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WORLD BANK GROUP

Raising Firm Productivity

November 2021



Kosovo Country Economic Memorandum

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Raising Firm Productivity

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List of Acronyms

BPS	World Bank business pulse survey
CEM	Country Economic Memorandum
EBRD	European Bank for Reconstruction and Development
ES	Enterprise survey
EU	European Union
FDI	Foreign direct investment
GDP	Gross domestic product
HHI	Herfindahl index
KAS	Kosovo Agency of Statistics
KCR	Kosovo credit registry dataset
KPS	Kosovo productivity survey
KTR	Kosovo tax registry dataset
LP	Labor productivity
ICT	Information and communications technology
MSME	Micro, small, and medium sized enterprises
NIS	National innovation system
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing power parity
R&D	Research and development
SME	Small and medium sized enterprises
TFP	Total factor productivity
TFPR	Total revenue factor productivity
VA	Value added
WB6	Western Balkans
WDI	World Development Indicators
W&R	Wholesale and retail trade

Executive summary

To boost economic growth and foster sustained formal job creation in Kosovo, igniting firm productivity is crucial. Both demographically and historically, Kosovo is a small, young transition economy. Although in the decade leading up to the COVID-19 crisis, the country's economic growth outperformed the other Western Balkans (WB6) peers,[1] it was not able to provide enough jobs, especially for women and the young, or to reduce high unemployment.[2] Sustained job creation can only be driven by private companies that are productive enough to grow and expand. That is why understanding firm dynamics, particularly what drives productivity, the engine of economic development, is crucial to identify barriers to growth and job creation, and to formulate policy reforms that will accelerate firm growth and formal job creation.

Based on detailed micro-data, this note examines the characteristics and recent evolution of firms in Kosovo, with particular attention to firm productivity. It benefits from a dataset compiled from anonymized tax records complemented by data from the Kosovo Productivity Survey (KPS). To explore the links between productivity and credit, it also draws on a unique dataset on access to credit from the Kosovo Credit Registry (KCR). Box 1 describes the data and methodology used. Annex 1 provides further technical details. The note also provides a snapshot of the impact of COVID-19 on firms, based on the Business Pulse Survey (BPS)[3] and administrative data.

For the last decade, the landscape of firms in Kosovo has been dominated by microenterprises with low productivity, employment and survival rates. According to the administrative data, in 2010–18 micro companies (firms averaging fewer than 10 employees) and small enterprises (10–49 employees) accounted for more than 98 percent of firms. Micro enterprises are less productive and have higher net firm turnover,[4] lower survival rates,[5] and much lower employment growth. Moreover, the average annual net rate of firm creation in Kosovo—the difference between firm entry and exit rates—was close to zero, an indication of a lack of dynamism in the last decade, especially for a young economy.

Firm creation and growth, firm density, average size, and the likelihood of survival are all low, which implies that there are severe constraints on private sector development. Firm density, the number of firms per million inhabitants, is considerably lower than in the European Union (EU) and also than what would be predicted by Kosovo's income per capita. Partly reflecting the small size of the economy, Kosovar firms are also much smaller than their peers in the EU and in the aspirational economies.[6] Firm survival is also much lower than in comparator countries, especially among micro enterprises.

Unlike firms in aspirational peers, Kosovo seems not to have many middle and large companies. Only about 2 percent of the micro enterprises became small firms, 5.5 percent of small enterprises become medium, and 4.6 percent of medium firms became large. Medium companies report about 37 percent less in sales than the EU mean. Large firms in Kosovo report the lowest proportion of sales, just 15 percent of the EU average, than large firms in aspirational peers.

Kosovo's firms are only tenuously linked to global markets and the country is lagging in the share of female-run companies. The share of exporter enterprises (0.3 percent per the Kosovo Statistics Authority (KAS) and 3.4 percent per the Kosovo Productivity Survey [KPS]) is far below the averages for the EU (7.4 percent); aspirational peers (e.g., 7.4 percent in Croatia); and the Western Balkans; only 6 percent have any foreign shareholders; and just 9 percent are female-run.

Impediments to firm growth and exit are numerous. It appears that constraints on firms are sizable from the beginning and become more pervasive the larger the firm; companies increase the number of their employees until they are mid-sized, then seem to practically stop growing. Administrative costs to exit the market are also high in terms of liquidating assets and legally closing a company.

Positive and rising net job creation in 2015–18 was driven by higher formalization of jobs and the increasing size of incumbent firms, especially young SMEs. The number of net jobs created annually—the difference between gross job creation and gross job destruction—practically doubled in 2015–18 compared to 2011–14. Net job creation was driven by the increasing size of incumbent firms and higher job formalization: the share of firms with employees increased from 40 percent in 2010 to 70 percent in 2018.

1 In addition to Kosovo, the WB6 countries are Albania, North Macedonia, Serbia, Montenegro and Bosnia and Herzegovina.
2 World Bank 2018.
3 See Section 3 for further details on the BPS.
4 Firm turnover is the difference between firm entry and firm exit.
5 Share of active firms that continue reporting sales per year in total firm population.
6 In this note, aspirational peers are Croatia, Czechia, Latvia, Lithuania, Estonia, and Slovakia—all EU members.

In Kosovo labor productivity (LP) is far below LP in the EU and aspirational countries; annual average LP growth was negative and average yearly total revenue factor productivity, a revenue-based measure of productivity growth (TFPR),[7] was low in 2012–17, the period for which data are available. Clearly, there is room for further economic convergence with the more developed European countries: LP in Kosovo is only a third of the EU average and is much lower than in the aspirational economies. Moreover, LP, proxied by sales per worker, fell on average by –0.25 percent annually between 2012 and 2017, while TFPR increased by just 0.5 percent.

Declining productivity of incumbent firms explains Kosovo's disappointing TFPR growth rate; firm dynamism plays only a minor, and somewhat negative, role. Kosovo's low TFP growth is explained by the declining market share and productivity of incumbent firms, only partly compensated for by rising average firm productivity. The latter component accounted for just a third of TFPR growth in 2012–17, far below the average of developing countries for which there are comparable data. Exit of less productive firms was only a minor factor in driving aggregate TFPR growth, and entry of new firms contributed negatively to productivity growth.

Linked to Kosovo's meager TFPR performance is the fact that, relative to the EU and other peers, private investment in research and development (R&D) and management techniques is also low. In spite of the strong empirical evidence of the positive impact of investment in R&D on firm productivity (Cirera and Maloney 2017), only 1 percent of businesses in Kosovo report investing in R&D; the average for the EU is 14 percent and among some aspirational economies like Croatia it is 7.4 percent.[8] Private investment in R&D), according to the KPS, is even lower among micro enterprises (0.1 percent) and small companies (0.2 percent. Similarly, only about 6 percent of the plants report investing in management training, despite the evidence of its beneficial effects on firm productivity (Bloom et al. 2010).

More productive firms create more jobs and sell more; exporters and foreign-controlled companies tend to be larger, more productive, and more capital-intensive than firms oriented to the domestic market and pay higher wages. Higher firm TFPR is associated with higher average revenues and more workers per company, which underscores the importance of fostering firm productivity for economic growth and job creation. Furthermore, the track record of exporters and foreign-owned firms highlights the relevance of integration into global markets, especially for a small economy like Kosovo.

Access to credit is low and biased toward short-term financing; and financing is not allocated to the most productive firms. Only one-third of firms have access to formal credit. About 70 percent of loans granted have terms no longer than three years, suggesting that the local financial system is not providing enough capital for long-term investment. More productive and larger firms in more concentrated sectors are more likely to get access to credit; firms based in non-majority municipalities[9] have less access. Micro and small enterprises and startups are particularly deterred by the lack of access to formal financing.

The COVID-19 shock affected MSMEs the most, especially in sectors under lockdown. While most of the firms adjusted by granting leaves and adjusting wages and worker hours, MSMEs and female-run companies experienced the largest net job losses. Despite layoffs were largest in sectors under lockdown, 2020 employment did pick up in most sectors, including hospitality. However, more than half of companies reported they expected to fall into arrears end 2020; MSMEs in particular were financially stressed.

Kosovo needs a multidimensional policy strategy to foster growth in firm productivity. Based on the study findings and the results of other notes prepared for Kosovo's Country Economic Memorandum (CEM), this note proposes a policy strategy that targets the three main sources of firm productivity growth: (1) firm productivity (the "within" component); (2) market reallocation (the "between" component); and (c) firm dynamics (entry and exit).

In what follows, Section 1 examines the characteristics and recent dynamics of Kosovar firms. Section 2 analyzes the drivers and evolution of productivity, with emphasis on the links between productivity and access to credit. It also assesses the main barriers to productivity growth. Section 3 sheds light on how COVID-19 has affected Kosovar firms. Section 4 concludes by discussing tentative policy implications of the analysis.

7 In the absence of firm level prices, this note uses a revenue-based measure of TFP (see Box 1). Please see Cusolito and Maloney (2016) for a more detailed description of advantages and disadvantages of using TFPR measures.

8 See World Bank (2018).

9 See Box 1 for the definition of non-majority municipalities.

Box 1. Measuring Firm Dynamics and Productivity in Kosovo

Total factor productivity (TFP) and labor productivity (LP) are two ways of computing productivity, the measure of firm efficiency at combining or converting inputs (capital, labor, et al.) to produce goods or services (output). More precisely, productivity can be defined as the variation in output that cannot be explained by changes in factors of production.

While LP measures output per worker, and therefore looks only at employment, TFP incorporates not only adjustments in other production factors (e.g. capital stock and intermediate inputs) but also, and more importantly, technology, innovation, management practices, and other ways of augmenting firm output with the same input endowment (Syverson 2011).

As no data on firm-level prices are available for Kosovo, this note calculates *revenue* TFP (TFPR) instead of *physical* TFP. TFPR reflects not only firm physical efficiency at production but also prices that reflect product quality and markups in addition to input costs (Cusolito and Maloney 2018). This note is unfortunately unable to capture directly those price-related dimensions.

This chapter relies on two datasets containing detailed information on variables required to analyze firm dynamics and estimate TFPR and LP. Administrative tax records from the Kosovo Statistics Authority (KAS) is the main source of data. The KTR dataset contains records for about 30,000 formal establishments with annual information on company characteristics (location by municipality, activity at four digits of NACE , year of starting and closing operations), employment, revenues, exports, imports, inputs, costs, and investment in durable goods.

