been shedding jobs.

Despite strong expansion in the number of firms, firm creation is weakly associated with total employment growth. Firm growth in Georgia is generally positively correlated with employment creation, however this association is weak. In some key sectors, such as wholesale and retail, and manufacturing, the creation of new firms is accompanied by overall employment growth in the sector; the same is true for the hotel and restaurant sector, transport, other social services, public administration, and defense. The number of firms, as well as total employment, have declined between 2012 and 2016 in some high-productivity and potentially strategic sectors like financial intermediation. The same applies to public utilities (electricity, gas and water), while in mining, a traditional sector in Georgia, firm and employment creation have stalled (Figure 2.7 panel a and b).
New entry firms are mostly individual, micro-small firms, and account for around 70 percent of total employment among all new entrants. Over 95 percent of new entrant firms each year are individual firms, micro-firms (below 10 employees) or other small firms with between 10 and 20 employees. Overall, small firms account for around 70 percent of total employment among new firms. The contribution of new medium-sized firms (50 to 99 employees) to total employment of new entrants has been quite
modest at between 4 and 6 percent, while the contribution of large firms to total employment among new entrants has varied between 7 percent and 17 percent. There has been an increase in the incidence of individual firms among the pool of new entrants in recent years, and at the same time there has been a drop in the share of micro-firms (below 10 employees).

**Figure 2.8. New entrant composition and total employment by firm size**

(a) Composition of new entrants by firm size at entry (%)

(b) Employment by firm size at entry (new entrants only)

*Source: Authors’ calculations using Geostat Firms registry.*

**Individual and micro-small firms have high exit rates.** Individual and micro-small firms tend to exhibit high exit rates: of all firms existing in 2012, over 50 percent of individual firms and firms with fewer than 10 employees were not present in 2016 (Table 2.1). Exit rates decline with firm size: 39 percent of firms with 10 to 19 employees and 25 percent of firms with 20 to 49 employees existing in 2012 were no longer present in 2016. For firms that remained active in all years between 2012 and 2016 (Table 2.2), individual firms and large firms (above 100 employees) were most persistent. Small firms of between 10 and 19 employees in 2012 experienced higher mobility as more than half of them changed class of firm size. However, only 16 percent of firms expanded, while 40 percent contracted. Other small firms (below 10 employees) and medium-sized firms (between 20 and 100 employees) exhibit lower mobility, and tend to transition more toward classes of smaller rather than larger size.

**Table 2.1. Transition matrix: size in 2012 vs. size in 2016 (All firms existing in 2012)**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2-9</th>
<th>10-19</th>
<th>20-49</th>
<th>50-99</th>
<th>100+</th>
<th>Exit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1]</td>
<td>45.7</td>
<td>1.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>53.0</td>
<td>100</td>
</tr>
<tr>
<td>[2-9]</td>
<td>14.7</td>
<td>26.8</td>
<td>2.5</td>
<td>0.6</td>
<td>0.1</td>
<td>0.1</td>
<td>55.2</td>
<td>100</td>
</tr>
<tr>
<td>[10-19]</td>
<td>5.4</td>
<td>19.7</td>
<td>25.6</td>
<td>9.6</td>
<td>0.8</td>
<td>0.3</td>
<td>38.6</td>
<td>100</td>
</tr>
<tr>
<td>[20-49]</td>
<td>2.2</td>
<td>8.4</td>
<td>12.1</td>
<td>44.9</td>
<td>6.6</td>
<td>1.2</td>
<td>24.5</td>
<td>100</td>
</tr>
<tr>
<td>[50-99]</td>
<td>1.8</td>
<td>3.9</td>
<td>3.6</td>
<td>18.7</td>
<td>41.6</td>
<td>10.6</td>
<td>19.9</td>
<td>100</td>
</tr>
<tr>
<td>[100+]</td>
<td>1.3</td>
<td>2.3</td>
<td>2.0</td>
<td>3.7</td>
<td>10.6</td>
<td>62.3</td>
<td>17.8</td>
<td>100</td>
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</table>
Table 2.2. Transition matrix: size in 2012 vs. size in 2016 (Continuing firms between 2012 and 2016)

<table>
<thead>
<tr>
<th></th>
<th>[1]</th>
<th>[2-9]</th>
<th>[10-19]</th>
<th>[20-49]</th>
<th>[50-99]</th>
<th>[100+]</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1]</td>
<td>97.2</td>
<td>2.63</td>
<td>0.09</td>
<td>0.05</td>
<td>0.01</td>
<td>0.01</td>
<td>100</td>
</tr>
<tr>
<td>[2-9]</td>
<td>32.74</td>
<td>59.87</td>
<td>5.47</td>
<td>1.44</td>
<td>0.32</td>
<td>0.15</td>
<td>100</td>
</tr>
<tr>
<td>[10-19]</td>
<td>8.82</td>
<td>32.12</td>
<td>41.6</td>
<td>15.68</td>
<td>1.35</td>
<td>0.42</td>
<td>100</td>
</tr>
<tr>
<td>[20-49]</td>
<td>2.85</td>
<td>11.18</td>
<td>16.01</td>
<td>59.56</td>
<td>8.78</td>
<td>1.61</td>
<td>100</td>
</tr>
<tr>
<td>[50-99]</td>
<td>2.23</td>
<td>4.88</td>
<td>4.46</td>
<td>23.31</td>
<td>51.9</td>
<td>13.22</td>
<td>100</td>
</tr>
<tr>
<td>[100+]</td>
<td>1.61</td>
<td>2.76</td>
<td>2.42</td>
<td>4.49</td>
<td>12.89</td>
<td>75.83</td>
<td>100</td>
</tr>
</tbody>
</table>

New firms contribute positively to net job creation, but most jobs are created in existing firms. To understand the contribution of firm dynamics to overall employment creation, we break the net job creation rate into four components: (i) the contribution of existing firms and (ii) new firms to job creation; and (iii) the contribution of existing firms and (iv) exiting firms to job destruction. The net sum of gross job creation and destruction is the net job creation, expressed in Figure 2.9 panel a and b as a percentage of total employment in each year. This decomposition shows that around 20 percent of new jobs each year are with new entry firms. While this suggests a dynamic labor market from the entry margin, we need to bear in mind that these figures include individual firms (e.g. self-employed or micro-entrepreneurs with few employees), which tend to have a short life and high exit rates. The charts are based on all firms registered each year. The results are similar for private firms: (i) the job creation rate appears to have slowed in 2016, seemingly in line with aggregate data on employment rate for the same year; and (ii) the contribution of new firms to total job creation seems to have diminished, even in manufacturing that maintained overall positive job creation rates (Figure 2.10 panel a and b). In the Appendix to this chapter, the net job creation decomposition is shown by firm size. This chapter continues with a more detailed analysis of firm entry and exit to control for factors that could affect firm dynamics and net job creation, such as sector and size at entry.

Figure 2.9. Net job creation

Source: Authors’ calculations using Geostat Firms registry.

47
Figure 2.10. Net job creation by sector

(a) Net Job Creation: Manufacturing

(b) Net Job Creation: Wholesale and retail trade

Source: Authors’ calculations using Geostat Firms registry.

Job creation among continuing firms is driven by large firms and small, but fast-growing firms. Among continuing firms operating in all years between 2012 and 2015, most of the jobs created in that period were generated by firms which were large firms (100+ employees) in 2012. The contribution of these large firms to job creation is equivalent to the contribution of small-sized firms in 2012. Some of these small-sized firms rapidly became medium-sized and even large firms, contributing positively to net job creation. This is encouraging for the labor market in Georgia, and signals dynamism and growth potential among small firms. Net job creation has been more modest for medium-sized firms, some have entered into the large category, but many others contracted their workforce and shed labor. In summary, net job creation for continuing firms has been driven by large firms expanding, or by small firms growing into medium firms; but less so from medium-firms.

Among surviving firms, net job creation is higher among medium-sized and large firms, and declines with firms’ age. The previous findings do not control for the effect of economic sector and year on the relationship between job creation and other characteristic such as size and age. The following econometric methodology of Haltiwanger, Jarvin and Miranda (2013) is now used to estimate the predicted net job creation rate controlling for the factors mentioned above. The estimation results and the methodology are described in Box 2.1, and are based on the regression of net job creation rates on firms’ age class, size class, and their interaction, the estimation also controls for sector-specific dummies, firms’ type dummies and year dummies. Results suggest that while job creation rates appear similar across firm size when all firms existing between 2012 and 2015 are considered, with a focus on surviving firms, net job creation drops for small and micro-firms, and is higher for medium-sized and large firms (Figure 2.12a). There is also evidence of a result noted in the literature that states that net job creation tends to
be higher among younger firms and stabilizes as firms age (Figure 2.12b). However, among surviving firms, net job creation among younger firms is much lower.

**Figure 2.11. Net job creation by firm size among continuing firms**

(a) Net job creation by firm size in 2012 (X axis) and 2016 (Z axis) (continuing firms)

(b) Net job creation between 2012 and 2016 by firm size in 2012 (continuing firms)

![Graph showing net job creation by firm size among continuing firms.]

*Source: Authors’ calculations using Geostat Firms registry.*

**Figure 2.12. Predicted Net Job Creation rate 2012-2015 by firm size and age.**

(a) Predicted Net Job Creation rate 2012-2015: (by firm size)

(b) Predicted Net Job Creation rate 2012-2015: (by firm age)

![Graph showing predicted net job creation rate by firm size and age.]

*Source: Authors’ calculations using Geostat Firms registry.*
Box 2. 1. Analyzing the relationship between Net Job creation, firm size and firm age

The estimation of the relationship between Net Job creation, firm size and firm age, follows the methodology proposed by Haltiwanger, Jarvin and Miranda (2013). The net job creation rate for each firm \(i\) in year \(t\) \((NJCR_{it})\), where \(t\) varies between 2013 and 2015, is defined as the ratio between the employment growth registered by the firm between time \(t-1\) and \(t\), and the average employment level observed between the two periods:

\[
NJCR_{it} = 0.5 \ast \frac{(E_t - E_{t-1})}{E_t + E_{t-1}}
\]

The relationship between Net Job creation, firm size and firm age is analyzed by estimating the coefficient of the following linear regression by OLS using GEOSTAT Firms Registry data on the universe of registered firms:

\[
NJCR_{it} = \beta_0 + \beta_1' d_{size_{it}} + \beta_2' d_{age_{it}} + \beta_3'(d_{size_{it}} \ast d_{age_{it}}) + \beta_4' d_{sector_{it}} + \beta_5' d_{firm\_type_{it}} + \beta_6' d_{year_{it}} + \epsilon_{it}
\]

Where \(d_{size_{it}}\) represent dummies for firm size, \(d_{age_{it}}\) are dummies for firm age, \(\beta_3\) is the vector of coefficient on the interaction terms between the dummies for size and age, \(d_{sector_{it}}\) include dummies for economic sector, \(d_{firm\_type_{it}}\) are dummies capturing if the firm is individual, private domestic, private foreign, or state owned enterprise or other public entity, while \(d_{year_{it}}\) is a vector of year-specific dummies.

The results of the estimation are reported in Table 2.3 in Appendix 2. The first column reports the estimates carried out on all firms existing between 2012 and 2015, while the second column reports the estimates obtained for continuing firms only, namely those firms observed in the Firms Registry with a positive number of employees for four consecutive years between 2012 and 2015. The coefficients for the interactions terms between size and age are not reported, as well as those on sector dummies, firm type dummies and year dummies.

The estimated negative coefficients on the firm age dummies show that firms in their first years contribute more to net job creation than when they get older, a finding already supported by the literature. However, when considering continuing firms only, we find that the relative impact of younger firms on Net Job Creation is much smaller. The estimated coefficients on the size dummies show that the contribution to Net Job Creation is generally larger as firm size increases (compared to individual firms), especially when considering continuing firms only. Figures 2.9a and 2.9b report total predicted effects considering the interaction terms.

Source: authors

Job creation in the long run: 2006-2014

Private sector employment has increased substantially, particularly after 2011. Formal private sector employment has more than doubled since 2006, reaching 550,000 jobs in 2016. Between 2006 and 2016, employment increased across all major sectors, but at different rates. Services expanded considerably, especially health and social work where the employment share grew by almost 6 percent. Other sectors with above average employment growth include wholesale/retail, hotels and restaurants, real estate, and mining. Formal private sector employment in agriculture is about 2 percent. A large part of the employed population works in agriculture, but are self-employed or unpaid workers, and thus not captured by this
survey. Wholesale/retail is the biggest sector in both absolute and relative terms, reaching 29 percent of total private sector employment in 2016. Employment shares for manufacturing and construction declined to less than 15 percent.

**Figure 2.13. Private sector employment has increased substantially since 2006**

As privatization has proceeded, employment in state-owned enterprises declined steadily. In 1995, a comprehensive scheme for large scale privatization was implemented and by 1996, more than 25 percent of large scale enterprise assets had been privatized. In fact, large scale privatization of SOEs advanced faster in Georgia than in CIS, Poland, Romania and Slovenia. The share of employment in SOEs declined from more than 50 percent in the early 2000s to 9 percent in 2014 (Figure 2.14). At present, SOEs are concentrated in transport, utility and health sectors.

**Source:** Authors’ calculations using Business Survey 2006-2016
Employment in SOEs has been decreasing since 2000

Employment in SOEs, 1999-2014

Source: Authors’ calculations using GeoStat.

Private sector employment in Georgia is concentrated in legal entity corporations, large firms and businesses that have been operating for 10 years or more. Employment is increasingly concentrated in legal entity firms, comprising 90 percent of all workers in the private sector in 2016 (Figure 2.15 panel a). Distribution by age is relatively stable over time, with firms 5 years and older making up 67 percent of private sector employment (Figure 2.15 panel a). As to regional patterns, private sector employment is increasingly concentrated in Tbilisi, reaching 61 percent in 2016. See Figure 2.16 panel b for more details.

Figure 2.15. Legal firms have increased in importance, and SOEs have declined in importance

(a) Employment share by type of private firm, 2006-2016

(b) Average number of employees by category of firm, 2006-2016

Source: authors’ calculations based on Business Surveys (various years). Notes: Individual firms measured on the right axis, the other categories on the left axis.
The 2004 business reforms spurred firm creation in the private sector up until 2011. In 2004, Georgia started to implement comprehensive reforms to improve the business climate and stimulate job creation. Our analysis suggests that the improved business environment stimulated private sector firm entry. Most importantly, the 2004 reforms were followed by a sustained increase in the number of new legal entity firms up to 2011. The decline after 2011 suggests some sort of aggregate shock that led to a substantial drop in the number of firms being created per year. The data also shows the creation of SOEs, many of them established in the health sector: for example, 80 percent of SOEs created 1995 were in health, related to the health care reform package implemented in 1995 (Figure 2.17).

**Figure 2.16. Private sector employment is concentrated in older firms and businesses that are in Tbilisi**

(a) Private sector employment by firm age  (b) Regional distribution of private sector employment

Source: Authors’ calculations using Business Survey, preliminary estimates.

**Figure 2.17. Georgia’s business reforms stimulated private sector firm creation**

(a) Firm entry by ownership  (b) Private sector firm entry by legal status

Source: Authors’ calculations using Business Survey, preliminary estimates. Notes: The figure uses the pooled un-weighted sample to infer a distribution of entry dates across firms. The plot shows the share of firms in each of the years of entry.
The evolution of firm size: a “missing middle” problem or efficient reallocation?

The small-size firm cap can potentially generate a “missing middle” problem. As discussed in previous sections, small and micro enterprises represent most firms in Georgia. Individual firms represent over 70 percent of total registered firms, but accounted for only 11 percent of total employment in 2015. There are 130,000 individual firms and firms with fewer than 10 employees, out of around 146,000 total registered firms. Very large firms, with more than 500 employees, represent only 0.1 percent of total firms, but account for over 21 percent of total employment. In the total economy, over 40 percent of total employment is concentrated in large firms with more than 100 employees, while both small (below 20) and medium firms (between 20 and 100 employees) account for around 30 percent of total employment each. In the private sector, however, employment is more concentrated in small firms (below 20 employees) or large firms (above 100 employees), which account to 40 percent of total employment each. Small-medium enterprises, with 20 to 100 employees, account for only 20 percent of total employment in the private sector (individual firms, private domestic and foreign firms, Figure 2.19).

Some economic sectors are already characterized by a “missing middle”. At the country level, the weight of firms in the “middle” (with between 20 and 100 employees) equals the weight of “small” firms (fewer than 20 employees), but in some sectors, the incidence of medium-sized firms is much lower. For instance, in the wholesale and retail sector, the largest employment sector in Georgia, small-micro firms (below 20 employees) account for over 60 percent of total employment, while medium firms account for less than 20 percent (Figure 2.21b).

Figure 2.18. Employment by firm size by firm type

<table>
<thead>
<tr>
<th>(a) All Firms</th>
<th>(b) Private Firms</th>
<th>(c) Private firms (non individual)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existing firms</td>
<td>New firms</td>
</tr>
<tr>
<td></td>
<td>Existing firms</td>
<td>New firms</td>
</tr>
<tr>
<td></td>
<td>Existing firms</td>
<td>New firms</td>
</tr>
<tr>
<td>Source: Authors’ calculations using Firms Registry (Geostat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 2.19. Employment % composition by firm size (All firms and private firms)

(a) Employment % distribution by firm size, all firms

(b) Employment % distribution by firm size, private firms

Source: Authors’ calculations using Firms Registry (Geostat)

Figure 2.20. Employment by firm size in manufacturing and wholesale and retail trade

(a) Employment % distribution by firm size, manufacturing private firms

(b) Employment % distribution by firm size, Wholesale and retail trade private firms

Source: Authors’ calculations using Firms Registry (Geostat)

Figure 2.21. Employment by firm size in construction and finance and real estate

(a) Employment % distribution by firm size, construction private firms

(b) Employment % distribution by firm size, finance and real estate private firms

Source: Authors’ calculations using Firms Registry (Geostat)
Firm Size Distribution and Properties of Entrants in the long-run (2006-2014)

Firm size distribution can reveal the effectiveness of policies intended to reduce barriers to doing business and operating businesses. Theoretical models predict that a reduction in entry barriers and other forms of overhead costs should manifest in a decline in the average firm size. The reduction of entry barriers promotes competition and increases the number and the variety of firms, and has been shown to be welfare-enhancing. This can be analyzed for Georgia looking at a time series of firm entry and size, using the Enterprise Survey available from 2006 until 2016.

Firm size has been decreasing over the last decade. Figure 2.22, panel a show the dynamics of the average firm size for all firms and sectors. It also plots the evolution for legal private firms, individual businesses, and state-owned enterprises. Two forces are driving the contraction of firm size. First, the reforms in the business environment allow more private firms to enter, and second, the effect is reinforced by privatization and dismantling of state-owned enterprises. Larger, presumably more inefficient SOEs, were restructured first, leaving the smaller and more productive ones in the market. Note that the strength of the decline among private legal firms follows the reduction in state-owned enterprises quite closely, which can be taken as a benchmark of fast restructuring. The pace of restructuring is dramatic, especially in manufacturing and relative to Bulgaria, which is undergoing a similar economic transformation (Figure 2.22).