A panel dataset for 3,600 establishments reporting the information required to estimate our preferred measure of productivity for TFPR in 2012–17: investment, revenues, intermediate consumption, wages and employment was built. (Annex 2 provides summary statistics.)

The KTR panel data set was complemented with information from the 2017 World Bank Kosovo Productivity Survey (KPS). The KPS covered a representative sample of 3,083 firms. In addition to the variables contained in the KTR, the KPS dataset provides among other variables detailed information on input purchases, worker skills, firm location (region), and shareholding (foreign and domestic). We can match 3,314 firms from the KPS with the KTR dataset. (See Annex 2 for summary statistics on the KPS dataset.)

Capital stock is estimated using investment data by establishment in durable goods from the KTR dataset and combining it, where possible, with the estimates of firm total assets provided by the KPS dataset. LP is calculated as the ratio of sales to the number of employees (except when we state that it refers to value-added per employee); TFP is estimated by applying semi-parametric methods following Levinsohn and Petrin (2003), given the small sample of firms reporting investment in the KTA dataset. (See Annex 1.A for further details.) We also control for the potential effects of firm entry and exit in TFP growth by applying the decomposition proposed by Meliz and Polanec (2015).

As firms reporting the data available to estimate TFPR are mainly medium and large firms, the panel dataset is reweighted using information on firm employment shares by NACE 2-digit sector from the entire KAS dataset, to give more weight to smaller companies to increase representativeness of the dataset, where small and micro productive units are more dominant.

To assess the links between access to credit and productivity, a panel dataset with information by firm from the Kosovo Credit Registry (KCR) with information on loan amount disbursed, loan term, lending by financial institutions (banking and micro-finance), nominal interest rate per financial instrument, and loan payments, among other variables, for the universe of firms for 2010–18 is used. The KCR and KTR datasets are matched by firm, producing a panel with complete information for about 6,000 firms. (See Annex 2 for summary statistics on the KCR panel dataset.)

Sales, wages, exports, imports, and other variables measured in euros were deflated by the Producer Price Index (PPI). Investment was deflated using the corresponding investment price deflators. All monetary variables were converted to 2018 euros. Observations reporting negative turnover, sales, or investment were identified as missing. Finally, using KAS data, "non-majority municipalities" were identified as those subnational units with a share of population of Serbian origin of 40 percent or more of the of total population. The other municipalities are predominantly Albanian/Turkish majority.



01

Firm Characteristics and Dynamics

This section presents an overview of the main characteristics of firms in Kosovo. It describes the number and evolution of active firms, average firm size, number of firms per capita, and firm and employment distribution by sector. It also assesses the relative importance and features of firms engaged in international trade and benefiting from foreign direct investment (FDI). Moreover, it examines the gender composition of firm decisionmakers. Finally, it analyzes the economic concentration of the Kosovar economy. (Annex 1 provides technical details on how firm characteristics and dynamics in Kosovo were analyzed.)

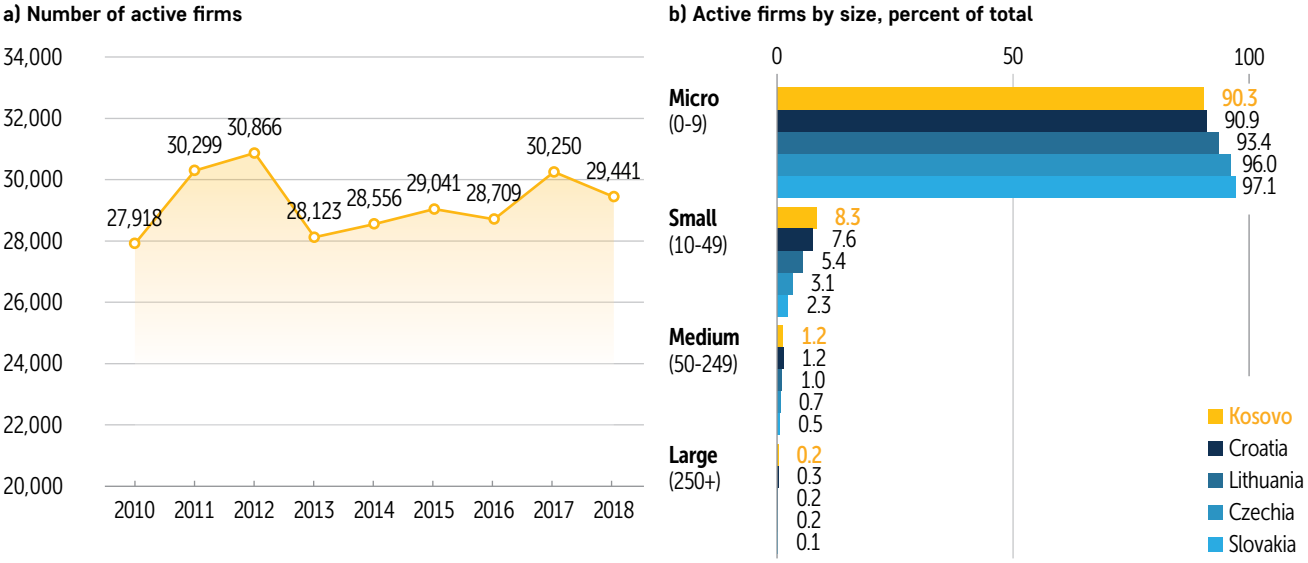


1.1. Firm Characteristics

More than 98 percent of Kosovar firms are micro and small enterprises[10] and the population of active firms has been relatively stable for the last decade. Between 2010 and 2018, every year an average of about 30,000 enterprises reported sales for at least two years (Figure 1A). While the proportion of micro enterprises is marginally lower than in some aspirational peers, the country has more small firms, except for Croatia. The share of medium and large enterprises is similar to Croatia and Lithuania (Figure 1B).

Figure 1.

Active Firms by Size and Total, Average, 2010–18



Source: KTR, World Bank staff calculations.

Notes: Active units are those with positive turnover. Activities included: B-N (excluding K64.2) according to NACE Rev. 2. Micro firms average 0–9 employees, small firms 10–49, medium firms 50–249, and large firms 250 and above.

In the last decade, the share of medium and large companies was practically unchanged, possibly implying barriers to firm growth. There were no major changes in the share of medium enterprises (50–249 employees) and large firms (250 and more).[11] The share of micro enterprises fell from 95 percent in 2010 to 90 percent in 2018, as the share of small firms rose from 4 to 8.3 percent. These figures suggest that there are barriers to growth beyond small size in Kosovo.

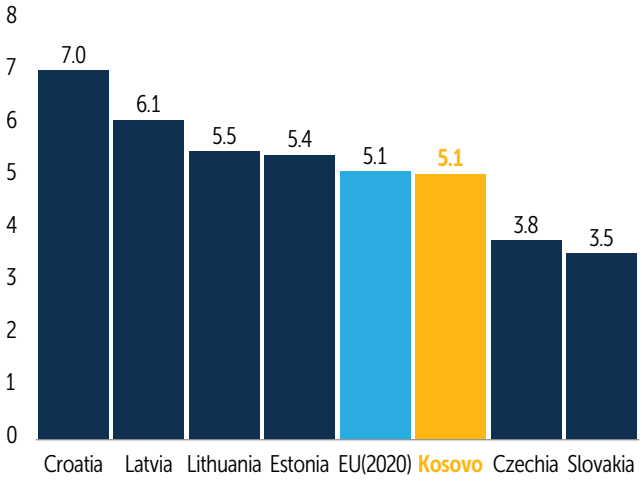
Average firm size is smaller than in many of the aspirational peers though similar to the EU average, but firm density is below even what can be expected by the country's income per capita. The average firm in Kosovo employs 5 workers, far below most aspirational peers except Czechia (4.5) and Slovakia (3.5), and close to the EU mean (5.1). Firm density reaches only 16,300 firms per million inhabitants, just over a third of the EU average (54,600), and lower than in any of the aspirational economies (Figure 2B). Moreover, Kosovo has less firm density than its income per capita would suggest, in contrast with aspirational peers and Western Balkans comparator countries, except for Serbia (Figure 2C).

10 Micro firms average 0–9 employees and small companies 10–49.
11 KTR, World Bank staff calculations.

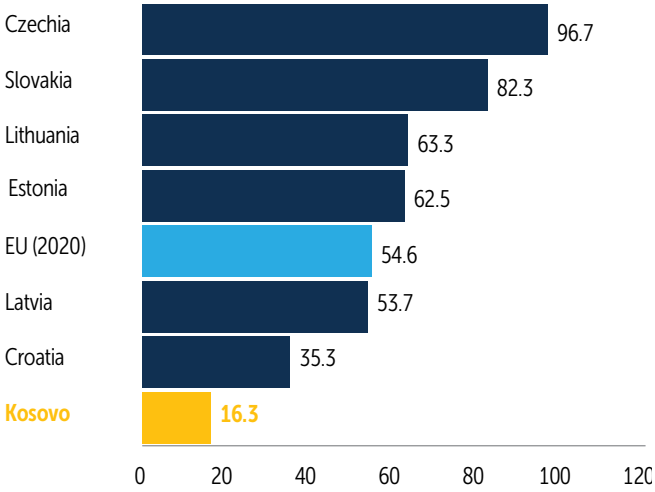
Figure 2.

Average Firm Size and Density, 2012–18

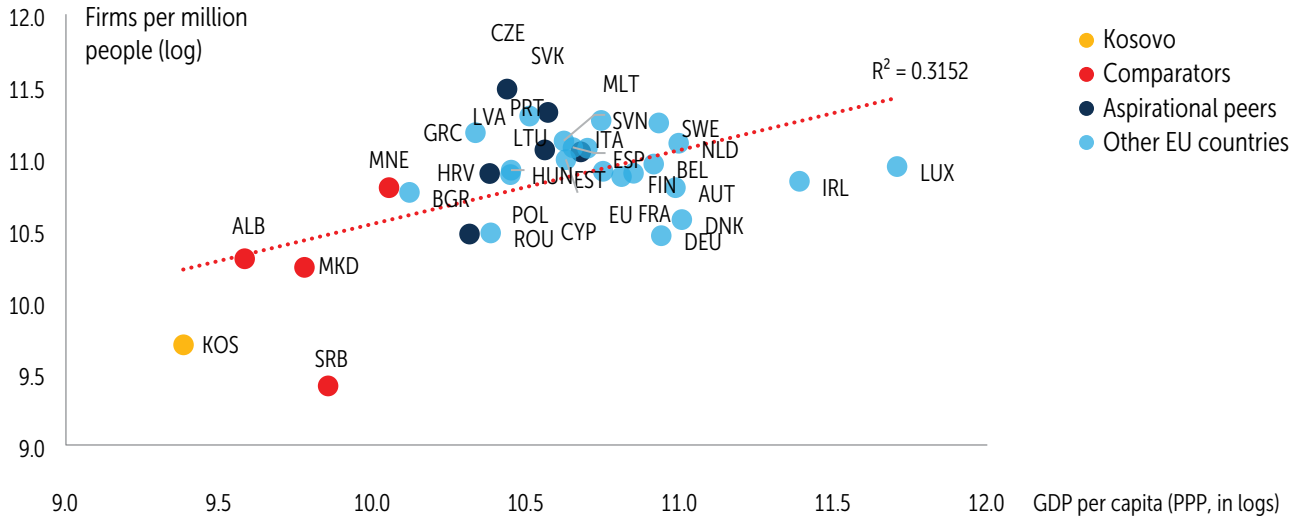
a) Size: average number of workers



b) Density: active firms, thousand per million inhabitants



c) Active firms per million inhabitants. and GDP per capita (log, current US$, PPP), 2018



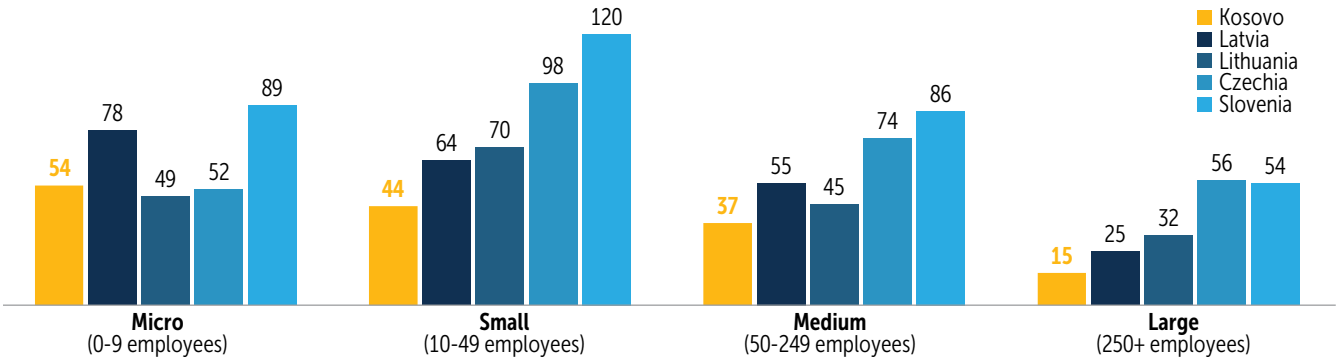
Source: KAS and Eurostat data, World Bank staff calculations.

Notes: Active firms are those with positive employment or turnover on each country adjusted by population size. Activities: B-N (excluding K64.2) according to NACE Rev. 2. Firm size as total persons employed in the population of active enterprises / total active enterprises. Employed persons are those aged 15 and over who perform part-time or full-time work for pay, profit, or family gain, according to Eurostat.

Measured by sales, firms in Kosovo are also smaller than companies in aspirational peers and the EU, especially the medium and large enterprises. Micro and small companies report sales that are half the revenues reported by average EU peers. Sales reported by small Kosovar companies are about 44 percent of the EU mean and large company sales are 15 percent smaller. While these differences are not so large for Kosovo's MSMEs, except relative to Slovenian peers, its large firms, companies with more than 250 employees, report the lowest proportion of sales relative to the EU average compared to aspirational peers (Figure 3).

Figure 3.

Turnover Comparisons by Firm Size, Relative to EU Averages, 2018. Index EU=100



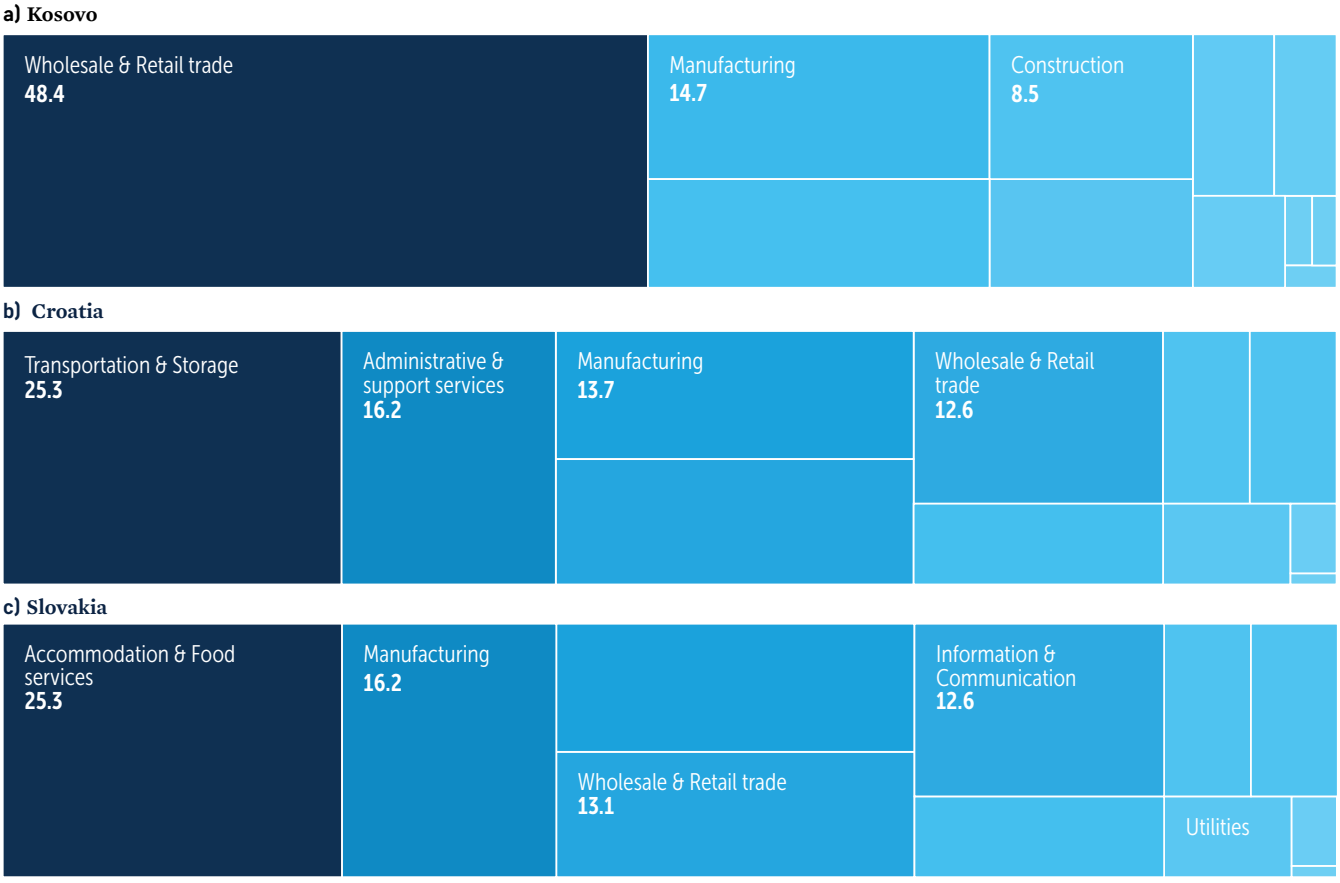
Source: KTR and Eurostat data, World Bank staff calculations.

Notes: Total turnover in 2018 in euros of active businesses (except finance and insurance) divided by total active enterprises. Baseline is the EU average (indexed to 100) for countries that report aggregate turnover by firm size. Activities: B-N (excluding K64.2) according to NACE Rev. 2. Micro are firms with an average of 0–9 employees, small 10–49 employees, medium 50–249 employees, and large 250 and more.

A distinctive feature of Kosovo's economy is the relative importance of wholesale and retail (W&R) firms. More than 50 percent of firms are in W&R; 14 percent are in manufacturing, 11.2 percent in accommodation and food services, about 7 percent in construction, and *the rest in* other services activities. W&R is much more important in Kosovo than in aspirational peers like Croatia and Slovakia, where it only accounts for about 30 percent of firms (Figure 4).

Figure 4.

Active Enterprises by Main Activity Compared to the EU, Percent of Total



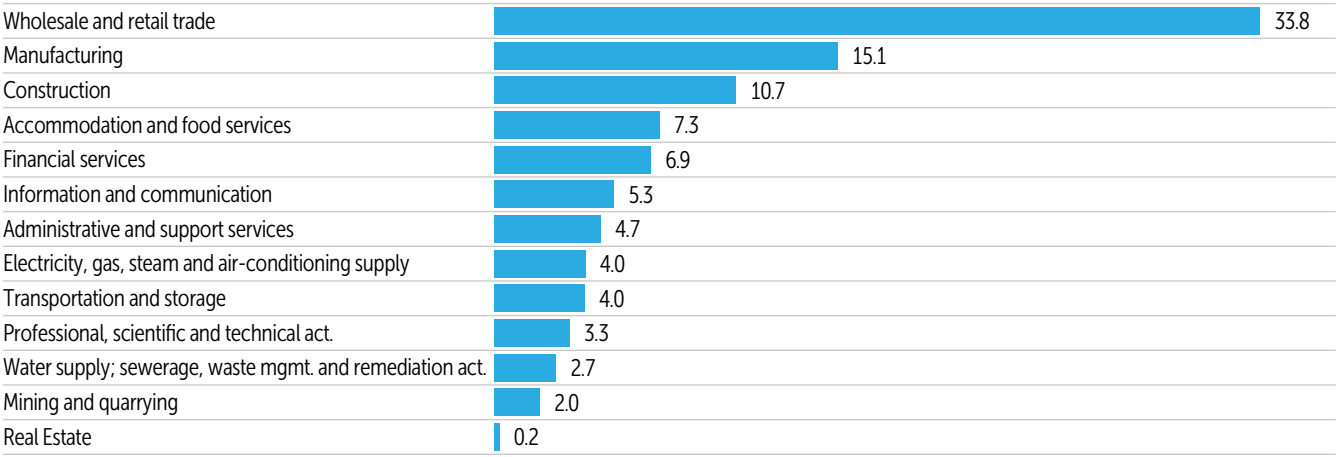
Source: KTR and Eurostat data, 2020, World Bank staff calculations.