Figure 2.22. Firms continue to get smaller in Georgia, but not in manufacturing

(a) Firm size relative to size in 2006, by type of firm

(b) Bulgaria and Georgia, Manufacturing


New entrants are also contributing to the decline in the average size. Figure 2.23, panel a show a declining trend in the average size of entrants, which is more pronounced for legal enterprises when looking at the whole period. Since the latter are most closely affected by entry distortions and regulations, we see the contraction in the average scale of new firms as a manifestation of the effects of the 2004 liberalization. The entry of smaller firms could be indicative of a decline in average productivity; and a
higher fraction of initially less profitable business ideas may start up, but it will also bring about a de-
concentration of production, an increase in competition, and a widening of the type of products supplied
to the market, all of which are beneficial for the welfare of consumers. If followed by post-entry growth,
as detailed below, the benefits would be even greater.

The data shows evidence of an increase in the total number of varieties. While smaller, the increase of
entrants is bringing about an improvement in welfare through a more competitive environment and an
increase in the number of varieties of businesses (see Figure 2.23, panel b). It remains to be seen if the
initial productivity disadvantage of entrants, manifested in a lower average size, reverts over the life-cycle
as firm growth and selection effects start to kick in.

Figure 2.23. While firm size of legal firm entrants has been decreasing over time, they bring more
varieties, more competition and, eventually more productivity through selection to the economy

(a) Average size of firm entrants relative to initial value in 2006
(b) Number of firms in the economy, 2006-2016

Source: authors’ calculations based on Geostat Enterprise Surveys, 2006-2016. Notes: all are weighted estimates that
represent the sample of the private sector.
Entrepreneurial activity in Georgia has increased in recent years. According to the recent Life in Transition Survey\(^1\), about 17 percent of the adult population has tried to start their own business – a share that compares well to that of the Czech Republic, Estonia or Latvia (Figure B2.2.1). The profile of Georgia’s would-be entrepreneurs (people that tried to set up a business, regardless of being successful) is like what is observed in other countries: entrepreneurial activity is higher among men, increases with education, is higher in better-off households and urban areas, and has a hump-shaped age profile.

**Figure B2.2.1: Entrepreneurial activity is relatively high in Georgia**

<table>
<thead>
<tr>
<th>Country</th>
<th>2010</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Romania</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Hungary</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Croatia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Macedonia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Germany</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Slovakia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Lithuania</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Poland</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Slovenia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Italy</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Armenia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Georgia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Czech Republic</td>
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</tr>
<tr>
<td>Estonia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Latvia</td>
<td>0.10</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Source: LiTS 2010, 2016

While Georgia performs well on overall entrepreneurial activity, the country lags in terms of enabling more start-ups to be successful, despite significant improvements in recent years. Latest available estimates show that about two in three attempts are successful, whereas in comparators the success rate is above 90 percent (Figure B2.2.2).

**Figure B2.2.2: Georgia’s conditional success rate increased, but remains low**

<table>
<thead>
<tr>
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Source: LiTS 2010, 2016
Limited access to capital is the main reason for not being successful. Georgia has one of the highest shares of insufficient capital as the main obstacle, at 67 percent. Similarly, access to finance was identified as the top obstacle to operation and firm growth for almost every second firm that had gone out of business.

In Georgia, 55 percent of would-be entrepreneurs tried to borrow money to set up their business - one of the highest rates observed in the LiTS - and 51 percent of them managed to do so. The majority borrowed formally from banks (52 percent), while 22 percent borrowed from relatives and friends.

Data on how successful Georgia’s entrepreneurs and self-employed are is difficult to come by. The country’s share of own-account workers in total employment is relatively high, reaching 23 percent for women and 42 percent for men\(^1\), suggesting that many choose self-employment out of necessity rather than opportunity. Indeed, the pool of latent entrepreneurs, those who prefer to be self-employed, is relatively small in Georgia. When asked about their preferred type of job, only 13 percent would choose self-employment while 48 percent preferred a public-sector job – employment that typically offers adequate income, additional benefits, and stability (Figure B2.2.3).

**Figure B2.2.3: Latent entrepreneurship is low in Georgia**

Share of adult population that

<table>
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<th>prefer self-employment</th>
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*Source: Authors’ calculations using LiTS 2010.*

*Source: Authors.*

*Notes:*

\(^1\) The Life in Transition Surveys (LiTS) collect data to understand how economic change and political transition affect the lives of people in more than 30 countries. Three surveys have been carried out by the EBRD in collaboration with the World Bank.

\(^2\) WDI, data for 2015.
The evolution of firm size over the life-cycle

In high-income countries, productivity grows with firm age, conditional on firm survival. The US exhibits fast life-cycle growth, with entrants scaling up in an order of 6 to 8 times their size and productivity at entry by age 40, conditional on survival. In India and Mexico, the number is slightly larger than 2. Recent work by Hsieh and Klenow (2014) documents significant cross-country differences in the relationship between firm size and, conditional on survival, firm age.

Employment growth has accelerated over the life-cycle of firms in Georgia in recent years. Figure 2.24 shows that while the growth rate of employment across firms of different ages was virtually flat in 2007, it started to accelerate thereafter. For example, a typical 5-year old firm was as large as it was at entry in 2007, and was twice as large in 2016. The rapid growth of new firms in recent years eases the concern about new entrants being small.

Figure 2.24. Reforms have paid off, but it is too early to see if Georgia will be more like Mexico or to the US

(a) Employment over the life cycle, Georgia

(b) Employment over the life cycle, US, Mexico, India

Source: authors’ calculations based on Business Survey from GeoStat. Note: figure shows the size distribution of firms for bins of different ages for the years 2007, 2010, 2013 and 2016. The age bins are less than 1 year old, between 1 and 3, 3 to 5 years, 5 to 10, and more than 10

Source: Hsieh and Klenow (2014)

Employment growth over the life-cycle has been even more pronounced in legal firms. As in previous analysis, it is helpful to break down the overall picture into one that characterizes legal firms and individual enterprises separately. Presumably, individual enterprises are different in nature and are meant to be small- scale, regardless of distortions and regulations that discourage growth. Legal firms, on the other hand, seem to be the ones with growth potential and thus are most susceptible to obstacles from market frictions and policy distortions. Figure 2.25 confirms the conjecture that the size of individual firms exhibits
little variation over the course of the establishment’s life cycle, while legal firms drive most of the growth that we observe in the aggregate.

**Figure 2.25. Employment growth over the life cycle is driven by legal firms**

<table>
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<th>a) Legal firms</th>
<th>b) Individual firms</th>
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![Diagram showing employment growth over the life cycle for legal and individual firms](image)

*Source: authors’ calculations based on GeoStat Business survey, various years*

Life-cycle employment growth can happen either because more productive firms survive (selection), or because firms create jobs (firm productivity growth). High income countries show that both forces contribute to overall employment growth. More inefficient economies, like India, exhibit a negative contribution to overall growth from firm productivity growth, as selection is the only driver of the aggregate pattern (see Hsieh and Klenow 2014).

**Georgia shows contributions from both channels: selection and firm productivity growth.** Figure 2.26 plots the firm size distribution of the cohort of entrants in 2006, alongside the size distribution of this cohort in 2011, and the size distribution of the 2011 survivors at the time of entry in 2006. The difference between the orange and the green line reflects the shift in the size distribution that can be attributed to firm growth among continuers, while the distance between the orange and the blue reflects the effect of selection. Average employment grew from 2 to 4 employees between 2006 and 2011, but survivors in 2011 were already larger, with an average of 3 employees. Thus, 50% of the overall growth stems from survival of larger firms, and 50 percent stems from firm growth.
Figure 2.26. About half of employment growth comes from larger firms surviving and the other half from within-firm growth

Distribution of employment for firms that entered in 2006 and survived to 2011

Source: authors' calculations using Geostat Business Survey, various years

An important caveat about our life-cycle analysis relates to its shorter length relative to the 40-year horizon contemplated in Hsieh and Klenow (2014). Notice that firms in Georgia in 2014 grow by a factor like that of US or Mexican firms after they have been operational for 10 years. However, while American firms continue to grow in the subsequent years, Mexican firms’ life cycle flattens. It is critical to keep monitoring these indicators to shed light on whether Georgia will look more like the US or Mexico. Reforms might have helped the improvement in life-cycle dynamics. While we cannot establish a causal relation, it is safe to assume that the 2004 reforms must be materializing into better outcomes.

Job creation, productivity growth, and labor reallocation

Economies that are transitioning from state-controlled production towards a market-based regime are naturally prone to exhibiting frictions of labor and product markets. These reforms are difficult and costly to implement. Some countries in the region managed to jump right away into transforming the business environment while other struggled to get the political support to do so. Accompanying these reforms with safety nets programs that protect the losers helps from the political economy perspective, but they may delay the reallocation of resources, in particular labor, that is the main objective of the reforms. These reforms also take time to materialize in terms of productivity, and eventually job creation.

Distortions that interfere with market incentives to allocate resources across firms and that discourage business creation can have a sizable effect on aggregate productivity, labor demand, and wages. A large

21 World Bank, Back to Work, 2014a
body of research emerged that studied the properties of labor markets and the behavior of firms in developed economies\textsuperscript{22} Advanced economies are characterized by a fluid reallocation of workers across firms, that allow countries to exploit differences in productivities across establishments and maximize total output. Another characteristic of these economies is the extensive degree of business churning, in which new businesses are created, and less profitable ones are driven out of the market. All these are symptomatic of a healthy business climate that facilitates the reallocation of resources across firms and promotes the exploitation of business ideas. Instead, in developing economies, distortions from entry barriers (firm registration process, permits, etc.), access to energy (from connecting to the grid to blackouts) and more prevent the reallocation of resources to the most productive use.

**Georgia's economy is showing some symptoms of sluggishness in the process of economic convergence.** Georgia does not seem to have escaped the above-mentioned challenges to efficient reallocation of workers along the process of economic transformation. Almost two decades into the liberalization process and a decade after deepening the transformation by establishing a series of market-oriented reforms, Georgia's economy is showing symptoms of sluggishness in the process of economic convergence. Some of these symptoms are manifested in the slowdown of productivity growth and the difficulty that the economy has in encouraging the working-age population to engage in the labor force and to find jobs in the labor market.

**Figure 2.27. The largest economic sectors in terms of employment are low-productivity sectors, while employment growth in high-productivity sectors has been modest**

<table>
<thead>
<tr>
<th>(a) GDP per worker: 2006 vs. 2015.</th>
<th>(b) Employment % growth (2006-2015) vs. GDP per worker (2015)</th>
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<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
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*Source:* authors’ calculations using GeoStat LFS data on employment and GEOSTAT Value added Statistics across sectors. Size of bubble: % on total employment in 2015

\textsuperscript{22} Haltiwnager et.al (2014)
Spotlight 1. Productivity in Agriculture

Peter Goodman (Agriculture GP)

The growth of the agricultural sector was low and erratic during the 2000s, averaging 0.6 percent per year between 2006 and 2016 in real terms, and -0.35 percent per year if computed between 2003 and 2016. The agriculture sector rebounded in 2013 because of the Government’s card program consisting of input and machinery service subsidies, and it has shown low but positive growth thereafter. Agriculture’s share of total output stabilized in 2008 after a sustained decline since 1994. Its share of GDP was 9.1 percent in 2015 while that of agro-processing was 9.7 percent, slightly above the average for 2006-2015 at 8 percent, during which there was very little fluctuation in agriculture’s contribution to output.

A comparison of agricultural sector growth in Georgia and other transitional economies shows exceptionally poor performance. Figure S1.1 shows the longer time trend of the share of agriculture, compared to other countries in the Europe and Central Asia region. Georgia has the fastest loss of value added (measured as a percentage of the GDP) since 1994. Other countries like the Kyrgyz Republic, Moldova, and Armenia started with a lower contribution of agriculture to the GDP at the beginning of the period, then contracted in value added, but by the end of 2015, agriculture contributed more to their GDPs than to Georgia’s.

Figure S1.1. Contribution of Agriculture to GDP in Georgia and selected countries, 1994-2015

The contribution of agriculture to GDP in Georgia decreased abruptly in the 1990s, continued decreasing in the early 2000s and stabilized in the last decade.

![Graph showing the contribution of agriculture to GDP in Georgia and selected countries, 1994-2015.](image)

Source: WDI

The contraction of agriculture was not followed by an increase in productivity. Agriculture productivity—measured by value added per worker—is low at 40 percent of the average for the Europe and Central Asia region, and has also only grown at 3 percent per year in the last decade (2006-2015). In other countries like Armenia (8%), Belarus (7.6%), and Tajikistan (7.1%) agriculture productivity grew above the Europe and Central Asia average of 5.2 percent per year in the same period. There were also star countries like Moldova and Slovenia where agricultural productivity grew by 15 and 17 percent per year, respectively. See Figure S1.2.
To balance this relatively negative performance, the value of agro processing has been increasing since 2008. At the beginning of the period, in 2006, agro processing was only 30 percent of the value of agriculture and agro-processing. By 2015, the share of agro-processing had increased to 46 percent.

Figure S1.2. Agriculture productivity has grown by around 3 percent per year since 2006

Value added per worker (constant USD 2010)

Agriculture experienced a sharp decline in growth in 2006 followed by further negative growth between 2008 - 2010 and is still recovering from some of the causes of the decline. During this period, agriculture suffered from the combined effects of the 2006 Russian trade embargo on wine and mineral water; military conflict with Russia in 2008; an over-valued exchange rate; and it had to adjust to a less protective trade regime as a result of a Free Trade Agreement (FTA) with Turkey in 2008. During this period, large areas of land were abandoned. Although Georgia improved the overall investment climate considerably during this period, agriculture suffered from the dismantling of public services for agriculture and very low public investment in essential services including irrigation, advisory and veterinary services. This is reflected in the FAO crop production index and livestock production index.

Small farms continue to dominate the sector, cultivating 96 percent of the arable crop area and owning over 96 percent of cattle and sheep in 2015. As of October 1, 2014, there were 842.3 thousand ha of land (arable, permanent crops, pastures, meadows and greenhouses) operated by holdings. 40.1 percent of agricultural land operated by holdings are located in Kakheti. The average area of land operated by holdings is 1.4 ha. More than three fourths of holdings (77.1%) are operating plots less than 1 ha and their total area constitutes 21.5 percent of the whole operated agricultural land. Of this there are 377.4 thousand ha of arable land operated by holdings, of which 85.5 percent is operated by households and 14.5 percent by legal entities.
Crop production and livestock production contribute almost equally to agricultural output. Livestock numbers and land use in 2015 are shown below. The level of participation of farmers in output markets and credit markets is low; only about one third of households sold to the market, only 8.4 percent of households applied for loans and only 21 percent of households’ agricultural income is derived from market sales.

**Figure S1.3. Performance index of crops, cereals and livestock for Georgia and selected country comparators, 2006-2014**

![Graph showing crop production index, cereal yield, and livestock production index for Georgia and selected countries from 2006 to 2014.]

*Source: WDI*

Agricultural exports have grown considerably since 2012, primarily due to the successful expansion of wine (5 percent of total exports), nuts (9 percent of total exports) and mineral water exports. This partly resulted from the lifting of the Russian embargo on Georgian wine and mineral water and from the Georgian wine industry’s efforts to improve quality and enter new markets during the embargo. Wine, spirits and nuts represent 60 percent of total agricultural exports. The future challenge is to diversify exports both in terms of products and destination. Except for hazelnuts, CIS countries remain the key destination for agricultural products.

The rapid expansion of high value fruit and vegetable consumption in traditional CIS markets remains an important opportunity for Georgian producers. The quality requirements from high-end consumers in this market can be expected to increase as incomes rise. The domestic market is also an important opportunity for high value Georgian products. While Georgian consumers are reported to prefer Georgian produce over imported produce because of its superior taste, (which is also recognized in CIS countries for certain products), the narrow seasonality of production, partly due to production technology and inadequate cool storage facilities, means that Georgian producers are only able to compete on the domestic market for short periods.

**References**

GeoStat, Agriculture census.

World Bank (2012c) – Rural Investment Climate Assessment
Employment in Georgia is mostly concentrated in low-productivity sectors; high productivity sectors have registered modest job creation. Another challenge that Georgia is facing is that employment is mostly concentrated in low-productivity sectors, such as agriculture; wholesale and retail trade; and public and social services such as education, and health and social work (Figure 2.27a). At the same time, high productivity sectors (such as financial intermediation, telecommunications) have either registered modest job creation over the last decade, or they are still too small to impact employment growth in the total economy in a significant way (Figure 2.27b). These findings suggest evidence of resource misallocation in Georgia’s economy, and a still incomplete process of structural economic transformation, despite the pro-business reforms introduced in 2004.

There are different ways to measure resource misallocation. Simple observation of key firm indicators can be suggestive of the underlying forces behind the reallocation. Firm size of entrants vis-à-vis incumbents and life cycle of firms, with respect to firm size and productivity, are indicative of the reallocation forces. The scientific literature analyzes these processes with structural models that compare the production functions of firms with those that the theory predicts to be most efficient. In addition, these models can be used to compare firms with efficiency levels of firms in less distorted countries such as the US. This section presents first key indicators to assess the reallocation process in Georgia, and simpler versions of the structural approach.

Measuring Misallocation and Quantifying Potential Productivity Gains

Resource misallocation arises when countries produce less than the maximum amount possible given their resources because there are frictions in factor and product markets. Frictions can be of different type and severity, including credit rationing to all or certain types of firms; employment growth restrictions due to labor market regulations; implicit subsidies to incentivize sub-optimal smaller scale production establishments; price controls, etc. They prevent capital and labor from being allocated most profitably.

The manufacture of food products and beverages is an example of the resource misallocation existent in Georgia. Firms in certain industries typically show a certain total factor productivity (TFP) and employ a certain number of workers. Despite this, there is a large variation in TFP and employment across firms in the industry. For example, one firms’ TFP is 50 percent lower than the industry average and employs 115 workers; while another firm, whose TFP is 140 percent higher than the industry average, employs 26 workers. This is evidence of large-scale misallocation: higher levels of output could be obtained by shifting workers from the first (unproductive) firm to the second (more productive) one, until their levels of employment are consistent with their productivity differentials. In more technical language, resources should be shifted until the marginal product of labor and capital is equal across the two firms.

The extent of the distortions can be measured by looking into the dispersion in productivity measures across firms. Policy distortions or market frictions introduce wedges that prevent equalization of marginal returns. Using the above example, the observed allocation could result from a situation where the low productivity firm enjoys a 40 percent subsidy to their operations, while profits of the high productivity firm are being taxed at 300 percent. Thus, the aggregation of the dispersion in productivity, i.e. the wedges, across firms within narrowly defined sectors is a measure of the economy-wide misallocation.
These measures can be tracked over time to evaluate whether Georgia has made any progress towards resolving it.

The resource misallocation can also be quantified in terms of forgone productivity, and eventual output. One advantage of this approach is that it enables to quantify the costs of the observed misallocation in terms of forgone productivity, using the underlying structural model. One can calculate how much more output Georgia could produce if more workers are allocated to the high productivity firm and away from the unproductive one, until marginal returns are equalized.