Notes: Active units are those with positive turnover. Activities included: B-N (excluding K –Financial and insurance activities) according to NACE Rev. 2. See Annex 1 for more detail on sector classification.

W&R is also one of the largest employers, along with manufacturing and other service activities. It employs about 33 percent of workers in Kosovo, followed by manufacturing, 15 percent; construction, 10.7 percent; accommodation and food services, 7.3 percent; and financial services, about 7 percent (Figure 5).

Figure 5.

Employment Share by Sector, Percent of Total



Source: KTR and Eurostat data, World Bank staff calculations.

Notes: Share of employed persons in active firms. Activities: B-N (excluding K64.2) of NACE Rev. 2. Micro firms have an average of 0–9 employees, small firms 10–49, medium firms 50–249, and large firms 250 and more.

Employment and sales are heavily concentrated in Pristina. Although only 24.1 percent of firms are in Pristina, the municipality accounts for about 43 percent of Kosovar employment and about 44 percent of sales, similar to comparator countries like Moldova (Cojocaru 2016). Ferizaj is second in importance with 6.6 of employment and about 7 percent of sales (Figure 6).

Figure 6.

Firms, Employment, and Sales by Municipality, Percent

a) Firms

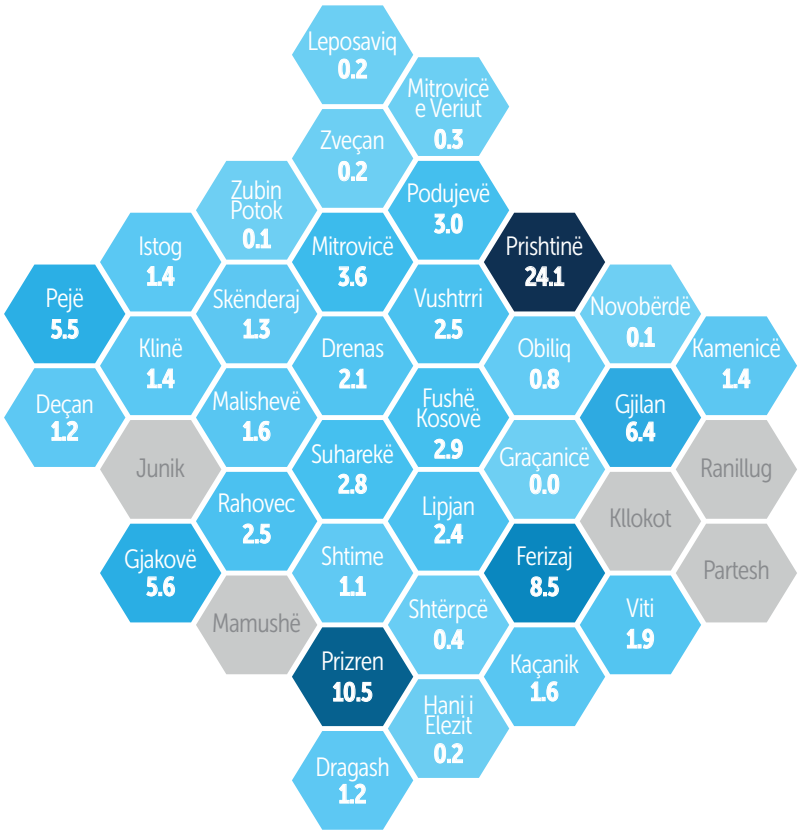
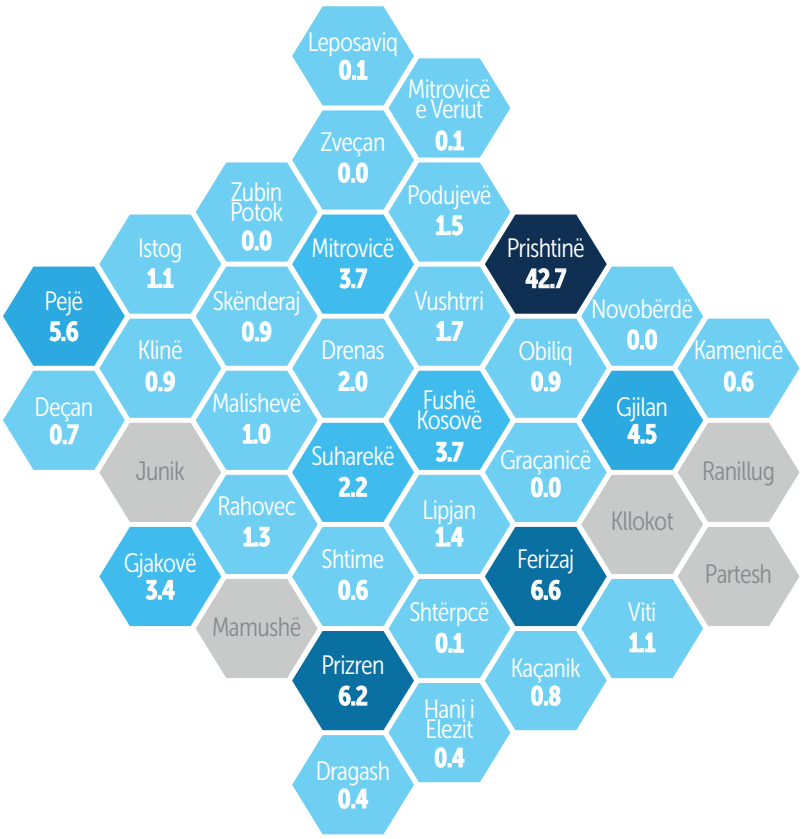


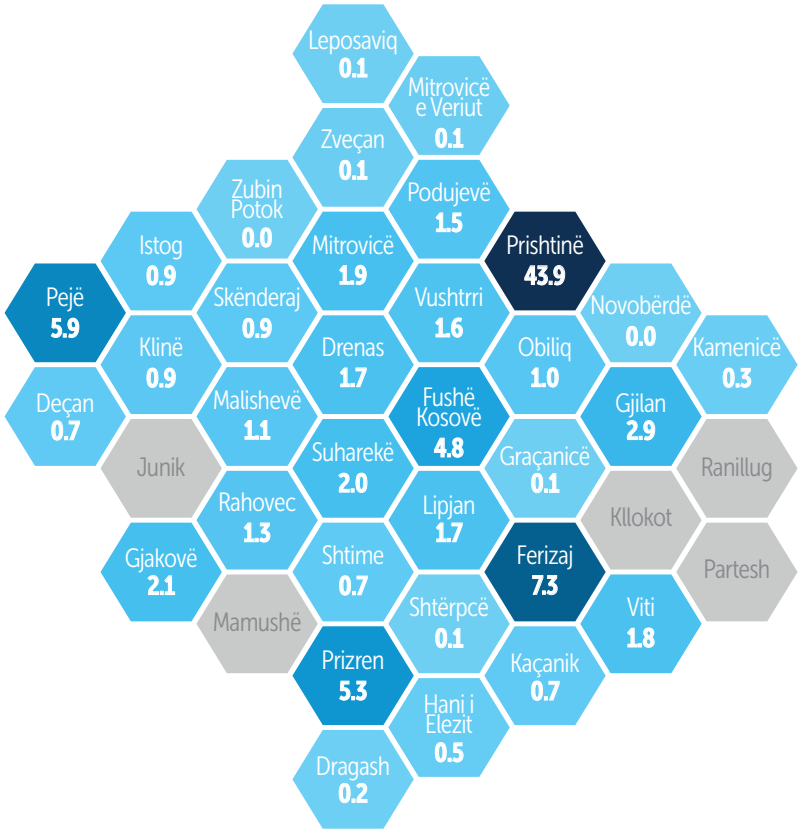
Figure 6.

Firms, Employment, and Sales by Municipality, Percent

b) Employment



c) Sales



Source: KTR data, World Bank staff calculations.

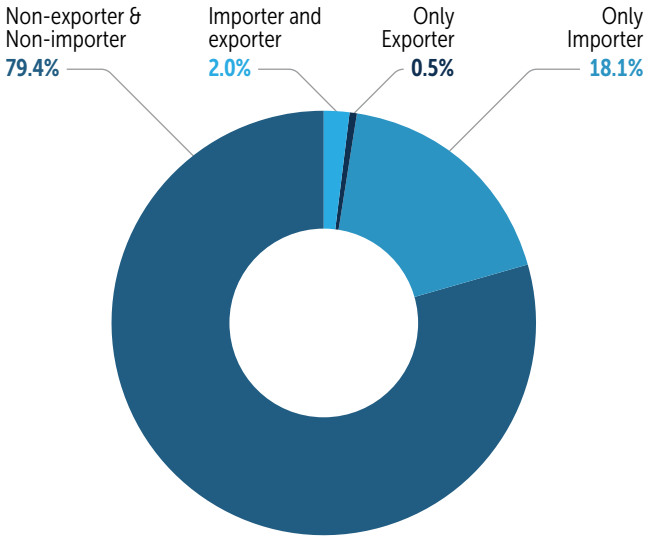
Notes: Activities: B-N (excluding K64.2) according to NACE Rev. 2. Firms not reporting location were excluded.

Kosovo has the lowest share of exporters among Western Balkans countries and a much lower proportion of manufacturing exporters than aspirational peers except Czechia. Less than 4 percent of firms export and import; about 0.3 percent are solely exporters, and about 25 percent are exclusively importers (Figure 7A). Self-reported KPS data indicates that 1.4 percent of firms identified themselves as exporters and 34 percent as importers.[12] Exporters and importers tend to be medium and large firms (Figure 7B). Focusing on manufacturing, Figure 7C reveals that the fraction of exporters is lower (6.4 percent) than in any aspirational country except Czechia (4.3 percent), and less than a fourth of the EU average (21.7 percent). According to the 2020 Business Environment and Enterprise Performance Survey (ES), Kosovo also has the lowest proportion of exporters among Western Balkans economies.[13]

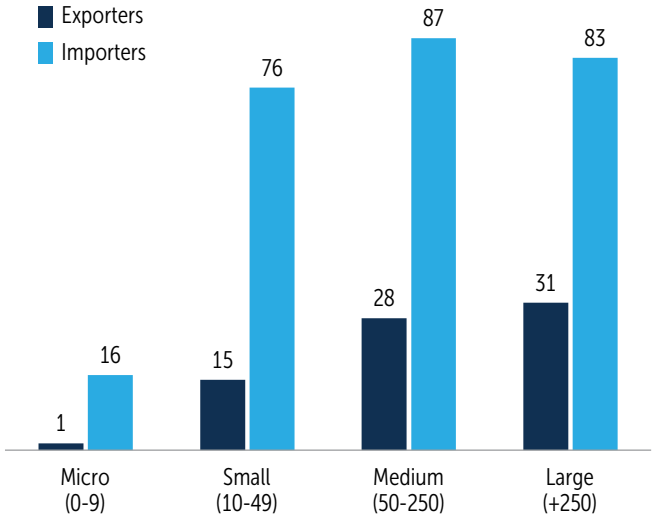
Figure 7.

Exporters and Importers

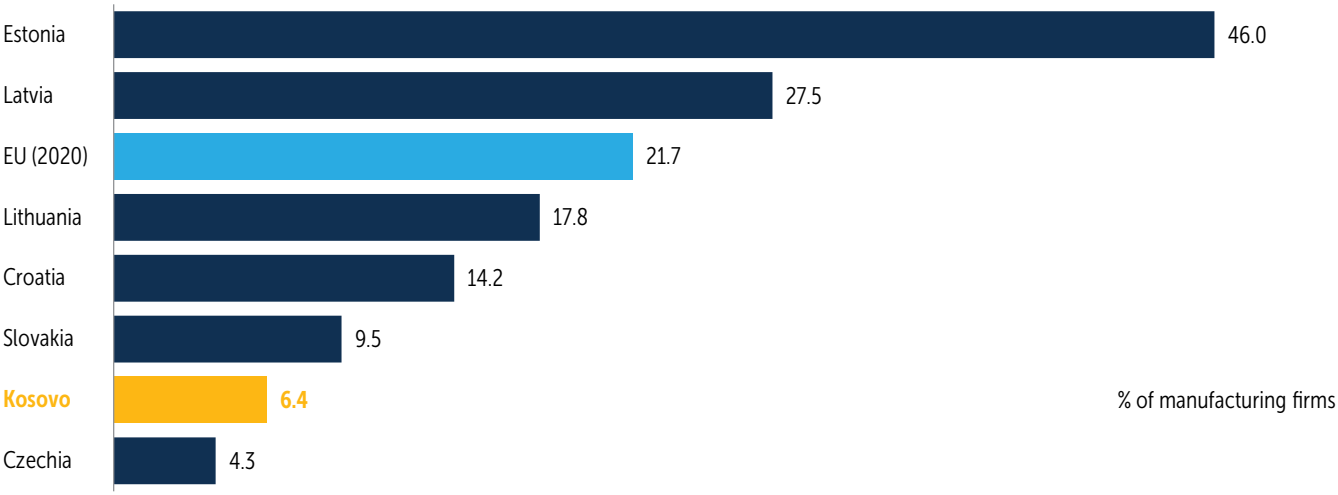
a) Percent of total firms



b) Percent of total firms by sector and size



c) Manufacturing exporters, percent of manufacturing firms



Source: KTR and Eurostat data, 2020, World Bank staff calculations.

Note: Exporters or importers are those companies that report €10,000 or more in exports or imports to the KAS in the relevant year. "Importer and exporter" classification refers to a company that both imports and exports in the same period. "Only exporters" or importers) are firms that export or import but do not import or export. Figure 7 C depicts the number of manufacturing exporters relative to the total manufacturing active firms as classified in Eurostat. Figures are average values for 2012–18. Activities: B-N (excluding K64.2) according to NACE Rev. 2.

12 See Table 2 in Annex 2.
13 See https://www.beeps-ebrd.com/indicators/

Manufacturing accounts for about 45 percent of exports. Mining, manufacturing, and some service activities have the largest export-to-sales ratios. W&R is the second largest exporter at 24.6 percent, followed by ICT at 7.4 percent (Figure 8A). According to KPS, furniture is the main manufactured export, accounting for about 38 percent. Exports account for about 40 percent of sales in mining and about 14 percent of sales in manufacturing (Figure 8B). Transport, administrative services, and ICT report export-to-sales ratios of about 10 percent. Traditionally non-tradable activities, such as financial services, construction, and real estate, have the lowest export-to-sales ratios. Because service exports in accommodation and food services are not captured by the tax records, they are understated.

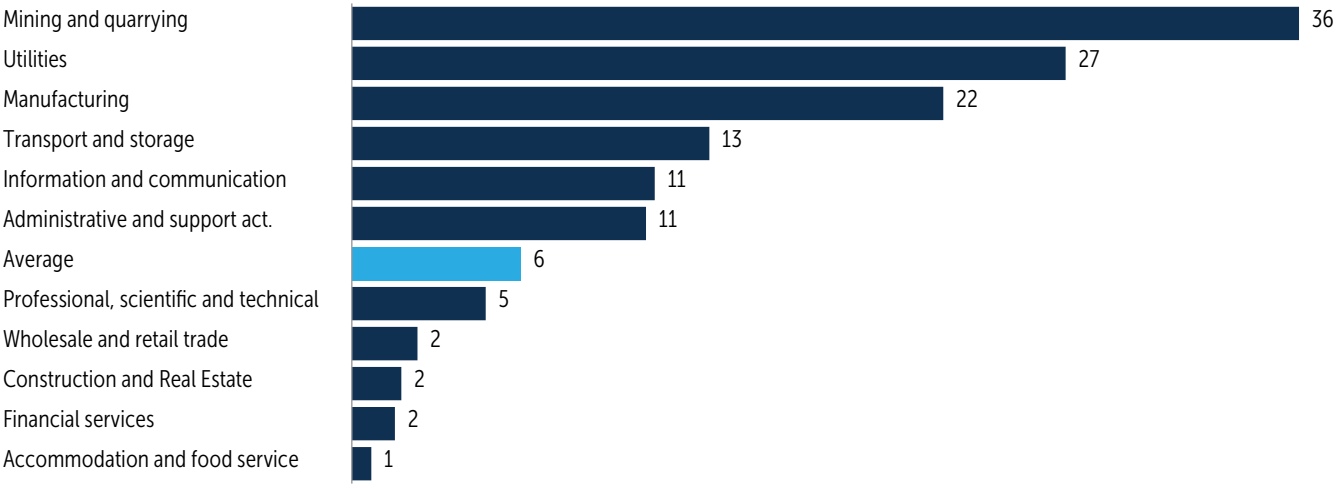
Figure 8.

Exports by Sector

a) Percent of total exports



b) Share of exports in total sales by sector



Source: KTR and KPS data, World Bank staff calculations.

Note: Exporters/importers are those companies that report €10,000 or more in exports/imports in the year of reference. "Importer and exporter" reflects the company reports both imports and exports within the same period. Only exporters (importers) are firms that export (import) but do not import (export). The share of exports in total sales corresponds to total exports divided by total sales. Figures report the average values for 2012–18. Activities: B-N (excluding K64.2) according to NACE Rev. 2. See Annex 1 for more detail on sector classification.

Only 6 percent of Kosovan firms have foreign shareholders (Figure 9A) and the share of firms with at least 10 percent of foreign shareholding is far lower than in the other Western Balkans countries. Foreigners hold more than 10 percent of the assets in less than 6 percent of firms. About 10 percent of shareholders in construction and transport firms are foreign, as are 8 percent in utilities and 5 percent in manufacturing (Figure 9B). According to the Enterprise Survey data, only 1.3 percent of firms have at least 10 percent foreign ownership, compared to 11.8 percent of firms elsewhere in the region.[14]

14 World Bank Enterprise Survey (2019). The figure is the average for Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia.

Figure 9.

Firms with Foreign Shareholders, percent of firms, 2018



Source: KPS data, World Bank staff calculations.

Notes: Fraction of firms that report having foreign shareholders (> 0%). Figures are weighted by firm weights.

Only 3.4 percent of firms invest in R&D, far less than in the EU and peer economies; investment in training and management is also low. Table 1 shows that only 3.4 percent of firms report investing in R&D against an EU average of 14 percent and, typical of comparators, Croatia with 7.4 percent (World Bank 2018). The proportion is especially low among micro (3.7 percent), and small (12 percent), and medium enterprises (12.6 percent). Across all firm size classes, investment in R&D is also lower than in the EU, Western Balkans comparators, and aspirational peers (World Bank 2018). Only about 6 percent of enterprises report investing in employee training and 8 percent in management training; the percentage increases, however, with firm size.

Table 1. Selected Characteristics of Firms in Kosovo, 2017, Percent

Class	Category	Invest in R&D	Receive Government Subsidies	Have Tertiary Educated Workers	Have Unpaid Employees	Share of plants that provide Employee Training	Share of firms that Train Managers and Supervisors
Size	Micro (0-9)	3.7	1.6	31.6	14.7	5.4	7.9
	Small (10-49)	12	2.7	26.5	2.7	15.6	13.1
	Medium (50-249)	12.6	4.0	23.6	1.7	29.9	23.7
	Large (250+)	18.2	14.0	36.5	0.2	27.6	27.2
Shareholding	Nonforeign shareholding	4.3	1.8	31.0	14.1	6.1	8.6
	Foreign shareholding	3.8	0.9	33.8	8.8	9.3	6.1
Average	All firms	3.4	1.7	31.2	13.8	6.3	8.4

Source: KPS data, World Bank staff calculations.

Note: figures were calculated using firm sample weights. On average micro have 0–9 employees, small firms 10–49 employees, medium firms 50–249 employees and large firms 250 or more employees.