On the downside, while delivering a quantitative answer to the extent of misallocation, the methodology does not allow identification of the one policy or set of policies that are driving it. Many polices and distortions result in the implicit wedge/dispersion measured from the data. For example, financial frictions that limit credit to certain types of firms will drive a wedge into the marginal return between beneficiary and non-beneficiary firms, but so will a labor tax exert over some firms, for example if there are different tax rates depending on the number of employees. What this means is that some independent conjecture or evidence about the importance of a certain type of distortion is needed, so that combined with the implicit taxes, the conjecture can be validated or ruled out. For example, if financial frictions were a problem in Georgia, they should operate in a way that favors unproductive firms to the detriment of productive ones.

The degree of resource misallocation can be estimated using the correlation between firm size and productivity. A widely-used approach to measure misallocation was developed by Olley and Pakes (1996), and uses a structural model that relies on very few assumptions: mainly misallocation is inferred from the degree of correlation between labor productivity and firm size. Given the prediction that more productive firms should be larger in size, a low correlation between the two is indicative of distortions obstructing efficient allocation. This methodology was used for Georgia in the Country Economic Memorandum23.

Another way of measuring the deviation of the dispersion of productivity with respect to that of a counterfactual situation, usually high-income economies. Hsieh and Klenow (2009) developed this methodology comparing manufacturing firms in the US, China and India. Notice that this comes at the cost of introducing more assumptions and thus is subject to more criticism, but it still provides a concrete quantitative measure to determine how much of a productivity decline is expected for the observed misallocation.

The theoretical underpinnings of the methodology have been subject to some criticism in the literature. A fundamental disagreement among scholars is that there could be many reasons why dispersion in marginal returns across firms could give rise to equilibrium that has nothing to do with distortions or anything that can be solved by policy. For instance, the prediction of equalization of marginal returns relies on the assumption of perfect factor mobility across firms. One can imagine many reasons why mobilizing factors of production can be costly; e.g., adjustment costs and product/plant. In that situation, even in a world free of any type of distortions, marginal returns will not be equalized across firms. This concern is considered in two ways in our analysis. First, the counterfactual gains that arise from

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23 World Bank 2014b
a full equalization of returns are interpreted as an upper bound of the actual gains rather than a tight estimate. Secondly, the counterfactual exercises compare productivity gains across steady states, which should mitigate concerns about adjustment cost and other frictions that are more prevalent for short run dynamics.

The implementation of the methodology to the Georgian context required a slightly stronger assumption than in the original formulation. As outlined above, the starting point in assessing misallocation is the estimation of the marginal return of a given firm’s factors of production, which in turn means choosing the specification of a production function. The adopted specification is a Cobb-Douglas technology. Second, firm-level data needs to be rich enough to compute the marginal return of a factor of production by firm, namely the value added, the size of the labor force, and the stock of capital. Unfortunately, the Geostat Business survey exhibits significant missing values for fixed assets, casting doubts on the measure of capital stock. For this reason, the analysis assumes there is only one variable factor of production: labor. This means that the distortions coming from the analysis refer only to misallocation of labor. Unobserved cross-firm differences in capital stock will manifest in cross-firm differences in firm-level TFP.

Different pieces of information help to gauge the extent of misallocation in Georgia. On the one hand, the marginal return of labor, defined as the value added per worker can be examined. First, a graph of the distribution of those marginal returns across firms give an idea of the degree of misallocation; second, the time-series of a summary statistic (the standard deviation) of such distribution, provides a unique characterization of how the degree of misallocation evolves over time, and the possibility to tie such evolution to reforms (or lack thereof). On the other hand, differences in the physical productivity of the firms, also called TFPQ, complement the diagnostic. Unlike marginal returns, or value added per worker, physical productivity refers to the quantity of output over total labor. Accounting for cross-firm differences in this measure is important because a dispersion of marginal returns can be even more damaging for firms with higher productivity and that are disproportionally taxed more than unproductive firms. If both firms were equally productive, then labor should have flowed from the low to the high productivity firm until employment was equalized. However, if, as it was in fact the case, the firm with lower employment was also more productive, even stronger reallocation of labor towards such firm should take place to equalize marginal returns, and a greater increase in output should emerge as a result.

Georgia exhibits a substantial degree of resource misallocation using this methodology. Figure 2.28 shows the distribution of physical labor productivity alongside the distribution of marginal returns to labor across firms for several cross-sections in the data. The figure to the left shows large heterogeneity in the degree of physical labor productivity across firms. This is signaling a potential for misallocation to carry large consequences for aggregate productivity. There is also remarkable stability in this distribution over time. If physical productivity is an outcome of the firms’ efforts to innovate and catch up with technological frontiers, the data suggest modest to no progress on this front in Georgia.

Relative to the efficient situation, where there should be no dispersion at all, the analysis reveals significant dispersion of marginal returns in Georgia. Like the distribution of physical productivity, the dispersion of distortions also exhibits a remarkable stability, especially when considering that the
The economy was transitioning for the first few years following an ambitious set of reforms. Analyzed through the lens of the methodology, the analysis of misallocation reveals a less enthusiastic scenario with respect to the success of reforms, showing little to no progress at all. While reforms to date seem to have contributed to reshaping the productive layout by fostering entry, and by improving the business environment in which firms operate, a second wave of reforms aimed at facilitating labor reallocation across existing firms is needed.

Figure 2.28. There is a substantial degree of misallocation in Georgia

(b) Distribution of physical labor productivity
(c) Distribution of marginal return to labor

Source: authors’ calculations using GeoStat Business survey, various years

Substantial gains in productivity could be reaped if more efforts were taken to improve the functioning of labor, capital, and product markets. For instance, the graph shows that by 2016 TFP could be increased by almost 70 percent by eliminating allocative distortions. The natural question to ask regarding the degree of dispersion in physical productivities and allocative distortions is how much they are costing the economy in terms of forgone gains in aggregate productivity. The structural approach allows for more advantageous measurement of misallocation. Figure 2.30 plots the answer to the following counterfactual experiment: how high would aggregate productivity be if labor were to be artificially reallocated to arbitrate away all the dispersion in marginal returns? The line labeled TFP gain shows the outcome of this exercise for each year in the sample. To provide context for the misallocation associated with these gains, the graph also plots a summary statistic of the distribution of marginal returns, the standard deviation, illustrated in the line labeled SD distortions. The figure validates the claim that such distribution has remained stable during the whole period, by looking at the standard deviation of the distribution of marginal returns. This claim does not deny conclusions made earlier about the reforms contributing to churning and the entry of more enterprises. This can happen simultaneously with, and despite of, a host of remaining distortions that affect firm performance post-entry. Even though these estimates of potential gains should be taken as an upper bound, given the implausibility of a truly undistorted scenario (even the US exhibits some degree of dispersion in marginal returns), it is still fair to compare changes in magnitude from one year to the other. The figure shows that despite some progress between 2007 and
2010, the level of potential gains in 2016 are back to that of the beginning of the period, more than a decade earlier.

**Figure 2.29. There are significant gains to be achieved from addressing resource misallocation**

Dispersion in Returns to labor and TFP gains

![Dispersion in Returns to Labor and Aggregate Gains](image)

*Source: authors’ calculations using GeoStat Business survey, various years*

**The 2004 reforms might have been partially effective, especially from the standpoint of allocative efficiency.** Even though the 2004 reforms may have paid off in catalyzing entrepreneurship and mobilizing resources from old state-owned enterprises to new and smaller private businesses, they have fallen short in contributing to allocative efficiency. There is a tight connection between resolving misallocation and increasing productivity, and improving labor market outcomes. The connection operates from both the supply and demand channels in the labor market. Higher productivity increases the aggregate demand for labor. An increase in wages to restore the equilibrium could counteract this effect. However, higher wages will also help incentivize the working age population to join the labor force and increase labor participation. Wages will then adjust downwards to reflect the increase in labor supply, but at the same time a higher level of employment could be reached. Thus, the potential benefits of addressing the misallocation of resources lie in closing the productivity gap with the developed world, and in subsequent incentives to increase labor demand and physical capital accumulation. More detailed analysis on the evolution of wages will be carried out in the next chapter, while Chapter 4 will discuss some policy options that could help maximize the benefits of earlier reforms towards a more efficient labor reallocation.
Exporting firms are more productive than non-exporters, but market distortions seem to have acquired importance over time. Using the same methodology outlined in the previous paragraphs, it is possible to compare the evolution of productivity among exporting and non-exporting firms. Data limitations constrain this analysis from 2006 to 2012. Figure 2.30a, shows that at the beginning of this period, exporters and non-exporters had similar productivity levels. However, over time, the productivity trajectory for the two types of firms diverged until 2010. After the economic crisis, the productivity of non-exporters seems to have started to catch up with that of exporters, but our period of observation is too short to check whether the catching up continued. Figure 2.30b, reports the dispersion of firm labor productivity from the “efficiency frontier”, showing that it has been increasing over time for both exporters and non-exporters. This finding can be taken as indirect evidence of the existence of market imperfections or distortions, preventing firms from achieving full allocative efficiency of their factors of production (under our assumptions, labor).

Exporting firms have increased their size and their employment share over time and have been able to diversify their products. In sectors where we observe exporters, these firms are larger than non-exporters, and their size increased over time, from an average of 124 employees in 2006 to an average of 172 employees in 2012 (Figure 2.31, panel a). Non-exporting firms’ average size has remained stagnant at around 50 employees. Also, total employment accounted for by exporting firms has grown over time relative to the employment share of non-exporters, especially in the years following the 2008 crisis (Figure 2.31, panel b). This might signal exporters’ better ability to diversify risk by diversifying the products and markets where they operate. We also find evidence of an increase in the average number of exported products for exporting firms over the same period (Figure 2.31, panel c), which we take as a proxy of increased product diversification.
Important differences can be observed in both productivity levels and growth by economic sectors and exporting status. Export-oriented firms and non-exporters show differences in productivity in both levels of growth and growth patterns over time. Among exporters, the highest productivity sectors at the end of the 2008 economic crisis were basic metals and fabricated metals manufacturing, food products, and public utilities. The sector with highest productivity for non-exporters was transport equipment, they showed very low productivity in basic and fabricated metals. Other sectors in which non-exporters showed a high productivity gap with respect to exporters were manufactured wood products, chemical products and man-made fibers (Figure 2.32, a). The sectors with the strongest productivity growth for exporters over the same period were manufacturers of leather products and public utilities, for non-exporters these were transport equipment and electrical equipment (Figure 2.32b).
Figure 2.32. Productivity levels and growth by sector and exporting status

(a) Productivity levels (moving average 2010-2012)

(b) Productivity growth (%), 2006-2012

Source: authors’ calculations using GeoStat Business survey, 2006-2012

Figure 2.33. Correlation between productivity levels and productivity growth across sectors by exporting status

(a) Productivity levels by sector (moving average 2010-2012) vs. productivity growth 2006-2012

(b) Productivity growth (%) by sector, 2006-2012

Source: authors’ calculations using GeoStat Business survey, 2006-2012
Little correlation can be found between productivity level and growth among exporters, showing no catching up of low-productivity sectors, while among non-exporters it is driven mostly by the transport equipment sector. There is no evidence that low-productivity sectors managed to catch-up with high-productivity ones for the period in question for both exporting and non-exporting firms. Figure 2.33, panel a, shows no correlation between productivity levels at the end of the period and productivity growth during the period among exporters. There are few sectors which are an exception among exporting firms, such as public utilities, which experienced strong productivity growth over time, and made it one of the leading sectors by the end of the crisis. Other leading sectors among exporting firms experienced dramatic productivity losses over time, e.g., food products and non-metallic mineral products. Among non-exporters, the correlation between productivity levels and growth is also very weak per se, but it becomes strong and positive when we include transport equipment; this was the leading sector among non-exporters at the end of the crisis, and it was also the sector that experienced the highest productivity growth.

Skills wanted and jobs offered: What Georgia’s employers are looking for

In this process of economic transformation and reallocation of labor across firms, and which is expected to be followed by more investments in technology, it is crucial to know what kind of jobs and skills are required by employers. Jobs can be described in many ways, but most of the time the job posting will describe the occupation, the task, and the skills of the workers. Recent studies conducted in Georgia, can be used to understand specific occupations and skills required by employers.

Jobs for blue collar workers. Results from the 2012 STEP employer survey provide some insights as to what type of jobs are offered and which skills are in demand. About 75 percent of new hires have been blue-collar workers (both unskilled and skilled), while only 12 percent have been white-collar workers, reflecting traditional structure of Georgia’s economy (Figure 2.30). Employers have a high demand for service and sales workers but a lower demand for technicians and professionals, who are often considered to be highly skilled white-collar workers.

Specific occupations are growing much faster than others. The STEP results are corroborated in the more occupational demand survey by the Ministry of Labor, Health, and Social Affairs and designed by the World Bank. Different indicators were produced to identify growing occupations that combine changes in employment, vacancies, and number of firms hiring. The main messages of the analysis can be found in Rutkowski (2016), and the occupations with the largest change in employment are shown in Figure 2.30.

Socio-emotional skills are almost as important as technical skills. Cognitive and job-related skills are most important, followed by socio-emotional skills such as openness, conscientiousness, or grit. Among cognitive and job-related characteristics, technical skills are key for all workers. For white-collar workers, numeracy, literacy and problem-solving skills are critical; in addition to literacy, blue-collar workers are expected to be able to communicate and work with co-workers, work independently and manage their own time.
Socio-economic skills are equally important for low- and high-skilled workers. The most important socio-emotional skill is conscientiousness, which includes elements of responsibility, self-discipline, carefulness, and motivation. Conscientiousness is followed by emotional stability which allows people to think clearly, make decisions and cope effectively with stress. In third place is openness for white-collar workers and agreeableness for blue-collar workers (Figure 2.31).

Figure 2.30. Occupations where employment increased the most

Employment increase, 2014-2015

Source: Rutkowski (2016). Note: Figure shows occupations where employment increased by at least 100 workers in 2015.
Figure 2.31. Technical skills are the most important job-related skills, but socio-emotional skills matter too

Percent of firms indicating the type of skills needed

Source: Rutkowski 2013. Notes: Importance of job-related characteristic, Index 0-5. The index equals 5 when all employers point to a given skill as the most important one, and the index is zero when no employer points to the skill as being important.
Chapter 3. Labor supply

Summary
This chapter examines labor supply in Georgia, it focuses on labor force participation rates, size, skills and occupation of Georgia’s workforce and how they have evolved over time. Georgia’s workforce, highly segmented between formal urban and informal rural work, is characterized by high educational qualifications and low female participation. Furthermore, rapid demographic transition will lead to a decrease in the workforce.

About two thirds of the Georgian population are of working age and three quarters of them are working. However, these statistics hide important differences in gender- and age-specific labor market participation rates. Women and youth have lower participation rates. Thirty percent of women under 30 are not in education, employment or training (NEET). Young women often leave the labor force after finishing education to take over household duties such as caring for children or elderly family members. Because women tend to leave the labor force, unemployment mainly affects young men and men close to retirement age.

Georgia is experiencing a rapid demographic transformation with a rapidly aging and shrinking society. This trend has been exacerbated by large out-migration between 1990 and 2004, but recent years have seen a reversal and stabilization in migration patterns. The share of the working population is still expected to decline from 63 percent in 2015 to 51 percent in 2050. In terms of skills, the Georgian workforce has become more educated over the last decade with about 40 percent of the workforce having completed some form of higher education. Even though the quality of education has been improving recently, it could be higher.

Georgia’s labor market is dualized with low-productivity rural agricultural work (42 percent of workforce) and higher-paid formal sector work in urban areas (46 percent of workforce). Concurrent with this dualization, income inequality has increased substantially over time. There is some transitioning from rural to urban jobs, but the shift out of agriculture and into better jobs in agglomerations is not happening quickly enough.

The workforce is shrinking rapidly
Two thirds of the population are of working age and three quarters of them work. The working age population (WAP), defined as people 15 to 64-year-old, comprised about 2.4 million persons in 2016. Almost three-quarter of the WAP (73 percent) participate in the labor force. A relatively large number of elderly, people of 65 years of age and older, continue to be engaged in the labor force: about 250,000 people aged 65 and older (or an additional 10 percent of the working age population) are doing some form of work. Most of them carry out unpaid work (78 percent), most likely in agriculture and in informal,
rural settings. Because of the nature of the work of the elderly workers, almost exclusively unpaid, this chapter will restrict most of the analysis to the workforce of working age, 15-64, and examine the 65+ group as needed for comparison. Figure 3.1 shows the number of people of working age in the workforce, their labor force status, and the type of work they do, for year 2016.

**Figure 3.1. Composition of the working age population in 2016**

<table>
<thead>
<tr>
<th>Working age population</th>
<th>2,363,391</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the labor force</td>
<td>1,722,146</td>
</tr>
<tr>
<td></td>
<td>(73%)</td>
</tr>
<tr>
<td>Not in the labor force</td>
<td>641,245</td>
</tr>
<tr>
<td></td>
<td>(27%)</td>
</tr>
<tr>
<td>Employed</td>
<td>1,491,188</td>
</tr>
<tr>
<td></td>
<td>(87%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>230,958</td>
</tr>
<tr>
<td></td>
<td>(13%)</td>
</tr>
<tr>
<td>Youth (15-24)</td>
<td>253,526</td>
</tr>
<tr>
<td></td>
<td>(40%)</td>
</tr>
<tr>
<td>Non-youth (25-64)</td>
<td>381,668</td>
</tr>
<tr>
<td></td>
<td>(60%)</td>
</tr>
<tr>
<td>Wage worker</td>
<td>703,142</td>
</tr>
<tr>
<td></td>
<td>(47%)</td>
</tr>
<tr>
<td>Self-Employed</td>
<td>421,174</td>
</tr>
<tr>
<td></td>
<td>(28%)</td>
</tr>
<tr>
<td>Unpaid</td>
<td>349,262</td>
</tr>
<tr>
<td></td>
<td>(23%)</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>17,610</td>
</tr>
<tr>
<td></td>
<td>(1%)</td>
</tr>
<tr>
<td>In school</td>
<td>182,518</td>
</tr>
<tr>
<td></td>
<td>(72%)</td>
</tr>
<tr>
<td>House-work</td>
<td>217,469</td>
</tr>
<tr>
<td></td>
<td>(57%)</td>
</tr>
<tr>
<td>Discouraged</td>
<td>50,681</td>
</tr>
<tr>
<td></td>
<td>(13%)</td>
</tr>
<tr>
<td>Disabled</td>
<td>40,252</td>
</tr>
<tr>
<td></td>
<td>(11%)</td>
</tr>
<tr>
<td>Not in agriculture</td>
<td>138,848</td>
</tr>
<tr>
<td></td>
<td>(32%)</td>
</tr>
<tr>
<td>In agriculture</td>
<td>286,326</td>
</tr>
<tr>
<td></td>
<td>(68%)</td>
</tr>
</tbody>
</table>

*Source: IHS 2016, preliminary estimates. People in working age are aged between 15 and 64 years.*

The working age population is shrinking due to continued reductions in fertility to below the replacement level

**Georgia’s population is shrinking and aging.** The shrinking population is not new to the country. Prior to the 1990s, Georgia’s population grew at a moderate rate, between 0.5 and 1 percent per year, indicating that the country’s demographic transition was well underway. The population size peaked in the early 1990s and has declined sharply since then. In 2016, the population was 3.72 million, about the same as 50 years ago. The decline is seen mostly among the working age population and children, while the elderly population is growing slightly (Figure 3.2, panel a). When comparing the population pyramid for the last two population censuses, it becomes clear that demographic change is driven by low fertility rates, and by migration flows (further discussed below) (Figure 3.2, panel b).
One of the main drivers of Georgia’s shrinking population is the sustained decrease in fertility, a decline which began earlier than elsewhere in the region. Total fertility rates were low and declining from the 1960s but remained above the replacement level of 2.1 children per woman until 1990. Afterwards, it continued falling until 2002 when it reached its lowest level of 1.6 births per woman. There has been a minimal recovery since 2010, and in 2015 fertility rates were 1.8 births per woman (Figure 3.3). Since the drop in fertility was not offset by gains in longevity, Georgia’s population declined faster than otherwise would have been the case. Fertility is expected to only improve only marginally to 1.86 by 2050. The share of the working age population (15-60 years) is expected to decline significantly from 65 percent in 2016 to 51 percent by 2050.