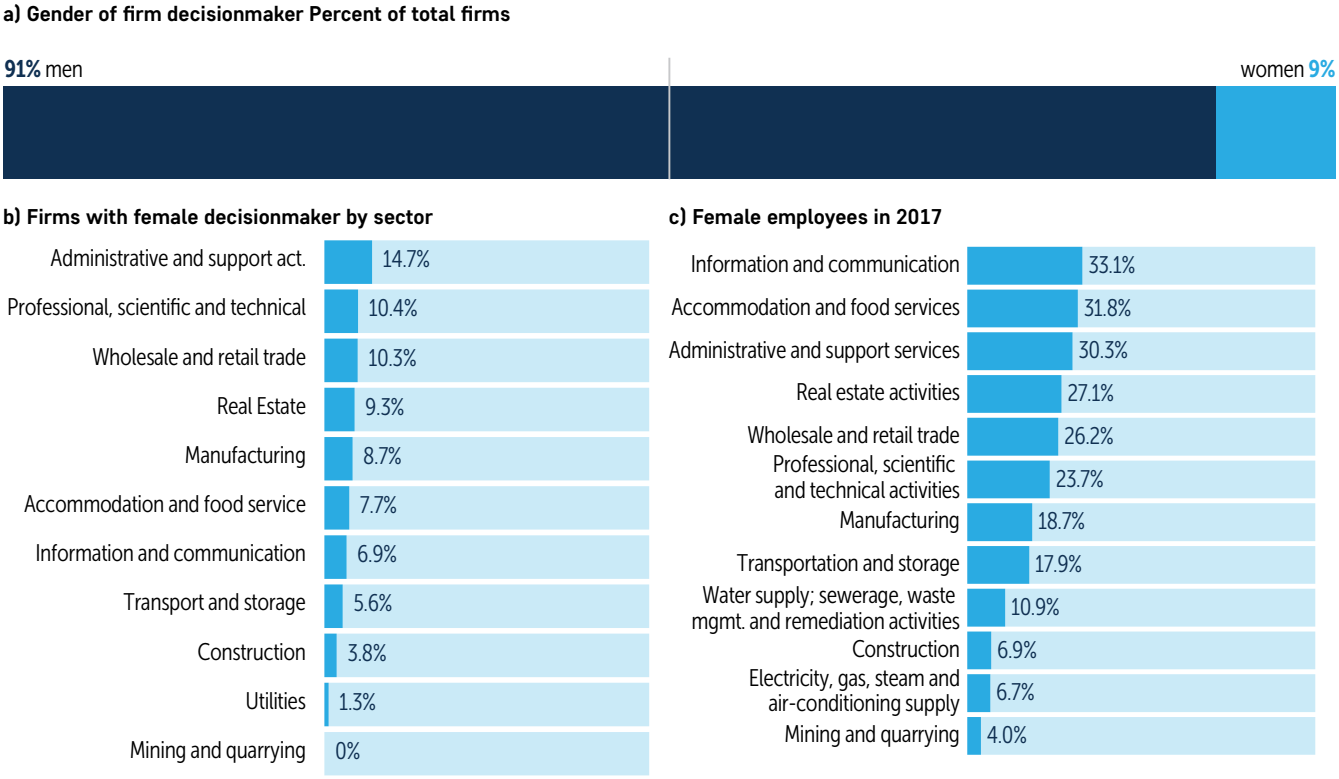
Only about 33 percent of workers have tertiary education and about 14 percent are unpaid—a proxy for labor informality. Large firms received a larger proportion of government subsidies than smaller firms. There are no significant differences between firms by size in workers' skills, although the share of tertiary workers is higher in larger firms (36.5 percent). The share of unpaid workers reaches 15 percent among micro firms, although it is only 1.7 percent for medium and 1.7 percent for large ones. Although only 1.7 percent of all firms reported receiving subsidies, among these more beneficiaries were large firms.

Firms with foreign shareholders tend to have more skilled workers and fewer unpaid workers but the share of companies investing in R&D is similar to domestic-owned companies—close to 4 percent (Table 1). About 9 percent of companies with foreign shareholders invest in employee training compared to just 6 percent in solely domestic firms. In contrast, investment in management and supervision is higher in enterprises with a foreign shareholder. Those companies also have a slightly larger proportion of skilled workers (34 vs. 31 percent of domestic-owned firms), and far fewer unpaid workers (8.8 vs. 14 percent).

In only 9 percent of the firms is the decisionmaker female[15] (Figure 10A). Sectors with the highest proportion of female decisionmakers (Figure 10B) are administrative services 15 percent; professional services 10 percent; and W&R 10 percent. ICT, accommodation and food services. and administrative and support services employ the largest shares of female workers, about 30 percent each, followed by W&R 15 percent and professional services 10 percent. Mining, electricity and gas, and construction have the fewest female workers (Figure 10C).

Figure 10.

Gender of Firm Decisionmakers by Sector, Percent



Source: KPS data, World Bank staff calculations.

Note: Figures are weighted using firm sample weights. See Annex 1 for more detail on sector classification.

Female-run companies have a higher proportion of unpaid workers and received proportionately less in government subsidies. According to the KPS data, firms with female decision-making have more skilled workers (43 vs. 30 percent in male-run enterprises). In female-run firms about 19 percent of workers are unpaid vs. 13 percent in male-run companies, but the latter receive 1.8 percent of government subsidies and the former 1.4 percent.

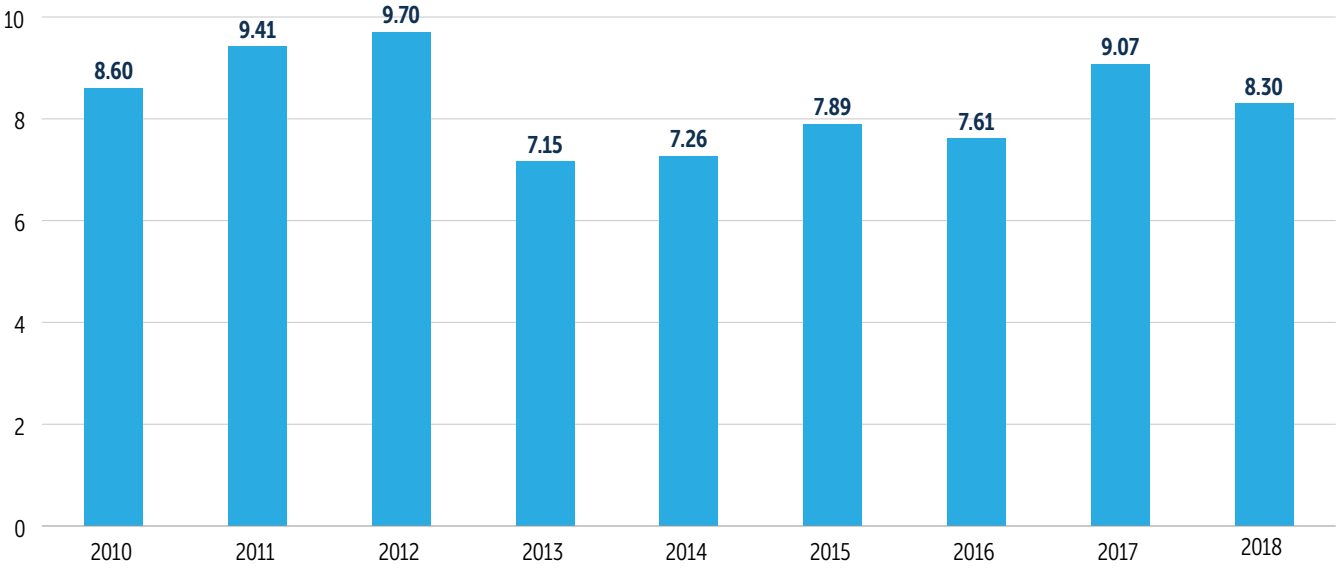
Between 2010 and 2018 the proportion of firms in digital-intensive sectors consistently averaged 8.5 percent of the firm population despite a surge in 2017 (Figure 11).[16]

15 The decision maker is defined in response to the following question in the KPS: "Who makes the main decisions in the company?" Multiple responses were allowed, including founder, family member of the founder, manager, members of executive board, and gender.

16 In 2013 and 2017, changes in the number of firms in professional services, information and communication, and administrative services activities accounted for more than 90 percent of the variation in the share of digital-intensive enterprises.

Figure 11.

Digital Firms, 2010–10, Percent of Total Firms



Source: KAS data and Calvino et al. 2018; World Bank staff calculations.

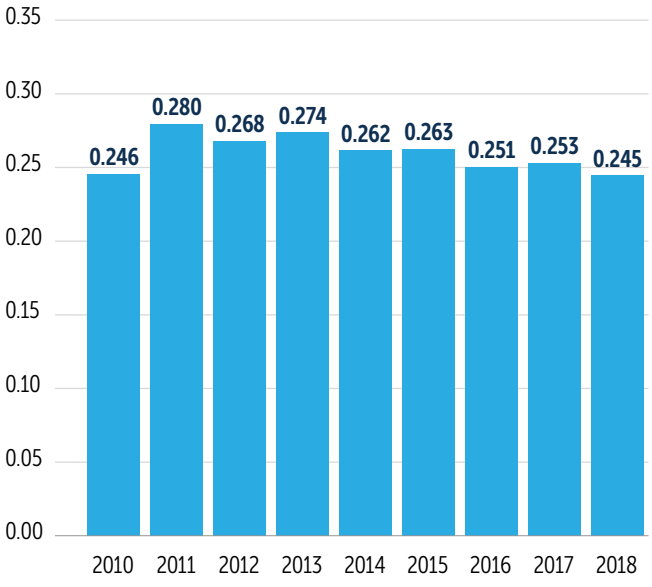
Notes: Digital-intensive sectors are those with a high level of digitalization.

Kosovo's economy has relatively high and persistent levels of concentration. For the economy as a whole and proxied by the normalized Herfindahl Index (HHI) of sales, since 2013 concentration has been declining only marginally (Figure 12A). By sector, economic concentration is highest in electricity and gas (close to 1), followed by information and communication, and mining (each 0.53) and financial services (0.43), and is lowest in accommodation and food services, construction, and W&R (Figure 12B).

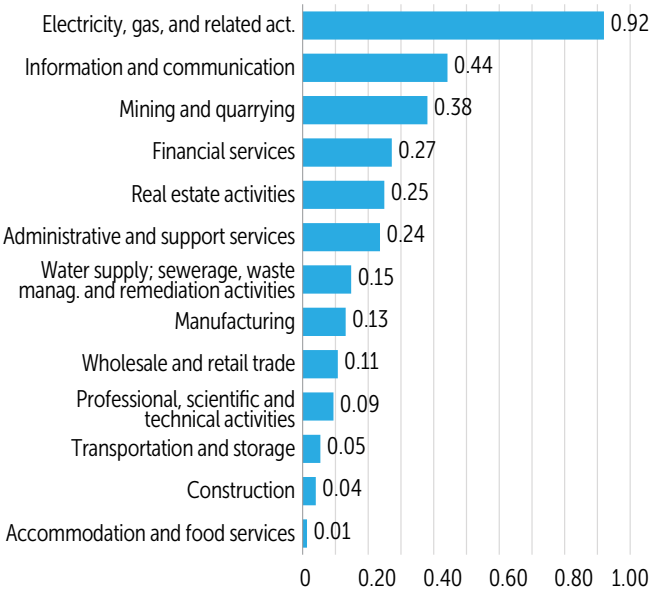
Figure 12.

Concentration in the Kosovar Economy

a) Herfindahl Index, 2010–18



b) Herfindahl Index by sector, 2018



Source: KTR; World Bank staff calculations.

Note: The normalized HHIS is 1 minus the squared sum of market shares of firm sales at four-digit level NACE Rev. 2. Shares are weighted by total sector sales. The index ranges from 0 to 1, where 1 is the highest level of economic concentration. See Annex 1 for more detail on sector classification.

1.2. Firm Dynamics

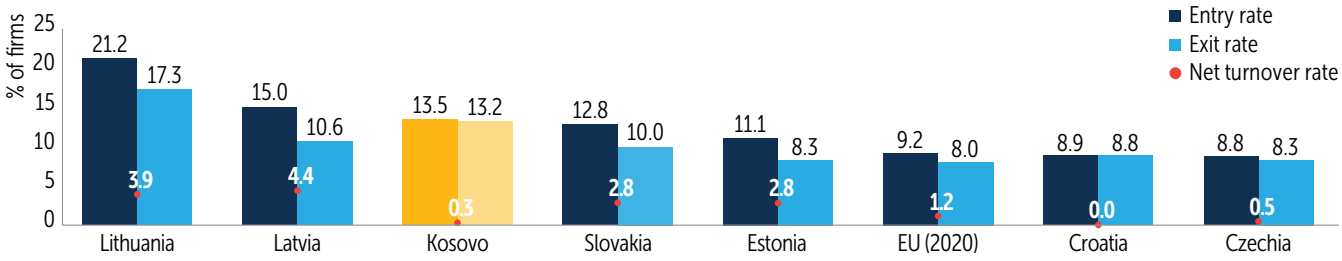
Firm dynamics have a crucial bearing on productivity growth. According to economic theory and the available empirical evidence (Maloney and Cusolito, 2017), entry of new more productive firms, exit of companies with lower productivity or the increase in the average productivity of incumbent firms are key drivers for productivity growth in any economy. Thus, this section delves into the recent dynamics of firms in Kosovo with the aim of setting the background for the analysis of firm productivity presented below in Section 1.3.

For 2012–18 Kosovo's net rate of firm creation was close to zero because firm entry and exit rates have been similar. Although the firm entry rates are also similar to some of the most dynamic aspirational economies (e.g. Lithuania and Latvia), it has much higher firm exit rates than the EU average and tracks some of the most developed aspirational peers, resulting in an average net annual firm turnover rate of just 0.3 percent (Figure 13A). During this period, only five sectors posted positive net firm turnover rates: manufacturing 3.12 percent, mining 3.10 percent, utilities 3 percent, accommodation and food services 2.5 percent, and construction 2.3 percent (Figure 13B). As expected, entry and exit rates are much higher for micro and small firms than for larger companies (Figure 13C).

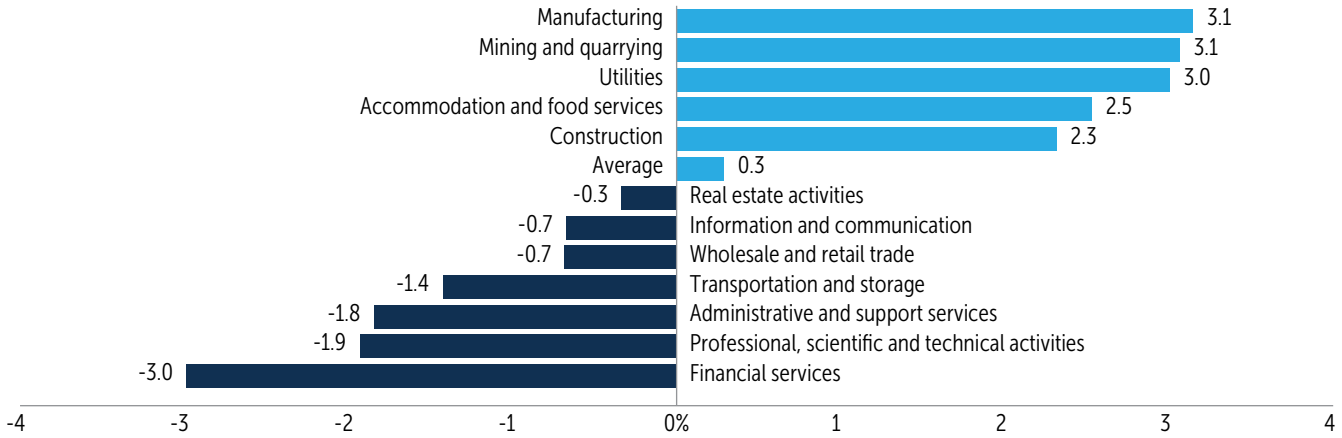
Figure 13.

Net Firm Turnover, Entry. and Exit Rates, Percent of Firms, Average 2012–18

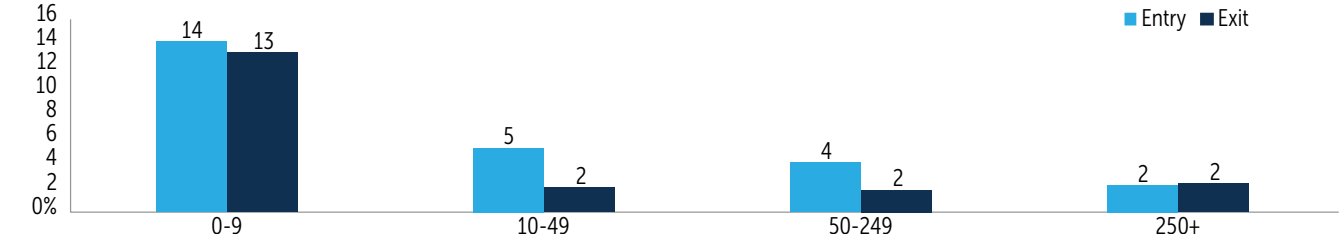
a) Entry, Exit, and Net Firm Turnover in Kosovo and Aspirational Peers



b) Net Firm Turnover Rate by Sector



c) Entry and Exit Rates by Firm Size, Percent of Total Active Firms



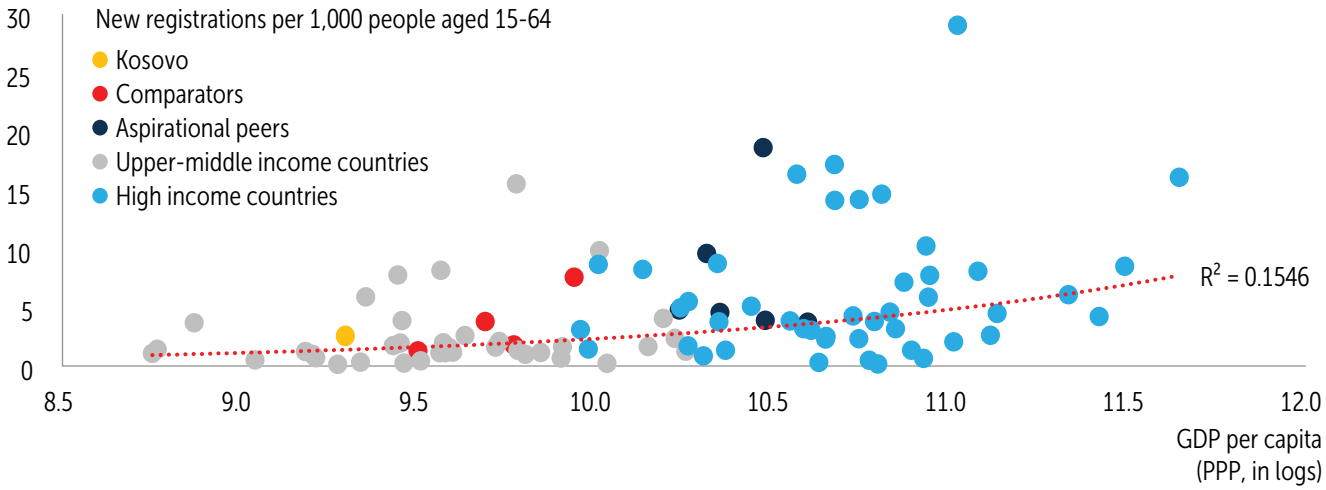
Source: KTR and Eurostat data; World Bank staff calculations.

Note: Entry and exit rates are total active units that enter and exit the market divided by total active enterprises. A unit enters the market in *t* if it is active in *t* and it was not active in *t-1* and *t-2*; and exits the market i if it is active in *t* and it is not active in *t+1* and *t+2*. EU entry and exit rates are based on the same definitions and criteria. Activities: B-N (excluding K 64.2) of NACE Rev. 2. See Annex 1 for more detail on sector classification. Micro are firms with an average of 0–9 employees, small 10–49 employees, medium 50–249 employees, and large 250 and more.

Kosovo's new business density is slightly above what its income per capita would predict but lower than in some comparators and aspirational peers. Figure 14 plots new business density, a proxy for firm entry used because international data are available and comparable, against income per inhabitant adjusted for purchasing power parity (PPP). It shows that the number of new firms per thousand people is far higher than Kosovo's GDP per capita would predict. Nevertheless, some Western Balkans and aspirational peers have higher new business density indicators. Unfortunately, there are no internationally comparable data on firm exit rates.

Figure 14.