Figure 3.3. After many years of decline, the fertility rate remains below the replacement rate

<table>
<thead>
<tr>
<th>Total fertility rate: births per woman</th>
</tr>
</thead>
</table>

Source: (a) Authors’ calculations using GeoStat/WDI
Outmigration has further contributed to the shrinking workforce

Outmigration largely explains the population decline between 1990 and 2010. In the early 1990s, conflict and deteriorating living conditions spurred emigration by ethnic Georgians, a large proportion of whom moved to the Russian Federation. From 1996 to 2004, economic growth was sluggish and that prompted many Georgians to look for jobs elsewhere, permanently or temporarily. More than 10 percent of Georgia’s population is estimated to have emigrated between 2000 and 2010.\textsuperscript{20} In the last decade, outmigration receded and was accompanied by inflows of a similar magnitude (Figure 3.4, panel a).

Outmigration is mostly in search of better job prospects. Georgians migrated to find jobs. The typical migrant is young and male, but the number of female migrants is also significant (Figure 3.4, panel b). Male migrants are more likely to travel to the Russian Federation and other CIS countries, and tend to work in the construction sector. Women typically have migrated to Europe and North America to work as caregivers for the elderly or to work in the services sector. Migration is often temporary, around 8 percent of the population have migration experiences, including with household members that currently live abroad or have returned to Georgia.\textsuperscript{21} Analyzing return migrants shows that emigrants are better educated than non-migrants, but as immigrants they often work in jobs that do not correspond to their qualifications and level of experience.\textsuperscript{22}

Figure 3.4. Migration has fluctuated over time since the transition to a market economy

| (a) Migration flows and net migration | (b) Migration by age and sex, 2015 |

To maintain Georgia’s working age population at 2015 levels by 2025, net immigration of about 2.5 percent of the total population is needed. Increasing net migration to 2.5 percent of the total population is challenging, especially in such a short time. However, there are examples of rapid net immigration. Kazakhstan, for example, entered the new century experiencing large net emigration, but then became a
net receiver of migrants as workers responded to an improving economy and declining unemployment. Maintaining a constant working age population can, in theory, be achieved by increasing fertility rates, but it will take at least 20 years to observe the new cohort of youth entering the labor force.

With a shrinking working age population, a labor force participation rate like the Europe and Central Asia regional average may not be enough.

A labor force participation rate equal to the Europe and Central Asia average is not enough for a country with a shrinking and aging population. The labor force participation rate in Georgia was 72.9 percent in 2016, which is a relatively high level by international standards and for upper-middle income countries (Figure 3.5). However, for a country like Georgia with an aging population, this may not be enough; the labor force participation rate in Georgia will need to resemble countries like Iceland (see Figure 3.6, panel a), at least in the short to medium term, before the dependency ratio further increases.

Labor market status varies considerably among groups of the population (Figure 3.5). On average, women are more likely to be inactive than men; young people are more likely to be inactive or unemployed - even beyond school age; unemployment is more an urban phenomenon; inactivity is a concern among those without education or with very low education. Inactivity and unemployment is more common among the poorer households.

One way to increase labor force participation is to bring more women into the labor force. Male labor force participation is high, at 83.1 percent in 2016. Female labor participation is at the average for the region, but is low compared to high-income countries across the world. About 64 percent of women participate in the labor market in Georgia, while in countries like Iceland or the US, female labor force participation is around 70 percent. The gender gap in labor force participation is three times larger than that observed in Slovenia, Latvia or Lithuania (Figure 3.6, panel b).
Figure 3.6. Labor force participation rates and the gender gap in participation are fine when compared to the region but could get closer to those of high-income countries

(a) Labor force participation for Georgia and other countries, 2014  
(b) Gender gap in participation Georgia and select countries, 2014

Source: WDI, labor force participation rate, total (percent of total population ages 15-64) (modeled ILO estimate).

Notes: ECA: Europe & Central Asia, excluding high-income countries. Gender gap in participation is measured as the difference between male and female labor force participation rates.

Labor force participation is on the rise for all groups except young people. Labor force participation in Georgia has increased continuously since 2006. The LFP rate was 66 percent in 2006 and reached 73 percent in 2016 (Figure 3.7, panel a). The rise has been observed for all groups except young people. Labor force participation increased mostly among the poorest households (lower quintiles) between 2006 and 2010, and increased more among the richest households (higher quintiles) between 2011 and 2016. Between 2006 and 2010, growth in labor force participation was observed mostly in urban areas outside Tbilisi, while between 2011 and 2016, the regional distribution has been similar. Finally, women entered the labor force in larger proportions than men between 2006 and 2016.
Too many jobs are in low productivity sectors and some groups are not represented in employment

Jobs are in agriculture, as own-account or unpaid worker

Wage work is prevalent in Tbilisi and other urban areas, and most workers are engaged in wage employment. Unsurprisingly, 85 percent of workers in Tbilisi are wage workers. In urban areas outside Tbilisi, 64 percent of workers are wage workers, and in rural areas, only 23 percent of workers are wage workers.

Self-employment is particularly prevalent in Georgia. Self-employment is mostly concentrated in rural areas (41 percent, see Figure 3.8 panel a). Self-employment in agriculture is abundant in all regions of Georgia excluding Tbilisi (Figure 3.8, panel b), ranging from 22 percent of the employment in Adjara A.R. to 37 percent in Garia. The levels of self-employment are high relative to other high- and upper-middle-income countries (Figure 3.9), the typical self-employed worker is male, works in agriculture, and relies on unpaid family workers.
Figure 3.8. Wage workers are concentrated in Tbilisi and self-employment in agriculture and in rural areas

(a) Type of work by place of residence, 2016

(b) Distribution of employment by region, decomposed by type of work, 2016

(c) Distribution of employment by industry, 2016

Source: authors based in IHS 2016. Notes Panel b: The length of each bar in panel b shows the distribution of employment across regions in Georgia. For example, Tbilisi captures 20 percent of the total employment and Kakheti 10 percent. The colors of the bars represent how employment is distributed in each region by type of work. For example, 85 percent of Tbilisi’s employment is for wage workers, and 27 percent of Kakheti’s employment is for wage workers. Notes Panel c. the same logic of panel b applies to panel c. The length of the bar is the percentage of total employment that goes into each NACE (revision 1) activity. Within each bar, the color represents the part of the employment that is carried out in urban areas and in rural areas.

Too many people work in agriculture, a low productivity sector. Half of employed Georgians work in agriculture but this economic sector only contributes 7 percent of the value added produced by the economy, indicating low productivity. The level of employment in agriculture is also high relative to other countries of similar level of income (Figure 3.10).
In the service sector, most jobs are concentrated in wholesale/retail, and education. Wholesale/retail is the second biggest employer in the country, and the education sector is third most important employer. The sectors where Georgia hopes to see significant job expansion, such as tourism and communications, are still very small and only employ only 2 percent of workers.

Public sector employment remains well above the average for Europe and Central Asia countries. Using the LITS data, Georgia’s public-sector employment can be compared to public sector employment in other countries in Europe and Central Asia. At 44 percent, Georgia has one of the highest public-sector
employment rates among wage employees. At the other extreme, countries such as Poland, Germany, and Bulgaria have about 20 percent public sector employment among wage employees. However, these high public-sector employment rates in Georgia are somewhat misleading as there are large portions of workers who work in the non-wage sector. Therefore, the share of public sector employment among all workers is much lower (21 percent) due to the importance of self-employment; the public sector is the fourth most important sector of employment in Georgia (Figure 3.8 and Figure 3.11). In other countries in Europe and Central Asia for which there is data, public sector employment could be much higher, ranging from 23 percent in Albania to 42 percent in Kosovo.24

Figure 3.11. Public sector employment in Georgia is significantly higher than the regional average

<table>
<thead>
<tr>
<th>Percent of employment in the public sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Western Balkan Poverty team based on LITS. Notes: the LITS data do not always compare exactly with the HIS, as the sampling methodology and the surveys are different. But they are consistent across countries.</td>
</tr>
</tbody>
</table>

Highly skilled workers get wage jobs in the city, while low skilled workers remain in self-employment in agriculture, sometimes paid and sometimes unpaid. **The labor market is segmented by type of job and sector of employment** (Figure 3.12). Poor people are less likely to be employed than non-poor people. When poor people are employed, they are less likely to be employed in wage employment than non-poor people. Highly skilled workers, especially those with university degrees, are more likely to be in wage employment than workers who only attained lower secondary or upper secondary education.

Some groups do consistently well in the labor market, while other groups do consistently worse. The likelihood of employment in the most desirable jobs increases for men, highly educated workers, and workers above 30 years of age. On the other hand, women, low skilled workers, and youth are less likely to be employed and less likely to have a desirable job. Minority groups are also left out of good jobs. A
recent World Bank report\textsuperscript{24} presents evidence of disparities in job outcomes for minorities groups such as Azeris and IDPs.

**Figure 3.12. Low–skilled workers have self-employment jobs in farms and the highly skilled work for a salary in an office in the city**

Distribution of employed workers across type of employment: wage work, entrepreneur, self-employment outside agriculture, self-employment in agriculture and unpaid work.

\textbf{Source:} authors’ calculations using IHS 2016.

In the last decade, there have been some significant changes in the profile of the worker (Figure 3.13). The main changes are that older workers (aged 55-64); non-poor people; and people with higher educational attainment are more likely to be working in 2016 than they were in 2006; and people with lower secondary educational attainment or less are less likely to be working in 2016 than they were in 2006. However, some factors did not change much in the last decade. For example, the male to female employment ratio; the proportion of workers from each quintile; and people with upper secondary or vocational/secondary professional education all remained relatively constant between 2006 and 2016.

\textsuperscript{24} World Bank 2016b
Figure 3.13. Worker profile over time remains stable

Distribution of workers by age group, sex, quintile of welfare, poverty status, and education level for 2006, 2010 and 2016.

Source: authors using IHS 2006-2016
New jobs are better jobs

Job creation has been positive, and new jobs have been better jobs

Almost 180,000 new jobs were created in the last 10 years. This means less than 20,000 net new jobs were created annually, equivalent to 7.5 per thousand persons employed (excluding unpaid workers). Importantly, three quarters of these jobs were created between 2010 and 2015. Yearly net job creation has been cyclical: 2007, 2010 and 2013 were all years of net job destruction (Figure 3.16). The positive job creation for the period 2010-2015 was like other well-performing countries: in Georgia, 15 jobs were created per thousand persons, in Macedonia this figure was 17.8, in Montenegro 11.2, and in Serbia 12.3.

New jobs have been in wage employment. More recently, job creation has been in wage employment; in 5 out of the last 9 years, job destruction has been in unpaid work, which points to an improvement in job quality in Georgia.

Figure 3.14. New jobs are mainly in wage employment, and job destruction is of unpaid work

Yearly net job creation by type of work 2007-2016, in thousand persons

Source: authors’ calculations using IHS 2007-2016. Notes: the net number of jobs created/destroyed every year is the difference between the jobs available in year t minus the jobs available in year t-1.

Job creation is dynamic in some sectors, but employment in these sectors remains low. Mining, hotel and restaurants, transport, real estate, construction, and financial intermediation are sectors which showed job growth above 5 percent per year in the 5 years up to 2015. These sectors are very interesting to develop, but they still employ only a small percentage of the labor market, increasing from 8 percent in 2006 to 15 percent in 2015. Employment in public administration also grew strongly in the 5 years up to 2015 (Figure 3.17).

Agricultural jobs are shrinking too slowly and productivity and production is erratic. As discussed in the previous two chapters, agriculture contributes less than 10 percent to GDP while it employs almost half
of all workers. Agriculture employment has decreased by only 5.9 percent since 2006, less than 1 percent per year. Moreover, employment in agriculture is mostly unpaid and contributes very little to household income. Spotlight 2.1 in chapter 2 describes the high fluctuation in productivity and production of agriculture crops and livestock over time.

**Figure 3.15. The leading sectors of jobs creation capture less than 10 percent of the labor market**

Employment growth by industry, 2006-2010 and 2011-2016

Net employment changes varied between 2006-2010 and 2011-2016 (Figure 3.18). The two periods are very different. In the first 5 years, there was net job destruction across all regions in Georgia except for Tbilisi and Adjara, while in the last 5 years, employment grew in all regions except Imereti, Racha-Lechkhumi and Kvemo Svaneti.
Internal migration flows are large in Georgia. About 1 million people changed their place of residence in 2013, 28.5 percent of the population. More women than men switched place of residence (33.6 percent of internal migrants were men, and 66.4 percent were women). Tbilisi is the main net receiver of persons (Figure 3.17, panel a), but many people also move out of Tbilisi, mostly to Kakheti, Imereti, and Kvemo Kartli (Figure 3.17, panel b). Interestingly, the other regions that are net receivers of population: Racha, Lechkhumi, and Kvemo Svaneti are regions with low population density. All the other regions in Georgia are net senders of people and Imereti is the region with the highest number of people moving out, followed by Samegrelo and Zemo Svaneti.
Figure 3.17. Internal migration flows do not mirror regional employment creation

(a) Number of persons in and out of regions

(b) distribution of persons across previous region of residence

Source: Authors’ calculations using Population Census 2014

Box 3.1. Economies of agglomeration and jobs multipliers

There has been a recent revival in the economic literature on the role of the manufacturing (tradable) sector in job creation in other (non-tradable) sectors which adds a skills angle to the old discussion of economies of agglomeration and geography. In addition to the direct impact on employment level, there are various channels through which expansion in the manufacturing sector leads to additional jobs in other sectors. The expansion in the manufacturing sector increases the labor demand in this sector which leads to higher wage and/or increased employment. Both higher wages and larger employment will eventually increase the demand for local services, and therefore employment in the second sector. Thus, a “job multiplier” is the reduced measure of the number of jobs created in the non-tradable sector per job created in the tradable sector. Another channel through which job creation in manufacturing sector affects employment in other sectors is input-output linkages. The expansion in the manufacturing sector increases demand for professional services such as accounting, legal services, and information technology which are used in production process of manufacturing sector. The increased demand for these services by manufacturing firms leads to labor demand for these services and creates additional jobs, contributing to the magnitude of job multipliers.

The job multiplier is expected to be larger for high-skilled workers as they usually earn more and spend more on services, leading to larger changes in demand for local services and job creation. Not only that, a highly skilled tradable job will also create highly skilled—and thus high-wage—non-tradable jobs, resulting in a positive spiral of high skill - high productivity – high wage jobs. Recent studies have estimated job multipliers for various countries, always finding larger multipliers for new highly skilled workers. In the US, each additional highly skilled job created in the tradable sector generates 2.5 jobs in the non-tradable sector which
Skills are improving, but remain low

A significant share of highly skilled people struggles to perform well in the labor market. Looking at formal education that measures the number of years of completed schooling, Georgia compares well with upper-middle income countries. Moreover, younger cohorts increasingly invest in their education, with 40 percent of the 25-39 years old having completed tertiary education (Figure 3.18). Yet, unemployment is highest among job seekers with completed secondary and tertiary education. At the same time, a sizeable share of firms continues to point to an inadequately educated workforce as a major obstacle to doing business: firms like to expand but cannot find suitable candidates to hire.

Figure 3.18. Young people are more likely to have a tertiary degree than their parents, who were likely to have vocational education

Share of the workforce by level of education, 2016
Despite the substantial improvement in education quality, Georgia remains significantly behind other European countries.

There is evidence that the quality of education is low when directly measured by acquired skills and competencies. Existing evidence from the Program of International Student Assessment (PISA) shows that the share of functionally illiterate 15-year olds is considerable (Figure 3.19). Although secondary school attainment is more than 90 percent for 15-year-olds, only half of them acquire a reading proficiency to be functional in society. Looking at results by the Trends in International Mathematics and Science Study (TIMSS), the performance of Georgia’s students is below the average of the Baltic States or Poland. A main reason for this underperformance may be that Georgia’s education system continues to place too much emphasis on conveying facts and knowledge, instead of teaching problem solving and critical thinking. Yet it is exactly these latter skills that more and more firms seem to be seeking.27

Quality of education has improved significantly in Georgia. The performance on PISA and TIMSS tests has improved since 2007. The increased in scores ranged between 0.28 and 1.1 percent per year depending on the subject and age group (Figure 3.20). The largest improvement was observed in PISA’s Reading (1.1 percent per year) and the lowest increase was in math for 8th graders. There is wide variation in scores of the poor and the rich. For example, the science score of children living in households in the bottom 20 percent of the population is 371, while scores for children living in the top 20 percent is 456. This difference between rich and poor children is equivalent to about two and half years of education. In addition, girls perform better than boys in all tests, and children living in urban areas perform better than those living in rural areas.

Figure 3.19. Only 40 percent of Georgian youth acquire functional literacy

<table>
<thead>
<tr>
<th>Percentage of the population with functional literacy</th>
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<tbody>
<tr>
<td><img src="image" alt="Graph showing functional literacy rates for various countries" /></td>
</tr>
</tbody>
</table>

Source: authors’ calculations using PISA 2009. Notes: functional literacy defined as above level 2 in reading test. Selected countries at the top of the performance ranking are included in the graph.
Job quality has increased, but some groups do not see improvements

The average wage in all sectors has increased. However, the variation in wages has increased too. As a result, there are workers who have not seen any improvement in job quality and there are workers for whom education is not paying off.

Little is known about job quality in Georgia. To date, there is little discussion about the quality of employment in Georgia. According to a recent survey, 80 percent of men and 68 percent of women agreed that ‘Work’ is very important in their life. When asked about what is most important about a job, about 40 percent said, ‘a good income’ and 36 percent said, ‘a safe job with no risk’, with only small differences between men and women. As to overall job satisfaction, 31 percent of the employed are somewhat satisfied and 8 percent are very satisfied with their job. Most people (46 percent) are neither satisfied nor dissatisfied, while 6 percent say they are very dissatisfied with their current job.

Applying a multi-dimensional approach to assessing job quality in Georgia can help identify priority areas to improve job quality. Based on currently available individual-level data, job quality in Georgia can be examined using the following 6 dimensions: paid work; wage above the minimum subsistence level; incidence of compensatory moonlighting; received work-related training; job security; and incidence of long work hours. Preliminary results indicate that 93 percent of workers have permanent jobs. The incidence of compensatory moonlighting (having a second job while being a full-time worker in the main job) is low at 8 percent. 3 out of 4 jobs are paid work and 70 percent of workers are not affected by long working hours of 40 hours per week or more. The share of workers having received work-related training
is about 61 percent. Results also show that about 51 percent of paid workers receive wages that are above the minimum subsistence level.

**Figure 3.21. Measuring Georgia’s job quality on 6 dimensions**

Job quality index based on 6 dimensions

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**Box 3.2. Learning from measuring the quality of jobs in Turkey**

A recent World Bank Group report introduced the Job Quality Index, (JQI) to measure the quality of jobs in Turkey. The proposed index consists of 6 dimensions which are operationalized with 13 measurable components. In particular, a quality job is one that:

1. **Is regulated and protected by Labor Law and provides safe working conditions.** These criteria are measured by four components: (1) being registered with the social security system, and (2) having wages that comply with the minimum wage. The extent of prohibited (3) child labor and adequate (4) work safety is assessed at the sector level.

2. **Provides adequate linkage between wages and the job.** This is measured by two components: (5) relative underpayment and (6) compensatory moonlighting (employment in additional jobs where the primary job is full-time but low pay).

3. **Offers career advancement and growth.** This is measured with three components: (7) engagement in work-related training, (8) underemployment (workers prefer to work more hours); and (9) employment engagement (ranking of jobs by formality, full-time/part-time and contract tenure).

4. **Uses the highest level of productivity,** as measured by (10) relative over-qualification.

5. **Is resilient to shocks.** This is operationalized by (11) resilience to aggregate shocks (probability of job loss due to dismissal or end of temporary job during a crisis), and (12) resilience to idiosyncratic shocks (probability of job loss due to illness or disability).

6. **Is adaptable to a changing economy,** as measured by (13) risk of skills obsolescence.

Estimates of the job quality components are based on individual-level data from the Labor Force Surveys where each worker gets a score on each component. The scores can be correlated with the worker’s socio-demographic characteristics (age, gender, or education) and job-related factors (industry, occupation, and public or private sector...
employment). For most components, the worker’s job is classified as ‘good quality’ or ‘bad quality’ through comparison with a normative threshold, like working in the informal sector (yes/no). In a second step, the 13 job quality components are aggregated into a composite index, helping to summarize the complex matter of job quality in a single number.

The approach allows trends in multi-faceted job quality in Turkey to be communicated policy makers and the public. The JQI also presents an interactive policy tool that can be easily adjusted, either through the definition of components or alternative weighting schemes, to incorporate emerging policy priorities. Both aggregate job quality and performance on separate components can be assessed, providing a detailed look at job quality at the national and sub-national level as well as for sub-groups of workers.

Results for Turkey show that aggregate job quality has improved in recent years, but informal jobs and jobs in rural areas are often of very low quality. Also, job quality differs considerably across population sub-groups, industries, and regions. Promoting formal and productive jobs and ensuring that workers attain adequate and adaptable skills are key factors to continue creating good and better jobs in Turkey.


Earnings is the most important job quality, but differences emerge by type of work and a worker’s personal characteristics. Most Georgians feel that ‘getting a good income’ is most important when looking for a job. Using average real wages as an indicator, job quality has improved significantly between 2006 and 2016. Average real monthly wages have more than tripled in that time. Being an employer has the highest rewards, while self-employed agricultural workers receive the lowest wages and have seen little wage growth. Non-agricultural self-employed workers realized sizeable income growth, but this was below the average for wage workers (Figure 3.22, panel a).

There is considerable variation in earnings across industries, and geographical areas. The median wage worker employed in public administration, the highest paying sector on average, earns 3.5 times more than the median worker employed in a firm in the agricultural sector, the lowest paying sector. Service sector wages are at the lower end of the spectrum, while construction or transport sector wages are above average (Figure 3.23, panel a), there are also substantial within-industry differences in labor income (Figure 3.23, panel b). The lowest variation around the median wage is observed in hotels and restaurants. Sectors like construction, transport, real estate, and health and social work have maximum values of incomes that are much higher than the median income of these sectors. Finally, wages in urban areas are significantly higher than wages in rural areas.

Wage inequality has increased substantially in Georgia. As often observed in expanding economies, the trend of rising incomes is accompanied by increasing inequality. Workers with tertiary education realized both sizeable wage growth and increases in dispersion. Higher returns to education indicate increasing demand for high-skilled workers. However, highly educated workers do not always mean highly skilled workers, and hence, wage dispersion increases at the same time.
Figure 3.22. The difference in earnings among wage workers, entrepreneurs and self-employed is large

(a) Average monthly labor income, 2006-2016

(b) Average monthly labor income by place of residence, age, and quintile, 2016

Source: authors’ calculations using IHS 2006-2016. Notes: Includes all paid workers including part-time workers.

Figure 3.23. Public administration pays the highest wage on average, and agricultural firms pay the lowest

(a) Median monthly wage by industry, 2016

(b) Minimum and maximum monthly wage by industry, 2016

Source: authors’ calculations using IHS 2006-2016. Notes: Includes all paid workers including part-time workers.
Among all individual and household characteristics that influence wages, education and gender stand out as most important.

Regression analysis confirms that returns to education are positive and significant in urban areas, but for people in rural areas only tertiary education pays off. Regression analysis allows us to look at the determinants of monthly wages, based on a host of individual and household characteristics, including gender, education, experience, sector of work, state/private ownership. Three findings stand out: (i) returns to education are higher in urban areas, with higher-educated workers earning almost twice as much as workers with secondary education or less; (ii) the returns to higher education in rural areas are 66 percent greater than those for workers in the base category (primary education); (iii) returns to secondary and vocational education are also higher in urban areas than in rural areas at 43 percent and 50 percent for secondary and vocational education respectively in urban areas and 24 and 20 percent respectively in rural areas.

Experience is also valued by employers, but up to a point. Returns to experience, approximated by potential experience (equivalent to age minus education) are positive for both urban and rural areas. They also follow the concave pattern usually found in other countries\(^{25}\). The depreciation of skills occurs between 25 and 30 years of experience, which is equivalent to 40-45 year-old workers with lower secondary education.

\(^{25}\) Patrinos and Montenegro 2012
Figure 3.24. Returns to education vary depending on worker characteristics

Mincer equation. Dependent variable is log of monthly wages. Marginal effects reported (in %)

Source: authors using HIS 2016. Notes: wage workers only, including part-time workers. Shaded bars represent insignificant marginal effects. Regressions are weighted.
Spotlight 1. Georgia’s gender wage gap

As in most countries around the world, women in Georgia earn less than men. In 2014, the unadjusted (or raw) gender wage gap was 37 percent, indicating that the average monthly pay of women is only about 63 percent of the average monthly pay of men. The pay gap has declined substantially from 49 percent in 2004 but is still high when compared to the EU average of 16 percent.

Between 2004 and 2008, real wages increased significantly in Georgia. Female wage growth outpaced that of male workers and so the raw wage gap declined to 46 percent. In the aftermath of the 2008 crisis, average female wages stagnated while average male wages declined, reducing the gender wage gap to around 40 percent in 2011. Latest available estimates show a slowdown in wage growth and a slight increase in the pay gap, reaching 37 percent in 2014.

Looking beyond mean wages reveals that trends in relative wages for men and women differ for high and low wage earners. In 2004 the gap was larger at the top of the wage distribution - a finding typically associated with the glass-ceiling effect that hinders women advancing their careers beyond a certain point. Since then, relative wages among high wage earners improved, possibly related to wage increases in the public sector that directly impacted female wages. Prior to 2008, the expansion of male-dominated sectors like construction and transport probably contributed to an increasing gap at the bottom of the wage distribution. The crisis led to a contraction of these industries and by 2010, the gap for low wage earners was back at its pre-crisis level. Recovery in male-dominated industries is likely to have widened the gap at the bottom of the distribution again, while female-male wages differences among high wage earners remained relatively small.

Despite an impressive reduction since 2004, the gender wage gap remains high in Georgia.

What is behind Georgia’s large gender wage gap? Typically, large pay gaps are found in highly segregated labor markets where women are concentrated in certain sectors and occupations. Such structural reasons also seem important for Georgia: in addition to differences in the number of hours worked, segregation by economic activity and concentration of women in the public sector are primary factors that contribute to the
large gender wage gap (Figure S2). The Duncan Index of occupational segregation suggests that 37 percent of workers would have to move across nine main occupational groups to obtain an equal gender distribution. When looking at industries, almost 1 in 2 workers, or 47 percent, would need to change industries to achieve a balanced distribution of men and women. Although industrial and occupational segregation has declined somewhat since 2009, dissimilarities remain sizeable.

Wage inequality is also found within industries and occupational groups. Recent analysis shows that it was mainly reductions in intra-industry and intra-occupation components of the wage gap that contributed to the overall decline of the gender wage gap between 2004 and 2015 in Georgia. For example, lower wage inequality in the education and health sectors, and among high-skilled workers, were the main drivers of the gender wage gap reduction until 2013. Changes in the gender composition of employment by industries and occupations do not appear to have contributed to the decline in the gender wage gap, consistent with the evidence that industrial and occupational segregation has not changed much in recent years.

Figure S2. Share of employed, by sex and sector of activity 2007

Source: Ana Maria Muñoz-Boudet and Lourdes Rodriguez Chamussy

Inactivity and Unemployment

The typical unemployed person is a young man, or a man close to retirement age, living in an urban area.

The unemployment rate varies significantly with age, gender, and place of residence. Figure 3.35 shows the unemployment rate by gender and age (panel a), and by place of residence and age (panel b). Young men between 20 and 30 years of age are three times more likely to be unemployed than young women of the same age. Older men, above 50, are also more likely to be unemployed if they live in Tbilisi than if they live in rural areas—even if they do unpaid work (Figure 3.35 panel b).

Long-term unemployment depends on the level of education achieved. 38 percent of the unemployed have a third level degree, of which 27 percent are between 25 and 39 years of age. This is a clear indication of a skills mismatch. About 35 percent of the unemployed have completed upper secondary education.

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26 This is mostly because women stop looking for work and exit the labor force.
And many of them, 35%, are below the age of 25. Instead, the unemployed with vocational education tend to be mature workers, between 40 and 55 years of age (37 percent of the unemployed with vocational education), which suggests that the labor market has been changing fast and that neither the education system nor the training system, have been able to catch up with the changes in the demand for skills.

**Figure 3.25. Unemployment is a problem for male youth and male adults close to retirement, especially if they live in Tbilisi**

<table>
<thead>
<tr>
<th>(a) Unemployment rate by gender and age</th>
<th>(b) unemployment rate by age and place of residence</th>
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<tbody>
<tr>
<td><img src="image1.png" alt="Graph a" /></td>
<td><img src="image2.png" alt="Graph b" /></td>
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*Source: authors’ calculations using IHS 2006-2016.*

Most of the long term unemployed are older, between 40 and 55 years of age, live in Tbilisi, are poor, or have completed higher education. When it comes to long-term unemployment, there is considerable variation in individual characteristics. Almost 21 percent of the long term unemployed had never worked, of which more than 60 percent are below the age of 25. This suggests that job creation is not keeping pace with new labor market entrants, but also it may indicate that the new entrants do not have the skills required by employers. About one third of the long-term unemployed have been searching for a job for 3 years or more, and of this group, 40 percent are above 40 and half of them live in Tbilisi. Noticeably, 40 percent of the long term unemployed have higher education.
Youth and women are the vulnerable groups in the Georgian labor market

**Too many youth are out of employment, education or training.** A concern of modern societies of all income levels is the high proportion of youths who are not in employment, education or training—usually called NEET. In Georgia, this applies to about 20 percent of youths between 15 and 30 years of age (Figure 3.27). While these NEET rates are comparable to rates in Europe and Latin America, it is widely acknowledged that the problem is severe in those regions.

**There is significant difference in NEET rates between girls and boys.** In 2016, 30 percent of girls and young women below 30 were NEET, in contrast to only 6.5 percent of boys and young men. The difference is dramatic. Since there is no difference in education enrollment, it means that more young men than women are in employment (50 versus 30 percent respectively).
While most young men transition from school to work, most young women remain inactive and out of school for longer periods. The differing school-to-work transition of boys and girls reveals some additional insights. Boys who finish high school stay inactive for a relatively short time and within four years, begin working. Girls who complete high school stay inactive for longer and a significant share remains inactive by the age of 35.

Since 2007, the share of inactive youth declined considerably while their level of education increased. Comparing the school-to-work transition in 2007 and 2010 (Figure 3.24, panels a and b, respectively) with that in 2016 (Figure 3.28), the proportion of boys and girls that stay at school has increased. Therefore, the education level of NEET youth has increased.

Source: Panel (a) authors using IHS 2006, 2010, 2016. Notes: age group is 15-30. Source: Panel (b) WDI.
When looking at all the individual and household characteristics influencing the probability of being employed, education, experience, and gender emerge as the most important factors.

Regression analysis confirms that the probability of being employed differs substantially across population groups. Holding everything else constant, women in urban/rural areas are 13/14 percentage points less likely to be employed than men. People in households in the bottom 40 percent of the welfare distribution are 12 percentage points less likely to have a job than those that belong to the top 60 percent, while in rural areas the gap is only 5 percentage points. Education is positively linked to employment in
both urban and rural areas. In urban areas, this association is stronger for vocational and higher education, with 18 and 23 percentage points respectively, compared to rural areas where the difference is only 13 and 17 percentage points. People residing in Guria are more likely to be employed than comparable people in Kakheti. In contrast, people in Tbilisi and Samegrelo-Zemo Svaneti are less likely to have a job, compared to the relevant base category (Figure 3.30).

**Figure 3.30. Gender, educational attainment, and location determine the probability of being employed**

Marginal effect on the probability of being employed, 2016

![Graph showing marginal effect on probability of being employed](image)

Source: IHS 2016, preliminary results. B40 indicates that the persons belong to a household that is in the bottom 40 percent of the consumption aggregate. Notes: Shaded bars represent insignificant marginal effects. Reference categories: men, lower secondary education or less, Kakheti, T60 (household belongs to the top 60 percent).

For young women, inactivity is driven by housework, while for older women, inactivity is driven by retirement. For men, inactivity is usually due to either “discouragement” or bad health.

**Inactivity depends on age and gender.** Women tend not to work because of family duties. This is common for women of all income and education levels, but more common among younger women, typically under
40 who may be taking care of children. Older women are also inactive. A large percentage of women above 55 do not work. While there could be many reasons, one is that women can retire with a pension at 60 - five years earlier than men. Some of these women might provide child care for their grandchildren, but more work is needed to understand the motivation of older people in Georgia.

**Figure 3.31. Women who are not in work tend to take care of the family and men tend to study**

Distribution of reasons for not participating of the labor market by gender and place of residence, 2015

Source: authors’ calculations using IHS 2006-2016.
Chapter 4. Policy options

Summary

This chapter formulates policy recommendations to improve jobs outcomes. In general, Georgia’s job growth is constrained by low productivity growth; the expansion of the service sector that focuses only on low-skill occupations; and the predominance of the low-productivity agricultural sector. These constraints can be further analyzed based on: labor supply, labor demand, and the matching process.

Labor demand constraints stem from macroeconomic constraints on the business environment and constraints relating to the microeconomic firm-specific environment. Macroeconomic constraints include exchange rate volatility, which discourages Foreign Direct Investment (FDI); insufficient access to markets due to a lack of infrastructure and low regional integration with Russia and China; and the fact that the growth model is centered on possibly unsustainable levels of domestic consumption. Policies should aim at creating a stable macroeconomic environment, promoting Georgia’s integration into global markets, and shifting Georgia’s growth model to being export-oriented.

Microeconomic constraints include access to finance for firms; the lack of adequate infrastructure such as transport and electricity; low Research and Development (R&D) spending; and, most importantly, political instability. Policies should aim at incentivizing R&D spending and increasing access to finance for SMEs.

Labor supply constraints relate to both the size and the skills of the workforce. The shrinking workforce poses a significant problem that should be mitigated by policies that incentivize (re)immigration, boost female labor force participation, and increase fertility. In terms of workforce skills, Georgia is a special case as its problems stem from a skills mismatch of workers with tertiary education and inadequate vocational training. To deal with this, Georgia should implement policies that create awareness and provide information on the types of skills that are most needed in the workplace, focused on students and jobseekers; it should further expand its active labor market policies; and continue to upgrade the quality of the education system with a focus on reforming vocational education. To improve the matching process, Georgia would benefit from further upgrading its labor market information systems, strengthening the use of information technology for job search, and following the best practices of other countries.
Policy options to ease labor demand constraints

Even though the labor market in Georgia is showing evidence of modernization and dynamism, challenges persist that hinder job creation and firm expansion. The evidence presented in Chapter 2 showed that Georgian firms are mostly small-sized, and that employment is concentrated in larger and relatively older firms. Also, small and individual firms, while contributing to job creation in the short run, do not appear to grow to medium-sized firms over time.

Further integration with the global economy will lead to more and better jobs in the medium- to long-term. Expansion of firm sales contributes to job creation, and increases in productivity result in higher wages and better jobs. The only way for firms to grow in Georgia, which has a small economy with no high-valued hard commodities, is by accessing global consumer markets and further integrating into global value chains. Small economies with fewer than 10 million people, need to export at least 50 percent of GDP to avoid the “middle-income trap”\textsuperscript{27}. Georgian exports grew from 23 to 45 percent of GDP between 2000 and 2015, but exports need to grow more to improve Georgia’s chances of success like Slovakia, whose exports are 93 percent of GDP; or the Czech Republic with exports at around 80 percent of GDP). In the short term, further trade integration means reallocation of labor away from non-tradables and products for domestic consumption, however in the medium- and long-term, higher exports will lead to

\textsuperscript{27} World Bank, 2018
more jobs. Moreover, exporting tends to encourage firms to be more competitive and innovative, leading to increases in productivity, and ultimately better jobs.

**Productivity-enhancing policies can contribute to GDP growth and to better jobs.** A small-size firm cap could be an obstacle to the reallocation of labor towards more productive firms, innovation and within-firm productivity growth. Micro and small firms typically face difficulties training their workforce and investing in research and development, two strategies through which firms increase their productivity and competitiveness. Moreover, firms learn by doing and older firms tend to be more productive than younger firms. This chapter provides an overview of some of the main constraints to job creation and productivity growth faced by firms in Georgia, policy options to address these constraints are also presented.

Move toward a business environment that is conducive to macroeconomic growth

**Persistent challenges are slowing Georgia’s structural transformation and reallocation of labor to more productive sectors.** Despite the expansion of the services sector in recent years, agriculture still employs the largest share of the workforce, and growth of the industry sector has been modest, especially in manufacturing. The expansion of the service economy has occurred mostly in low-value added sectors and has not been accompanied by productivity growth. Recently, productivity gains accrued from 2006 to 2012 in all sectors (Figure 4.2 panel a) have been lost or have contracted sharply. The decline in productivity at the aggregate level since 2012 has been greater than the other countries in the region (Figure 4.2 panel b), despite the recovery following the 2008-2009 crisis. Modest growth of total value added per worker during the last decade has been driven by the reallocation of workers from low productivity firms and sectors, rather than by productivity gains within firms and within sectors; in fact, within-sector contribution to productivity growth was negative between 2006 and 2015.

**These persisting challenges suggest that the pro-business reforms of the mid-2000s may have been only partially successful, and that the reforms agenda is not complete.** Chapter 2 shows evidence of the benefits of reforms introduced in the mid-2000s to improve the doing business environment on firm entry and job creation in the private sector. However, the persisting structural challenges, which are hindering Georgia’s economic performance vis-à-vis comparators, suggest that these reforms have been only moderately successful, especially from the standpoint of the allocative efficiency. Going forward, Georgia needs to rely on productivity enhancements, and these require other types of policies.

**To overcome the reliance of growth on domestic consumption Georgia needs to further integrate into global markets.** Recent economic growth in Georgia was largely driven by domestic consumption. Georgia needs to rely more on growth in capital investments (both internal and external, e.g. through FDI), and exports to secure robust and sustained growth. Rapid population aging, constant outmigration flows of younger cohorts, and high inactivity rates among young people risk undermining the growth in domestic consumption needed to sustain aggregate growth. Instead, greater export-orientation and integration into global value chains, could spur the penetration of Georgian products into the global economy. Georgia also needs to further diversify its basket of exports to avoid depending on exports of minerals and metals, or low-quality products such as used cars; it needs to focus on more competitive products.

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28 In addition, it is probably worth investigating further to which extent the *de-jure* progress in Georgia’s doing business performance, is translated in *de facto* improvements for all firms and sectors.
with higher exporting potential, such as agribusiness products, apparel and medication. Services exports are limited to tourism and could be expanded to business services, telecommunications or information technologies.

Various policies can be introduced to promote exports. Georgia has progressed with further trade integration with the EU and China, but many firms do not survive long in exporting markets. Only 40 percent of firms export for two consecutive years, and 5 percent export for 5 consecutive years, which could indicate lack of knowledge and lack of networks in international markets. A key policy would be to improve the accessibility of information to firms with exporting potential. Additionally, many firms and farm producers may not export because they do not have the scale to afford the fixed costs of global markets. This could be addressed by building cooperatives or by engaging “middle-men” or “consolidators” that would buy from small firms and sell abroad, and develop storage and sorting facilities. Georgia has been successful in developing the capacity of the National Food Agency, harmonizing food standards to comply with the EU (in line with the DCFTA), and it now needs to ensure compliance with these high standards. Finally, existing trade restrictions with the Russian Federation limit the potential for trade integration and exchange with one of the most relevant economic partners in the region.

Figure 4.2. Exporting performance

(a) Georgian exporting firms and products
(b) Export survival probability

Source: Systematic Country Diagnostic (World Bank 2018)

FDI can help adopt new technologies, and gain access to global consumer markets and global value chains. Many foreign firms have already built their networks in global markets; they may buy from other local producers, facilitating the integration domestic firms into global value chains. As such, they are a role model for other local producers on how to export. For example, the Italian firm Ferrero has invested in the production of hazelnuts, which is integrated into the company’s value chain and makes it a good example of exports in the agriculture sector.

29 For more details, see discussion in World Bank (2018) chapter 3 and figure 29.
Favorable macroeconomic conditions and strong financial markets are necessary to attract domestic and foreign investment. Internally, Georgia needs to deal with the spending limits imposed by its fiscal deficit, which reduces the scope of resorting to expansionary policies to stimulate growth. Externally, the volatility of the exchange rate adds uncertainty to the investment climate, and to the possibility of attracting foreign investors to the country. The financial sector has grown considerably, but it remains small compared to OECD countries. Access to credit is a constraint for SMEs. Most SMEs continue to rely on friends and families for credit\textsuperscript{30}, furthermore, business closure and insolvency procedures are cumbersome and often prevent an unprofitable business from exiting the market.

Georgia needs to further develop infrastructure and connectivity with global markets. Despite the potentially favorable location at the center of the Europe and Central Asia region, Georgia is geographically distant from the main regional hubs in Europe and Asia. It has invested heavily in developing roads, ports and airports but more is needed to be connected to global markets. As stated in the Systematic Country Diagnostic\textsuperscript{31}, developing logistics is as important as developing infrastructure. More specifically, the port of Poti, which is often congested, needs to be upgraded by improving the its capacity to store, sort and receive container ships. Equally important is to continue investing in the roads infrastructure to overcome the internal geographic division between urban and rural areas, which is negatively affecting access to markets for rural producers, as well as connectivity to neighboring countries.

\textsuperscript{30} World Bank, 2018
\textsuperscript{31} World Bank 2018
Challenges and constraints to the firm-specific microeconomic environment

Political instability, followed by access to finance are the main constraints to business for Georgian firms. Given the prevalence of micro and small firms, it is not surprising that access to finance features so high in the list of obstacles to doing business is. According to the World Bank Enterprise Survey, the share of firms in the manufacturing sector for whom access to finance is the major constraint to business is 20 percent in Georgia, compared to 13.3 percent in the whole Europe and Central Asia region. Other relevant constraints seem to be tax rates and informal sector practices, although Georgia seems to be doing better than the regional average in these aspects.
Figure 4.4 Productivity growth by sector and across countries

<table>
<thead>
<tr>
<th>Sector</th>
<th>2006</th>
<th>2010</th>
<th>2012</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining, Utilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wholesale &amp; Retail</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans &amp; Comm, Fin &amp; Real</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Figure 4.4a. Top Business Environment Obstacle for firms: Georgia vs. Europe and Central Asia (2013)

Source: Enterprise Surveys (www.enterprisesurveys.org) 2013, The World Bank

The constraints that firms are exposed to has evolved over time, with some improvements and some new challenges. In the early 2000s corruption, tax administration, or customs and trade regulations were among the top concerns, ten years later fewer firms view these as significant barriers. More firms now experience difficulties in terms of access to finance, and infrastructure as in transportation and electricity. Skills shortages have also become more relevant. In 2013, one in ten firms rated an inadequately educated workforce as a major barrier to doing business (Figure 4.4b, panel i), but the biggest challenge to doing business in Georgia lies elsewhere: 42 percent of firms identified political instability as the biggest obstacle to doing business in 2013, up from 17 percent in 2008 (Figure 4.4b, panel ii).
Figure 4.4b. Georgia’s business environment as viewed by firms

i) Georgia’s firms report improvements in many dimensions; recently, access to finance and infrastructure are seen as major constraints

<table>
<thead>
<tr>
<th>Constraints</th>
<th>2002</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax administration</td>
<td>52</td>
<td>7</td>
</tr>
<tr>
<td>Corruption</td>
<td>41</td>
<td>3</td>
</tr>
<tr>
<td>Tax rates</td>
<td>31</td>
<td>27</td>
</tr>
<tr>
<td>Electricity</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>Customs and trade regulations</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>Crime, theft, disorder</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Access to finance</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>Business licensing, permits</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Transportation</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Workforce inadequately educated</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Labor regulations</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>


Constraints related to infrastructure and connectivity seem to be more severe than in other countries. Many firms (30 percent) still report access to electricity as a major constraint to business, twice as much as in “aspirational” country comparators, such as Slovenia and Poland. However, fewer than 15 percent of Georgians report transportation as a major constraint.

Figure 4.5a. Firms reporting access to electricity and to transport as major constraints relative to other countries

Source: Authors’ calculations using Enterprise Survey

Depending on firm characteristics (e.g., firm size), assessment of major constraints for the business environment might differ. Medium-sized firms (20-99 workers) rate provision of electricity; tax rates and tax administration; and transportation as major obstacles. Medium-sized firms also seem disproportionately affected by corruption. Access to finance and skills are more important among small firms (5-19 workers), and for large businesses, the ranking of obstacles is generally similar to that of smaller firms (Figure 4.5b, panel i).
The barriers to doing business vary across sectors, with firm size, and ownership type. Finding workers with the right skills is more often a concern in the manufacturing sector. Transportation is a major barrier to about 20 percent of non-retail service firms, which is more than twice the share of manufacturing or retail (Figure 4.5b, panel ii). Female-run companies often operate in an adverse business environment. Apart from corruption and labor regulations, firms with female top managers are more likely to encounter many of the myriad problems of business environment (Figure 4.5b, panel iii). The quality of the business environment also differs across region: electricity is a major constraint to 40 percent of firms operating in Tbilisi; and the practices of informal competitors are a major constraint to doing business for almost 50 percent of firms in the western part of the country (Figure 4.5b, panel iv). Exporting firms are more likely to face difficulties with access to finance, crime and theft, transportation, and inadequate worker skills. The main constraints of firms with foreign ownership are related to tax rates, tax administration, electricity, and customs and trade regulations.

Low spending on research and development (R&D) can limit innovation, product diversification, and productivity growth. Georgia spends the least on research and development as a percentage of GDP.
among all countries in Europe and Central Asia. The level of R&D spending in Georgia was already among the lowest in 2004, but in 2014 it plummeted to a record low of less than 0.1 percent of GDP, much lower than the almost 2.5 percent of GDP in Slovenia and lower than the 1 percent of the non-high-income countries. Poor investments in R&D (from both the public and the private sector) represent a major obstacle to innovation and firm productivity growth, and can seriously hamper the modernization of the Georgian economy and the creation of better jobs.

Figure 4.6. Georgia spends very little on R&D as percent of GDP in Europe and Central Asia

Georgia is less export-oriented than other comparators, across all firm sizes. A small-size firm cap limits the capacity of small firms to innovate and invest in new technologies, and therefore capacity to diversify products, to enter different markets, and to compete internationally. The share of firms exporting directly (at least 1 percent of their sales) in Georgia, is among the lowest in the region, especially for small firms. Among large firms, only 10 percent are direct exporters, much less than the share registered in Slovenia, Macedonia, and Poland. Greater export-orientation could create a virtuous circle that spurs firms to diversify and innovate at the frontier to remain competitive.

Figure 4.7. Firms in Georgia are less export-oriented than other comparable countries
The constraints on the firm-specific microeconomic environment can limit productivity growth, the expansion of existing firms and the creation of new firms. The prevalence of small-sized firms in Georgia can limit the potential to grow, innovate, export and compete in global markets. A small-size cap also creates difficulties for small firms to invest in worker training and upskilling (which can be costly), and in research and development. Restricted access to formal sources of finance can discourage private investment, and can undermine the potential of productive small and medium-sized firms to grow into large firms.

Fiscal incentives for R&D, training and exports, and better access to financing capital for small and medium-sized firms can be a potential policy option to ease existing constraints. To stimulate firm productivity growth, fiscal incentives could be designed for firms investing in research and development, especially in high value-added sectors. Incentives for exporting firms could also improve the integration of the economy into global value chains. Finally, financial instruments tailored to small and medium enterprises are needed to ease access to investment capital in all areas.

Georgian firms need to invest in the use of information and communication technologies. Georgia has made substantial progress here: its rank in the Global Networked Readiness Index improved from the 88th position in 2012, to the 58th position in 2016. The affordability of ICT services has also improved (moving up from the 101st to 15th position in the same period) as has the regulation of the ICT sector (World Bank 2016b). However, Georgia still lags in the use of ICT technologies by businesses (108th position in the ranking), and in the impact of ICT on competitiveness generated by technological and non-technological innovations (91st position).

Figure 4.8. From constraints affecting the firm-specific microeconomic environment to policies

<table>
<thead>
<tr>
<th>CHALLENGES</th>
<th>CONSTRAINTS</th>
<th>POLICIES</th>
<th>GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity growth</td>
<td>Firms growth capacity</td>
<td>(Preliminary)</td>
<td>Increased labor demand in high value added sectors</td>
</tr>
<tr>
<td>• Productivity has been declining in all sectors, particularly in services</td>
<td>• Small-size firms cap can limit the potential to grow, and compete in global markets</td>
<td>• Fiscal incentives could be designed for export-oriented firms and firms investing in R&amp;D and workers training</td>
<td></td>
</tr>
<tr>
<td>• Most firms are small-sized and there is a missing “middle” able to grow into large firms</td>
<td>• Difficult access to formal capital markets can discourage investments</td>
<td>• Financial instruments specifically designed for small and medium firms could help firms growth and job creation</td>
<td></td>
</tr>
<tr>
<td>• Access to finance</td>
<td>• Skills mismatch can constrain firms’ productivity growth</td>
<td>• Increase public and private investments in R&amp;D, especially in high value added sectors</td>
<td></td>
</tr>
<tr>
<td>• Low spending on R&amp;D</td>
<td>• Poor export orientation</td>
<td></td>
<td>Greater product diversification</td>
</tr>
</tbody>
</table>

More export-oriented firms
Policy options to improve the supply of labor

Reduce constraints to labor force participation and in the longer run, expand the working age population

Georgia has not yet felt the consequences of a decreasing working age population, because the increase in labor force participation has partially compensated for the effects of ageing and outmigration. In the last 10 years, between 2006 and 2015, Georgia’s working age population fell by about 235,698 persons. During the same period, the labor force increased by 112,597 persons, compensating for about half of the contraction in the working age population. Population projections indicate that the working age population will continue to shrink. Without new policies to mitigate this, new cohorts of workers will need to provide support for an increasing aged population (as the dependency ratio is also rising). There are several policy options, that could help to at least maintain the current size of the workforce, and could have effects both in the short and long term.

In the short term, Georgia could continue expanding labor force participation by bringing more women into the labor force. Female labor participation is 56 percent in Georgia, and male labor force participation is 75.5 percent. Even though these are high labor force participation rates, the labor force participation gender gap is 18 percentage points. An increase of 5 percentage points in the female labor force participation from 56 to 61 percent will bring 35,392 women into the labor market.

Childcare policies and communication campaigns could be introduced to increase women’s participation in the labor force. While family duties appear as a major reason why many women do not work in Georgia, especially women under 40, it is unclear if the problem is a lack of affordable childcare, low wages offered in the labor market, or social norms. Georgia has subsidized childcare; however, additional policy options have been introduced in high income countries, which have proven to be supportive of women in the workforce. These policies include employer-provided paid leave to take care of sick relatives, and tax deductions for childcare payments for both men and women (Luci-Greulich and Thévenon 2013).
Georgia could consider policies that can bring the fertility rate back to the replacement level, which is needed to increase the working age population in the long run. If pro-natalism policies were introduced today, changes in the size of the working age population would only be seen in 25 years. There is a wide array of policies that can be used to promote fertility. In addition to childcare policies mentioned above, birth subsidies - either a one-time subsidy or monthly payments - could be introduced. Some of these policies differentiate the amount of the subsidy according to birth order and number of children, while others pay a flat amount at birth. Some of them are universal (Canada, France, Argentina, Armenia) while others are targeted to the poor (e.g. Armenia 2007-2009, USA). One challenge that these policies face in general are the potential disincentives that higher fertility can have on female labor force participation.

Many countries provide child allowances to parents; however, only a few studies have found a positive impact of birth subsidies on fertility, as a lump-sum transfer at birth. For example, in the Canadian province of Quebec, in the early nineties, the government introduced a lump-sum transfer differentiated by birth order, with positive results on fertility among high-income women compared to low-income women. Israel introduced monthly child subsidies that vary over time depending on birth order, and the evidence shows that a 150 NIS (about US$34) reduction in the monthly subsidy reduces the probability of an additional child by 0.78 percentage points (or 7.8 per cent relative to baseline fertility). The strongest effects are found among ultra-Orthodox Jewish and Arab Muslims; and women close to completing their

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32 Milligan 2005
families, while the lowest effects are found on high-income families\textsuperscript{33}. Positive effects of similar policies on fertility were found in Australia\textsuperscript{34} and in Spain\textsuperscript{35}.

**Other countries have introduced tax deductions to improve the fertility rate, but with mixed results.** France and the US have opted for providing tax deductions which vary with the level of income, and (in the case of France) also with the number of children\textsuperscript{36,37}. In the USA, the earned income tax credit has different cutoff levels and rates by marital status and number of children. At the beginning of the millennium, there was an expansion of the tax credit that resulted in small reductions in fertility among white women\textsuperscript{38}.

**Finally, some countries have used communication and information campaigns to affect fertility rates.** Family planning and reproductive health are two areas which have been widely used in mass media messaging for some time, particularly in the developing world. Mass media campaigns promoting family planning have proved successful in places as Brazil (La Ferrara et al. 2008), Mexico, India, and countries in Asia and Africa. Recent studies have also analyzed the effects of American TV shows on fertility in Austria and Germany\textsuperscript{39}.

\textsuperscript{33} Cohen, Dehejia and Romanov 2013
\textsuperscript{34} Ganz and Leigh 2009
\textsuperscript{35} Gonzalez 2013
\textsuperscript{36} With higher deductions for the third child or above
\textsuperscript{37} Laroque and Salanier 2014
\textsuperscript{38} Baughman and Conlin 2009
\textsuperscript{39} Basten 2010
**Figure 4.10. Georgia can strengthen women’s access to jobs by introducing paternity leave and equal pay laws**

<table>
<thead>
<tr>
<th>Can women do the same jobs as men?</th>
<th>Does the law mandate paid or unpaid paternity leave?</th>
<th>Does the law mandate equal remuneration for work of equal value?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="http://wbl.worldbank.org/data/exploreeconomies/georgia/2015#wbl_pi" alt="Pie Chart" /> Yes</td>
<td><img src="http://wbl.worldbank.org/data/exploreeconomies/georgia/2015#wbl_pi" alt="Pie Chart" /> No</td>
<td><img src="http://wbl.worldbank.org/data/exploreeconomies/georgia/2015#wbl_pi" alt="Pie Chart" /> No</td>
</tr>
</tbody>
</table>


**Notes**: The pie charts show the average for the ECA region, and in the middle the regulation for Georgia.

**Constraints to youth employment are multiple and diverse.** Most young NEET are women, and thus all the constraints and policies described above apply to them. Important constraints might come from prevailing social norms and young people’s aspirations, which may not be aligned with what the labor market currently demands and offers. As further discussed in the next section, many young graduates have invested in getting an education for occupations that are not in demand in the market. This can be due to information asymmetries on wages and career prospects in relation to certain occupations\(^{40}\), as well as to the social prestige associated with these occupations\(^{41}\). These asymmetries can create a large pool of discouraged young people, who do not study or work while “waiting” for a job in their area of interest. High reservation wages are another factor that can lead to the same outcome. Additional constraints leading to low education attainment, such as credit constraints, information gaps, and lack of geographic mobility, can also affect the high rate of NEETs.

**Persons with disabilities also face significant constraints to access jobs.** In 2015, the Ministry of Labor, Health and Social Affairs estimated that the number of individuals with a disability living in Georgia was 118,651, based on the number of recipients of social assistance. While the highest number of people with disabilities live in Tbilisi, the regions with the highest incidence of disability are Racha-Lechkhumi (4.6 percent of the population) and Imereti (4.4 percent). Little is known about the employment status of this group. What is known, is that there are only 24 disabled employees out of over 100,000 public workers. A positive step towards better integration of disabled people in the labor market, was the signing of the UN Convention on the Rights of Persons with Disabilities (CRPD), ratified by Georgia in 2013.

**It has been shown that people with disabilities can carry out productive jobs, if supported by the right policies.** Governments need to provide the infrastructure and the social environment for the inclusion of  

\(^{40}\) World Bank 2016a

\(^{41}\) World Bank 2016b
people with disabilities in the workplace. Specific policies can be adopted to help integrate disabled people into the formal labor market, such as facilitating the acquisition of skills through on-the-job training, establishing employment quotas for large firms, and providing wage subsidies or tax cuts for employers hiring people with disabilities. Furthermore, communication campaigns could be used to change attitudes and to promote more inclusive behavior towards people with disabilities at school and at the workplace.

Figure 4.11. From constraints affecting the size of the workforce to policies

- Equip the workforce with skills in demand by employers, now and in the future.

The workforce in Georgia is not responding fast enough to the shift in skills demanded by employers. As discussed earlier, Georgia is going through a process of structural transformation with very specific characteristics. There has been growth in value added in industry and services that has not been followed by movement of people from agriculture to these sectors (Figure 1.9). To sustain growth and to continue the structural transformation of the economy, policies and reforms should encourage this movement. Figure 4.12 shows that the value added per worker in the agricultural sector is less than one tenth of the value added per worker in industry or services. It is important to remember that workers moving out of agriculture, and from rural to urban areas, will have to undergo training to match the skills demanded by the industry and service sectors.
Employers report that inadequacy of skills is a constraint for business growth

**Firms report that lack of adequate skills is one of the most important obstacles for doing business in Georgia.** While the importance of the problem varies depending on the source of information and how the question is framed in different surveys, various sources consistently point out that workers’ skills is a major constraint for employers. For example, the Global Competitiveness Index 2015 identifies an inadequately educated workforce as the main obstacle for doing business (Figure 4.13).\(^{42}\) According to the World Bank Enterprise Survey, lack of adequate skills was an obstacle to doing business for 10 percent of firms in 2013 (Figure 4.14 panel a), this figure was 15 percent for exporters, manufacturing firms and small-firms (Figure 4.14 panel b). However, this percentage has declined relative to 2008, which is encouraging.

**Results from the World Bank STEP survey also point out that adequate skills in the workforce is critical to employers.** Employers report that not being able to find workers with previous experience and the right technical education is the most important constraint to doing business (Figure 4.15, panel a). More generally, about 70 percent of Georgia’s firms say the knowledge provided by the education system is outdated. Two-thirds complain that labor market entrants do not have practical skills or lack the skills needed by employers.\(^{43}\) In addition, among the respondents of the STEP survey who reported hiring in 2012 (about one in two firms), the problem seemed to be more serious for high-skilled workers, as 37 percent of potential employers encountered difficulties when hiring professional workers (Figure 4.15, panel b). As observed in many other countries, innovative firms struggle most to identify workers with the right skills. Among innovative firms (defined as those introducing a new product or process in the previous 12 months), one in four employers report having major difficulties in finding qualified workers who completed vocational school. For traditional firms the problem seems less severe, and the percentage

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\(^{42}\) WEF Global Competitiveness Report, various years  
\(^{43}\) Rutkowski 2013
drops to 15 percent. The fact that innovative firms seem to be the most affected by the skills mismatch, suggests that the lack of relevant skills is likely to hamper the creation of modern quality jobs. The definition of skills is presented in Box 3.3 in Chapter 3.

**Figure 4.13. Inadequate skills are hurting business in Georgia**

For the WEF inadequate skills is the most problematic factor for doing business in Georgia

<table>
<thead>
<tr>
<th>Factor</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequately educated workforce</td>
<td>15.5</td>
</tr>
<tr>
<td>Accessing to financing</td>
<td>13.2</td>
</tr>
<tr>
<td>Inflation</td>
<td>10.1</td>
</tr>
<tr>
<td>Inefficient government bureaucracy</td>
<td>9.8</td>
</tr>
<tr>
<td>Inadequately supply of infrastructure</td>
<td>9</td>
</tr>
<tr>
<td>Insufficient capacity to innovate</td>
<td>8.2</td>
</tr>
<tr>
<td>Policy instability</td>
<td>8.2</td>
</tr>
<tr>
<td>Poor work ethic in informal labor force</td>
<td>8</td>
</tr>
<tr>
<td>Tax rates</td>
<td>4.6</td>
</tr>
<tr>
<td>Government instability</td>
<td>3.9</td>
</tr>
<tr>
<td>Tax regulations</td>
<td>3.9</td>
</tr>
<tr>
<td>Foreign currency regulations</td>
<td>2.8</td>
</tr>
<tr>
<td>Restrictive labor regulations</td>
<td>1.6</td>
</tr>
<tr>
<td>Corruption</td>
<td>0.8</td>
</tr>
<tr>
<td>Crime and theft</td>
<td>0.3</td>
</tr>
<tr>
<td>Poor public health</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: WEF, Executive Opinion Survey 2016. Note: From a list of factors, respondents to the World Economic Forum’s Executive Opinion Survey were asked to select and rank the five most important problematic factors for doing business in Georgia. The score corresponds to the responses weighted according to the rankings.

**Figure 4.14. The share of firms reporting difficulties in finding adequately skilled workers declined**

(a) Percentage of firms identifying an inadequately educated workforce as a major constraint:

(b) Percentage of firms identifying an inadequately educated workforce in 2013, by firm characteristics:

Source: World Bank Enterprise Survey, various years. Notes: (b) Firm size categories are small (5-19 workers), medium (20-99), large (100+).
Skills produced by the education system are not always those needed by employers. **Skills mismatches may result in unemployment—particularly among the highly educated—low wages, and unfilled vacancies.** While temporary imbalances are common in well-functioning labor markets, longer term misalignments between demand and supply are a cause for concern. Persistent labor market mismatches point to underlying structural problems that prevent optimal labor market outcomes and economic growth. Box 4.1 summarizes the concepts most commonly used to identify the skills mismatch problem, and the data needed to produce meaningful proxies.

For about two-thirds of Georgia’s employed population in urban areas, there is a good match between education attained, and the level of education required by the job. Using the World Bank’s STEP surveys, Handel et al. (2016) have measured mismatch as the alignment between the level of education acquired, with the level of education that a worker needs to perform the job. According to this survey, two-thirds of Georgia’s urban workers seem to be well-matched to their jobs (Figure 4.6, panel a). Given the country’s high level of educational attainment, it is not surprising that only 4 percent of all urban workers are under-educated for their current jobs. These results suggest that Georgia’s main problem seems to be underutilization of skills: too many urban workers under-use their skills in their current jobs, which might lead to occupational downgrading (Figure 4.6, panel b) and worker dissatisfaction. This is the case for about 20 percent of urban workers who completed tertiary education and who work in jobs that only require secondary education.

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44 See Annex 1 for more information on the STEP survey
45 Following harmonization to make it consistent across countries. See chapter 5 of Handel et al (2016)
46 A recent analysis using the OECD Survey of Adult Skills (PIAAC) shows that roughly one-third of workers in OECD countries are over- or under-qualified for their job (OECD 2015: Labor market mismatch and labor productivity)
Figure 4.16. Based on self-reporting characteristics of the job, two-thirds of the country population seem to be well-matched

(a) On-the-job mismatch: match rates between worker education and job-required education

<table>
<thead>
<tr>
<th>Country</th>
<th>Under-education</th>
<th>Matched</th>
<th>Over-education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia</td>
<td>4</td>
<td>66</td>
<td>30</td>
</tr>
<tr>
<td>Ukraine</td>
<td>4</td>
<td>72</td>
<td>24</td>
</tr>
<tr>
<td>Macedonia, FYR</td>
<td>5</td>
<td>73</td>
<td>22</td>
</tr>
<tr>
<td>Armenia</td>
<td>6</td>
<td>56</td>
<td>38</td>
</tr>
<tr>
<td>China, Yunnan</td>
<td>11</td>
<td>57</td>
<td>33</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>14</td>
<td>45</td>
<td>41</td>
</tr>
<tr>
<td>Vietnam</td>
<td>4</td>
<td>26</td>
<td>70</td>
</tr>
</tbody>
</table>

(b) A large share of workers with tertiary education are over-educated for their current jobs


Women and the less skilled among the tertiary educated are more likely to take jobs that require lower levels of education. Women, with or without young children, and informal workers are more likely to be over-educated for their current jobs. Further, tertiary education attainment and the field of study are strongly associated with the likelihood of being over-educated with respect to the skills required by the job. In particular, urban workers with the lowest level of tertiary education, or less than 16 years of education, face greater risks of downward occupational mobility. As far as the field of study is concerned, the rate of over-education is highest for business graduates. Science, technology, engineering, mathematics (STEM), information, communication, technology (ICT) and architecture graduates, are also slightly more likely to under-use their skills in their current occupations. The percentage of over-educated workers is the lowest for graduates in humanities and social sciences, education and social services, as well as law and health.47

The collapse of the vocational education system during the early years of transition may have denied students a viable option to obtain technical skills. As in other transition countries, Georgia’s students left vocational schools in favor of general secondary education with the prospect of pursuing a third level degree, because available vocational programs failed to adjust to new labor market demands. In Georgia, the share of upper secondary students enrolled in vocational programs fell from 30 percent in 1989 to less than 10 percent in 2007. Given the slow process of reforming vocational schools, current vocational

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47 Handel et al. 2016, chapter 6
students are receiving largely obsolete skills, while those completing university are likely to expand the pool of over-educated workers, especially when enrolled in already over-crowded fields of study. The Government of Georgia has a comprehensive plan to revitalize vocational education, however, until current vocational schools can produce graduates with modern technical skills, encouraging students to return to this track is not advisable.\textsuperscript{48}

\textbf{Box 4.1. Measuring skills mismatch in the labor market}

Skills mismatch generally occurs where the education and/or the skills of the workers are not aligned with the tasks that the job involves. Measuring skills and measuring tasks is not straightforward, and requires availability of rich microdata from workers and employers: the accuracy of the proxies built to assess skills mismatch, hinges upon data quality. The literature has identified the following main types of mismatch in relation to skills and tasks:

\textit{Skills shortage}: This occurs when firms are willing to hire, but vacancies cannot be filled. If unfilled vacancies occur with low levels of unemployment, the economy is likely growing faster than the supply of labor, and very likely the demographic transition is preventing full-potential growth. Conversely, if unfilled vacancies coexist with high levels of unemployment, it is likely that jobseekers do not have the skills required by firms. The skills mismatch in the latter case can result from: (i) students’ aspirations misaligned with labor demand, leading students to choose fields of study not demanded by the market; and (ii) outdated education systems and training programs that do not keep up with changes in the demand for skills.

\textit{Jobs shortage}: There is insufficient demand for the skills supplied by the workforce. Jobs that require certain skills are scarce, while the supply of these skills in the population is abundant. Jobs shortages are likely to result in unemployment, especially if the number of attractive jobs is limited (e.g. high-wage public-sector employment), and people may be willing to wait for job openings. One possible policy response to job shortages, is fostering labor demand by improving the enabling environment for firms, this includes improving macroeconomic stability, business environment, market regulations, and access to finance. Other policy options envisage interventions on the supply side, these include: introducing job-search counselling services for new university and secondary school graduates; creating free on-line job search portals; and providing information on vacancies and wages offered in occupations most in demand. Policies directed at fostering entrepreneurship and enabling business start-up are another valuable option for addressing unused potential among the unemployed, especially among young people.

Skills mismatches may also be concerning for the employed workforce, with important repercussions for aggregate productivity. Mismatches can occur when workers’ education and skills are not aligned with those required by their jobs. The mismatch should be measured by comparing the skills that the job requires with those of the worker. This can be done for instance by constructing a mismatch index by level of educational attainment and field of study, or by using ad-hoc defined task-scales, both described below.

\textit{Job mismatch by level of education and field of study}: according to this approach, indicators of job mismatch can be constructed by comparing educational attainment and field of study for each worker in a given occupation (or profession), with the average level of education (or field of study) observed in the same occupation (or profession). This approach would allow the following indicators to be created:

- \textit{Over-education}: Workers’ level of education (or formal qualification) is above the required qualification level of their jobs, resulting in productivity losses and lower wages. However, over-education may not only result from low numbers of quality jobs but also from (i) poor education systems that induce students to pursue additional education to supplement skills; (ii) use of signaling by employers, especially when there is large variance in unobserved skills; (iii) students overinvesting in education to appear more attractive to employers.

\textsuperscript{48} Sondergaard, et al. (2012).
that provide certain amenities (for example, high quality jobs with few working hours); or (iv) low returns to education coming from excess labor supply. All these cases signal a skill mismatch problem.

- **Under-education**: Workers’ level of education is below the qualification level required for their job.
- **Field of study mismatch**: Worker’s profession and skills do not match the skills required for a certain occupation. This indicator may not be fully informative: as the economy and demand for labor evolve, the skills needed in some jobs can be acquired through different formal training, for example physicists working in the finance sector as hedge fund investors: this does not necessarily signal a mismatch, but rather that the demand in one sector has become more sophisticated, and the worker has decided to acquire new skills to be competitive.

*Tasks scales* directly measure jobs skills requirements and worker abilities by using explicit scales and skills measures. The World Bank STEP surveys implement task scales using the STAMP’s methodology, which measures various skills such as reading, writing, and problem-solving. This type of analysis could show that the skills of a physicist correctly match the skills required in the job of a hedge fund investor.

**Job mismatch is likely to affect aggregate levels of output and productivity.** In countries like Georgia, where firm performance is rather heterogeneous (see chapter 2), where many firms have below-average productivity levels and few are highly productive, potential gains to aggregate productivity from reallocating mismatched workers could be large. In the short term, there may be some trade-off between *more* jobs and *better* jobs.

**Policies intended to close the skills gap and address the skills mismatch problems could be divided into the following two groups**: policies that provide information to students and jobseekers to make informed decisions on the level of education and field of study; and policies whose objective is to facilitate and enhance skills acquisition by strengthening the education system and promoting on-the-job training.

**Evidence from other countries indicates that, while education decisions respond to labor market information, there are important information gaps among young people and their parents.** A recent study in Moldova finds that students in 9th and 12th grades respond to labor market information when deciding on level of education and field of study. However, prospective university students have important information gaps. Parents, the most influential presence for young people, are also often misinformed about the skills demanded by the labor market, and about how to access quality jobs. Although many students rely on the Internet for guidance, it appears that substantial information barriers persist. Most importantly, students with less-educated parents show the highest information deficits, which may exacerbate inequality of opportunity.

**Georgia has a well-developed career guidance website and is building a jobs portal.** However, no assessment on how these tools are used by young people and their parents, or on their effectiveness in reducing information gaps to support better-informed education decisions has been carried out. Evaluations, like mixed quantitative-qualitative studies as in the World Bank study on Moldova, can be

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49 See Annex 1 for more information on the STEP survey
50 OECD 2015
51 World Bank 2016a
52 World Bank 2016a
53 World Bank 2016a
important for understanding the effectiveness of web-portals for providing information and helping with job-searches.

**Finalizing the labor market information system (LMIS) and coordinating policies from different agencies can further reduce information gaps.** Georgia is currently building a jobs portal website, *Plan the future*, whose objective is to combine information from different sources and different government agencies in one place. *Plan the future* will also include links to *WorkNet*, the government platform to support job-search. This will be extremely helpful for addressing the skills mismatch, and will provide information needed by students for career choices. However, there are still gaps that will need to be filled in future updates of the website, such as job vacancy data and wage trends by narrowly defined occupations; more importantly, more analysis is needed on the use of existing on-line information. Despite the recent creation of the Labor Market Observatory (LMO) capacity still needs to be built to maximize the potential of this online tool.

**Active labor market programs (ALMPs) represent an important policy instrument to re-train adults to compensate for the loss of skills.** Georgia is making progress with creating effective ALMPs. The Employment Support Services (ESS) Agency was re-instated towards the end of 2013, and various ALMPs have been put in place since then, including: job counseling, internship programs, re-qualification programs for low-skilled jobseekers, and job fairs. The reformed agency still needs to address several challenges, for example the ESS has little contact with the private sector. Outreach to employers is mostly through job fairs and in some regional offices through job counselors, it is more ad-hoc than systematic. The WorkNet interface is still rudimentary, and does not use digital matching technologies, such as text messages or online search tools (e.g. for employers to search for workers with specific skills). There is also no systematic monitoring and evaluation of ALMPs.
Summary of policy recommendations

Georgia’s reforms over the last two decades have paved the way for the country’s economic transformation; the creation of better jobs; and substantial poverty reduction. Following political independence in 1994, Georgia entered a period of internal and economic stabilization that lasted until 2004, during which, it achieved macroeconomic stability and restored security. In 2004, a second phase of liberal economic reforms began, which substantially improved the business environment and allowed Georgia to climb to the top of the World Bank’s Doing Business ranking. Corruption was also heavily reduced, tax evasion was curbed, and a series of simplified procedures to start a business were introduced. These wide-ranging reforms contributed to an expansion of private sector jobs driven by the services sector, and enhanced the country’s structural transformation; there have also been substantial welfare gains driven by labor income, especially in urban areas.

Despite these positive developments, some important structural challenges persist in relation to jobs. Growth has not created sufficient jobs in Georgia, especially not enough inclusive and high-productivity jobs. The challenges behind this trend may slow the economic transformation and can be summarized as follows:
• **Georgia’s population is aging rapidly and the size of its workforce is expected to shrink.** Georgia’s declining population was 3.7 million in 2015. The population decline affected all age groups, but mostly the working age population and young people. Current data projects that the working age population (15-60 years) will drop from 63 percent in 2015 to 51 percent in 2050.

• **As most jobs are being created in low-value added sectors, the economy has been suffering a productivity slowdown.** Employment is mostly concentrated in low-productivity sectors, such as agriculture, wholesale and retail trade, and public and social services, such education, health and social work. At the same time, high productivity sectors like financial intermediation and telecommunications have either registered modest job creation, or they are still too small to make a significant impact on employment growth. Productivity growth in the long-run has mainly been driven by the reallocation of labor towards more productive activities and sectors, rather than within-sector structural productivity enhancements. Furthermore, most formal jobs are concentrated in young individual and micro-firms, and larger and old firms, while young medium-sized firms fail to grow. Micro and small firms are facing difficulties with workforce training and with investment in research and development; Georgia has the lowest spending in R&D in the region. Better workforce training and increased R&D could help increase productivity and competitiveness. The 2004 reforms may have paid off in catalyzing entrepreneurship, and mobilizing resources from old state-owned enterprises to new and smaller private businesses, but they have not necessarily enabled small and especially medium-sized firms to grow into larger firms.

• **Good job creation has been slow; women and youth are left out of good jobs.** Good jobs in Georgia have been created mostly for the highly skilled workers in urban areas, which have benefitted from higher wage returns to education, but despite increasing trends in employment and participation rates, some groups have not benefited from job creation. Many workers have not seen improvements in the quality of their jobs and education has also not paid off for them. The pool of potential workers outside the labor force or outside employment remains high. This could result in higher unemployment, especially for women and young people in rural areas and for educated youth in urban areas; this could undermine recent welfare gains. Young women still have very low participation rates, while the incidence of youth NEET is one of the highest in the region.

• **Education quality remains an issue, especially given that a mismatch exists between the skills in demand by firms and the skill possessed by younger cohorts.** Despite recent improvements in the quality of education, Georgia needs to continue investing to catch up with European standards. Currently, Georgians are receiving qualifications, but they are not receiving the skills that are in demand by employers. Youth literacy is one of the lowest among the OECD countries, and this will create clear challenges for increasing future workforce productivity.
• Despite its favorable geographic location at the center of the Europe and Central Asia region, Georgia is geographically distant from the main regional hubs in Europe and Asia. As a result, firms in Georgia are less export-oriented than in other economies in the region, although employment in exporting firms has been expanding. Regulations like barriers to exit and closing businesses, might still constrain firms’ growth, and evidence shows that both exporting and non-exporting firms, have been facing increasing labor market distortions.

To become a high-income country, Georgia needs to continue its structural reforms. Labor demand and labor supply policy reforms are needed to convert the recent productivity trends into productivity growth, by making existing jobs more productive, by allowing productive firms to grow, and by including the current pool of inactive women and youth in the labor market.

There are examples of promising reforms related to economic integration and improving technical and vocational education. In July 2016, the Association Agreement (AA) between Georgia and the European Union (EU), which introduced the Deep and Comprehensive Free Trade Agreement (DCFTA) regime, and removed EU customs duties on all products originating in Georgia, came into force. Further integration into global output markets will help increase output demand, produce more and create jobs. In addition, the government of Georgia, with the assistance of an EU Grant, is working on implementing various policies and reforms aimed at reducing skills mismatches. The Ministry of Education is working on reforming the TVET curricula and conducting tracer studies to understand the obstacles that current TVET graduates face when transitioning from school to work. The Ministry of Labor, Health and Social Affairs, is investing in information systems, and in implementing ALMPs in partnership with the Employment Support Services Agency (ESS), although the implementing capacity of the agency remains low.

Some agricultural products and tourism seem to be in high demand by global markets, leading to higher exports, innovation in agribusiness, and agricultural technology (e.g., in the wine industry). These sectors are an opportunity to create quality jobs, especially at the periphery (outside Tbilisi) and in rural areas, but further investments in the skills required by these sectors may be needed.

Summary of Policy Recommendations

While the focus of this report is to present the diagnostics associated with jobs in Georgia, some policy recommendations have resulted. The following is a summary of the policy recommendations which can be expanded into a jobs strategy.

Policies enabling the overall business environment

• Reducing the volatility of the exchange rate
• Continuing fiscal consolidation and reducing the current fiscal deficit
• Lowering the interest rate
• Stimulate FDI and facilitate remittances
• Promote greater Integration into global markets via international coordination, bi-lateral or tri-lateral agreements, via better investments in connectivity infrastructure and by removing existing barriers to trade.
• Preserve and enhance political stability

**Policies enabling the firm-specific business environment and firms’ capacity to create more inclusive and high-productivity jobs**

- Fiscal incentives could be designed for export-oriented firms
- Incentives for private investments in R&D and workers training, especially for medium-sized firms
- Ease access to finance especially for small- and medium-sized firms
- Increase public investments in R&D, especially in high value-added sectors

**Policies aiming at increasing the size of the workforce**

i) Address the low fertility challenge:
   - Improve the quantity and quality of child care facilities
   - Enhance part-time female employment and flexible working arrangements
   - Information campaigns
ii) Maximize the benefits of internal and international migration
   - Plug information gap on brain drain and returned migrants
iii) Create incentives to work
   - Provide affordable and quality childcare
   - Eliminate social norms preventing equal access to jobs and equal pay for women and minority groups
   - Introduce activation measures for selected targeted groups
iv) Reduce the mismatch between firms and workers
   - Improve job search activities for firms and workers that use new technologies
   - Improve public and private labor market intermediation channels,
   - Reinforce and improve the quality of public employment services

**Policies aiming at increasing workforce productivity and skills**

i) Enhance skills for the new economy
   - Revise educational curricula, working closer with employers
   - Include digital technology in training
   - Include training on non-technical skills, especially soft-skills, and foreign languages
ii) Re-skill the existing workforce
   - Implement program of re-qualification, on-the-job training
   - Develop labor market information systems
iii) Stimulate the use of new technologies for improving the match between demand and supply of skills
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APPENDICES

Appendix 1.1. Selection of country comparators

Country comparators were selective following three principles. First, the team conducted consultations with the Ministry of Economy and Development. During those consultations, the counterparts shared previous discussion with World Bank staff as well with other donors, previous study tours, and their own thinking. During these discussions, Poland and Slovenia were suggested as comparators by the counterparts. In addition, during conversations with the CMU, it was requested to consider using Armenia and Azerbaijan as comparators, for regional learning.

The second principle to identify comparators was to compare growth trajectories and in conjunction with the demographic change and the stage of the modernization. This approach was used by the World Bank (2014) and here completed by paying more attention to periods of growth acceleration. That 2014 World Bank report considered Georgia an intermediate reformer, having made significant progress in improving the business climate and reforming the public sector, having established some elements of well-developed financial markets and becoming more open to international trade and global financial markets. At the same time, Georgia lags in areas such as competition policy and governance and enterprise restructuring.

An additional relevant lens is the persistence of growth spells, as growth is expected to lead to jobs. To consider growth, this report uses the definition proposed by Hausman (2005) and used by others in the academic literature to classify countries according to the magnitude and duration of growth. Growth accelerations are defined as periods of (i) at least 7 years of growth with above 3.5 percent and at least 2 percentage points higher than the growth of the preceding 7 years; and (ii) the output per capita in any year of this period is above that of the previous peak. If the growth acceleration extends beyond the 7-year period and growth averages above 2 percent, then it is defined as a sustained acceleration. If not, it is a temporary acceleration. Countries with temporary growth acceleration spells are indicated in blue in Table A1.1.1, and countries with sustained growth acceleration spells are indicated in bold green.

And Georgia could also learn from countries in similar growth trajectories. This report will consider that Georgia had an acceleration spell. The studies that classify countries by having spells of sustained and temporal growth accelerations do not identify Georgia as such. The condition that Georgia does not meet to have a growth acceleration spell is having a GDP per capita above 2 percentage points above last peak. However, closer inspection of the data used suggests that the initial GDP value might be overestimated. If the GDP per capita were measured using the WDI series, Georgia would have had a temporary acceleration spell. Figure A1.1.1 contrasts the per capita income trajectory of Georgia with that of Latvia and Poland (advanced reformers), Romania (intermediate reformer) as well as Turkey, a country that experienced broad-based and inclusive growth coupled with unprecedented net job creation since 2002. Georgia’s income level is well below that of its comparators, but income per capita growth has been respectable in recent years.
### Table A1.1.1. Europe and Central Asia typology of economic transformation

<table>
<thead>
<tr>
<th>Stages in modernization/diversification process</th>
<th>Working age population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Late modernizers</strong> (i.e. pending reforms, in some cases heavy reliance on extractive industries and/or strong public-sector presence)</td>
<td>Growing fast (youth bulge)</td>
</tr>
<tr>
<td></td>
<td>Azerbaijan, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan</td>
</tr>
<tr>
<td><strong>Intermediate modernizers</strong> (i.e. relatively more diversified/integrated economies but still catching up with advanced modernizers)</td>
<td><strong>Albania, Kosovo</strong></td>
</tr>
<tr>
<td><strong>Advanced modernizers</strong> (i.e. early/fast reformers and/or EU integrated)</td>
<td><strong>Turkey</strong></td>
</tr>
</tbody>
</table>

Latvia and Poland in particular may hold important lessons for Georgia. These countries experienced similar demographic trends, such as declining and aging working age population, with important repercussions for each country’s labor supply. Also, the three countries offer comparable conditions to doing business, but differ in terms of business entry densities, FDI inflows and competitiveness. The challenges that young labor market entrants face are better managed in Latvia, whereas Poland’s labor policy and labor practices seem more suited to curb gender inclusion gaps.

While very different in many aspects, Turkey’s achievements since 2001 have been remarkable, and are worth exploring. The country’s output has tripled in nominal US dollar terms since 2001. Between 2002 and 2012, the consumption of the bottom 40 percent increased at around the same rate as the national average and poverty declined considerably. Since the global financial crisis Turkey has created some 4 million jobs, many of them in the formal sector. Understanding the drivers of Turkey’s economic and social progress may help developing effective policies to promote economic growth and job creation in Georgia.

Looking beyond Europe, the recent performance of several Latin American countries may also provide relevant insights how to facilitate growth and create jobs. Peru has been one of the region’s fastest growing economies, with an average growth rate of about 6 percent over the past decade. The country benefited from a favorable external environment (commodity price boom), but also prudent macroeconomic policies and structural reforms enabled the country to substantially increase output, create jobs and reduce poverty. Similarly, Paraguay grew at an average of 5 percent. The country is currently undergoing a structural transformation from agriculture to service-based economy. Recent job growth is concentrated in retail, government services and finance/real estate, offering quality employment in the formal sector. While Chile’s growth miracle remains exceptional, resemblances with Georgia’s labor force make Chile an interesting comparator. Both countries have a relatively highly-educated labor force, yet recent labor market performance differs between the two countries. Chile enjoyed a booming labor market with strong job growth since 2010, and many of the newly created jobs
were good-quality (e.g. high-wage) jobs. There is evidence that a combination of economic growth and specific policies are the driving force behind the creation of quality employment.

**Figure A1.1.2. GDP per capita, levels and growth rates**

<table>
<thead>
<tr>
<th>(a) GDP per capita, constant 2005 US$</th>
<th>(b) Income per capita growth rates, 3-year MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHL</td>
<td>GEO</td>
</tr>
<tr>
<td><img src="image1" alt="Graph of GDP per capita" /></td>
<td><img src="image2" alt="Graph of income per capita growth rates" /></td>
</tr>
</tbody>
</table>

*Source: World Development Indicators.*

**The third principle to choose comparator countries is to selectively choose those that share the specific characteristic being analyzed.** In many cases, the characteristic being described for Georgia, was not found in any of the comparator countries, but it is observed in a few countries in Europe. In those circumstances, ad-hoc comparators are introduced.

In sum, in these results, the set of country comparators are the product of consultations, of letting the data show similar trajectories, and looking for particular cases of interest. This approach to choosing comparators rendered a long list of comparators. Thus, to maintain the discussion focused and simple—and in some cases due to lack of data, the compactors are strategically used along the report with the objective of presenting a simple but rich discussion.
Appendix 1.2. Additional statistics

Figure A1.2.1. Contribution to poverty reduction in percentage points (annual average for period)

<table>
<thead>
<tr>
<th></th>
<th>a) 2006-2010</th>
<th>b) 2010-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cons/Inc.*</td>
<td></td>
<td>2.73</td>
</tr>
<tr>
<td>PC/PAE</td>
<td>-0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Dependency rate</td>
<td>-2.77</td>
<td>-0.04</td>
</tr>
<tr>
<td>Employment</td>
<td>-2.0</td>
<td>-1.79</td>
</tr>
<tr>
<td>Labor income</td>
<td>-0.10</td>
<td>0.01</td>
</tr>
<tr>
<td>Agricultural sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural self...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Assistance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remittances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private transfers</td>
<td>-12.9</td>
<td>-10.6</td>
</tr>
<tr>
<td>Property</td>
<td>-12.4</td>
<td>-12.9</td>
</tr>
</tbody>
</table>

Source: Poverty note, FY17 to be delivered. Notes: to be added.

Figure A1.2.2. The poverty decline was not due to redistribution and was pushed by higher labor earnings and social transfers.

(a) Poverty decomposition 2010-2013 Datt-Ravalion

<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cons/Inc.*</td>
<td>-12.4</td>
<td>-10.6</td>
<td>-12.9</td>
</tr>
<tr>
<td>Share Adults</td>
<td>12.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share Employed</td>
<td>2.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor earnings</td>
<td></td>
<td>59.1%</td>
<td></td>
</tr>
<tr>
<td>Farm Income</td>
<td></td>
<td>4.1%</td>
<td></td>
</tr>
<tr>
<td>Social Assistance</td>
<td></td>
<td>38.2%</td>
<td></td>
</tr>
<tr>
<td>Private Transfers</td>
<td></td>
<td>18.8%</td>
<td></td>
</tr>
<tr>
<td>Assets</td>
<td></td>
<td>-9.6%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Poverty Assessment WBG 2015

(b) Decomposition of income-based poverty, 2010-2013

Source: WBG Poverty Assessment 2015
Figure A1.2.3. Decomposition of value added by sectors

a) Decomposition of value added per worker into within sector changes in value added per worker and inter-sectoral shifts, 2006-2015

b) Contribution of within sector changes in value added per worker and inter-sectoral shifts to change in value added per capita, 2006-2015

Source: Jobs Tool. Notes: to be completed
Appendix 2.1. Additional graphs for Chapter 2

Net Job creation: small firms (below 20 employees)

Net Job creation: medium-sized firms (between 20 and 99 employees)

Net Job creation: large firms (100+ employees)
Table 2.3. OLS estimates of the effects of firm size and age on Net Job Creation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Firm age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-5</td>
<td>-0.791***</td>
<td>-0.00990***</td>
</tr>
<tr>
<td></td>
<td>(-119.18)</td>
<td>(-3.23)</td>
</tr>
<tr>
<td>6-10</td>
<td>-0.772***</td>
<td>-0.00797***</td>
</tr>
<tr>
<td></td>
<td>(-115.53)</td>
<td>(-2.62)</td>
</tr>
<tr>
<td>11-15</td>
<td>-0.767***</td>
<td>-0.00732**</td>
</tr>
<tr>
<td></td>
<td>(-90.01)</td>
<td>(-2.12)</td>
</tr>
<tr>
<td>15+</td>
<td>-0.750***</td>
<td>-0.0106***</td>
</tr>
<tr>
<td></td>
<td>(-76.76)</td>
<td>(-2.70)</td>
</tr>
<tr>
<td>[ref. category: 0-1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Firm size (N. of employees)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-9</td>
<td>0.237***</td>
<td>0.373***</td>
</tr>
<tr>
<td></td>
<td>(25.53)</td>
<td>(31.40)</td>
</tr>
<tr>
<td>10-19</td>
<td>0.242***</td>
<td>0.592***</td>
</tr>
<tr>
<td></td>
<td>(12.88)</td>
<td>(17.60)</td>
</tr>
<tr>
<td>20-49</td>
<td>0.211***</td>
<td>0.663***</td>
</tr>
<tr>
<td></td>
<td>(7.85)</td>
<td>(14.45)</td>
</tr>
<tr>
<td>50-99</td>
<td>0.149***</td>
<td>0.701***</td>
</tr>
<tr>
<td></td>
<td>(2.65)</td>
<td>(6.55)</td>
</tr>
<tr>
<td>100-249</td>
<td>0.229***</td>
<td>0.789***</td>
</tr>
<tr>
<td></td>
<td>(2.83)</td>
<td>(5.88)</td>
</tr>
<tr>
<td>250-499</td>
<td>0.265*</td>
<td>1.258***</td>
</tr>
<tr>
<td></td>
<td>(1.73)</td>
<td>(4.81)</td>
</tr>
<tr>
<td>500+</td>
<td>0.314</td>
<td>0.828**</td>
</tr>
<tr>
<td></td>
<td>(1.31)</td>
<td>(2.40)</td>
</tr>
<tr>
<td>[ref. category: 1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(Age x Size) dummies</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Sector dummies</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Year dummies</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>R²</td>
<td>0.189</td>
<td>0.090</td>
</tr>
<tr>
<td>Observations</td>
<td>324155</td>
<td>173207</td>
</tr>
</tbody>
</table>

*t statistics in parentheses
* p<0.10, ** p<0.05, *** p<0.01
1 Comprising Albania, Bosnia and Herzegovina, Kosovo, Macedonia FYR, Montenegro and Serbia.
2 For more details on the estimation of the Employment GDP elasticity and comparison with EU countries, see World Bank and wiiw (2017).
3 Rutkowski (2013).
4 In the 2012 Doing Business rankings, Georgia was placed in 16th place, jointly with other high-income countries.
5 The Tiger Club economies are Indonesia, Malaysia, Phillipines and Thailand. We have included also VietNam.
6 See more in appendix 1 on how comparators were selected for this report.
7 Comprising Albania, Bosnia and Herzegovina, Kosovo, Macedonia FYR, Montenegro and Serbia.
8 For more details on the estimation of the Employment GDP elasticity and comparison with EU countries, see World Bank and wiiw (2017).
9 The labor force survey is being collected for the first time in Georgia in 2017.
10 We define “Private firms” using the “Legal Form” classification included in the Firms Registry database: Limited Liability Companies, Joint Stock Companies, Joint liability companies, Limited Partnerships, Cooperatives, Other enterprises (including branches and representations), and Individual entrepreneurs.
11 These are firms with less than 1 year since registry.
12 EBRD transition indices, various years.
13 The 2008 Geostat YearBook shows that the cultivated area declined from about 520,000 ha to 320,000 ha in one year. This statistic is not included as the data was probably unreliable but anecdotal evidence supports the observation that very large areas of land remain abandoned.
14 Section draws largely from World Bank (2013).
15 See the statistical bulletin (Posadas and Rutkowski 2016), Rutkowski (2016), and a flyer directed to students finishing high school.
17 World Bank (2011): “Georgia Demographic Change: Implications for social programs and poverty”
18 World Population Prospects: 2015 Revisions (UN Department of Economic and Social Affairs)
19 The median age of Georgia’s population in 1980 was 29 years and is predicted to raise to 45 years by 2050. For more details, consult the World Population Prospects: 2015 Revisions (UN Department of Economic and Social Affairs)
21 ETF 2012: Migration and Skills in Georgia
22 According to a 2009 survey, about 5 percent of female and 20 percent of male returned migrants worked in jobs which corresponded to their education. (ArGeMi project Freie University Berlin, in ETF 2012: Migration and Skills in Georgia)
25 Industries correspond to classification of NACE Revision 1 chapters.
26 That is in the previous 12 months to the interview of the population census 2014.
28 World Value Survey, Georgia 2014: “Indicate how important work is in your life. Is it: very important, rather important, not very important, not at all important.”
29 World Value Survey, Georgia 2008: “Regardless of whether you are actually looking for a job, which one would you, personally, place first if you were looking for a job: (i) good income, (ii) safe job with no risk, (iii) working with people you like, (iv) doing important work.”
31 Adding more dimensions such as the incidence of child labor, skills obsolescence, and work safety is possible but depends on the availability of disaggregated data.
32 Proportion of manufacturing workers offered formal training (BEEPS 2013).
33 Old data used to illustrate the evolution of the Gender Pay Gap
34 The discussion on skills and education continues in section 6 of this chapter.
35 This categorization needs to be rethought in light of the recent reforms and the new methodology developed by the Doing Business. Under this new methodology Georgia has been making further progress. See World Bank (2017).
See for example Buera, Kaboski, and Shin (2015)

Both Hausman (2005) and Buera, Kaboski, and Shin (2015) use the Penn Tables data classify countries.

World Bank 2014b: Turkey’s Transitions