New Business Density and GDP per Capita in Constant US$ PPP, 2018

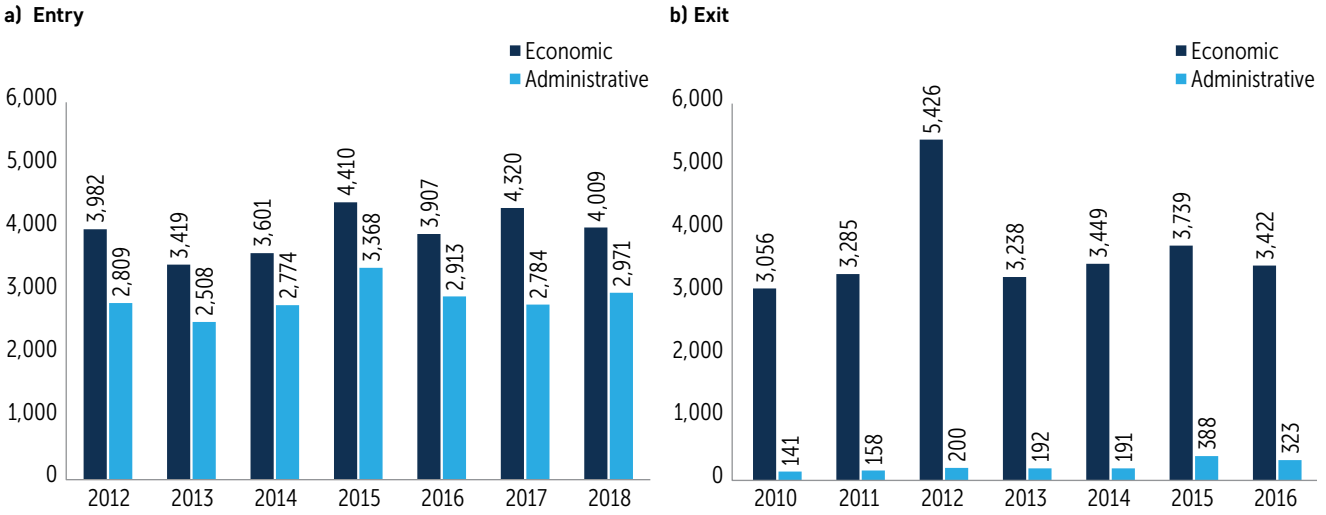


Source: Entrepreneurship Survey and database, http://www.doingbusiness.org/data/exploretopics/entrepreneurship

Administrative barriers to exit are high. Figure 15A shows the difference between the number of firms that terminate their legal registration and the number that stop reporting sales, the latter being the standard economic definition of firm exit.[17] Between 2010 and 2018, 3,400 companies "exited" annually on average, whereas fewer than 200 firms formally deregistered. The discrepancy between economic entry and administrative registration rates is far less pronounced, suggesting fewer major regulatory obstacles to creating new companies (Figure 14B).

Figure 15.

Economic and Administrative Firm Entry and Exit, Number of Firms, 2012–18



Source: KTR; World Bank staff calculations.

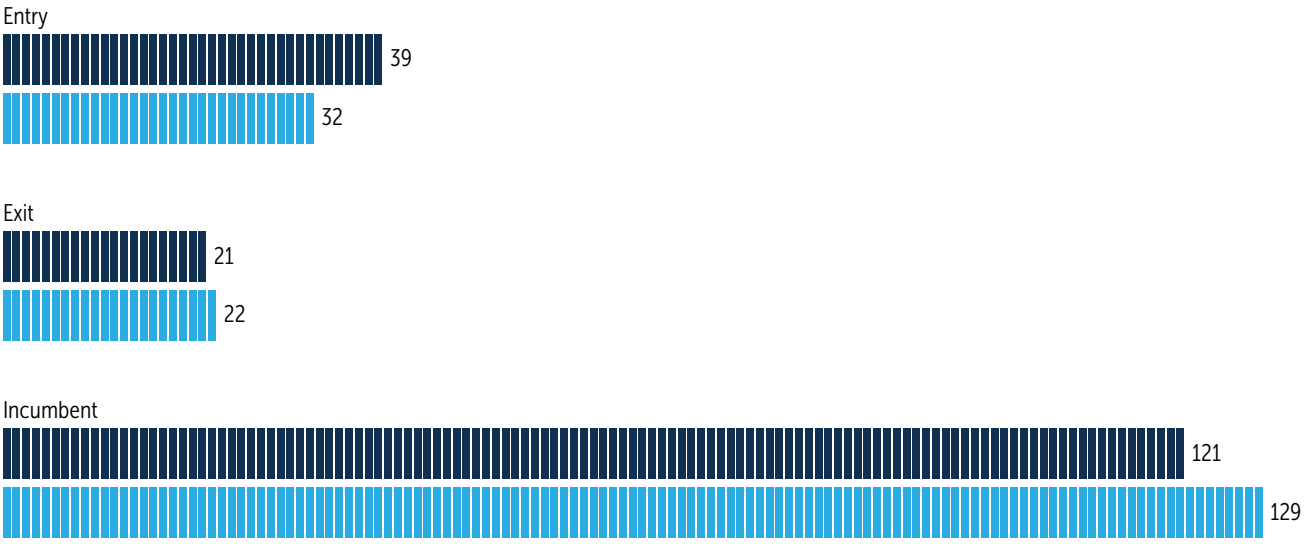
Note: Activities: B-N (excluding K 64.2) of NACE Rev. 2. *Administrative* defines entry and exit using the firm's registration year in the Tax Agency registry; *Economic* defines entry and exit according to firm sales. See Annex 1.A for more detail.

17 See Annex 1 for further technical details on the economic definition of firm entry and exit rates.

Entrants are much larger than firms that exit but smaller than incumbent firms. New firms are only about one-third of the size of incumbent companies and about twice as large as firms exiting. The relatively large size of firms at entry compared to companies already in the market (Figure 16) could be related to high barriers to entering the market, perhaps connected to informal competition (see World Bank 2018).

Figure 16.

Size of Firms Entering a Market Relative to the Average Firm Already Active, 2012–18, Percent



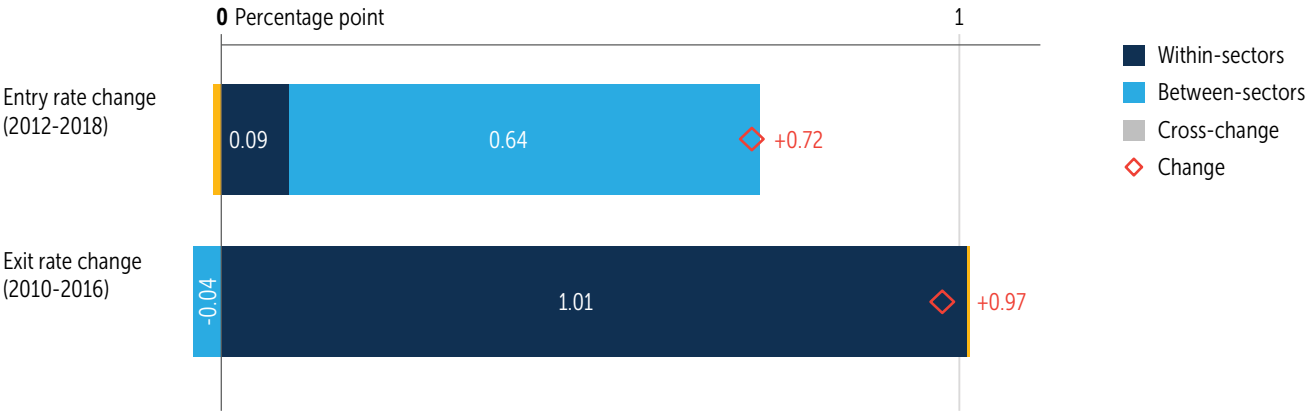
Source: KTR; World Bank staff calculations.

Notes: The average number of employees and turnover (in real 2018 euros) are calculated as the total number of employees and turnover of each category divided by the number of firms. Activities: B-N (excluding K64.2) of NACE Rev. 2. See Annex 1 A for definitions of entry, exit, and incumbent.

The change in entry rates was driven by the increasing participation of sectors with higher rates of firm creation; the change in exit rates was driven by a rise in the average exit rate for all sectors. More than 90 percent of the change in the entry rate between 2012 and 2018 was explained by an increasing share of sectors with higher firm entry rates ("between-sectors"). In contrast, most of the change in the aggregate exit rate resulted from a generalized increase in exit rates across all sectors ("within-sectors"). Moreover, the change of about 1 percent in the entry rate was far lower than the 0.72 percent change in the exit rate (Figure 17).

Figure 17.

Drivers of Entry and Exit Rates, Percentage Points



Source: KTR data; World Bank staff calculations.

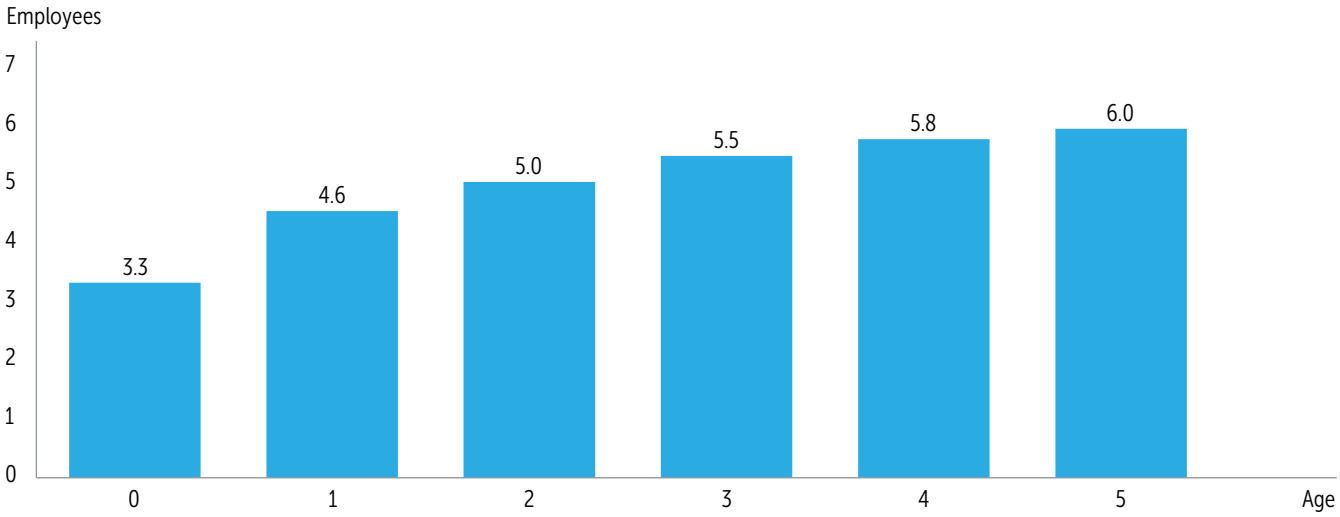
Notes: The figure depicts changes in entry rates due to variation "within-sectors", changes in the participation of industries with different level of dynamism ("between-sectors"), and the covariance between changes in sector shares and level of firm dynamism ("cross-change"). Activities: B-N (excluding K64.2) of NACE Rev. 2.

Firm size at entry is lower than would be predicted by Kosovo's income per capita and in aspirational peers but similar to Western Balkans comparators. New firms experience most of their employment growth in the first year, with growth extremely low thereafter. Firms enter with an average of 3.3 employees, jump to 4.6 workers in their first year, then add workers very slowly (Figure 18A). Moreover, entrants have a smaller median size than would be predicted by income per capita and the aspirational economies, although similar to most Western Balkans comparators (Figure 18B).

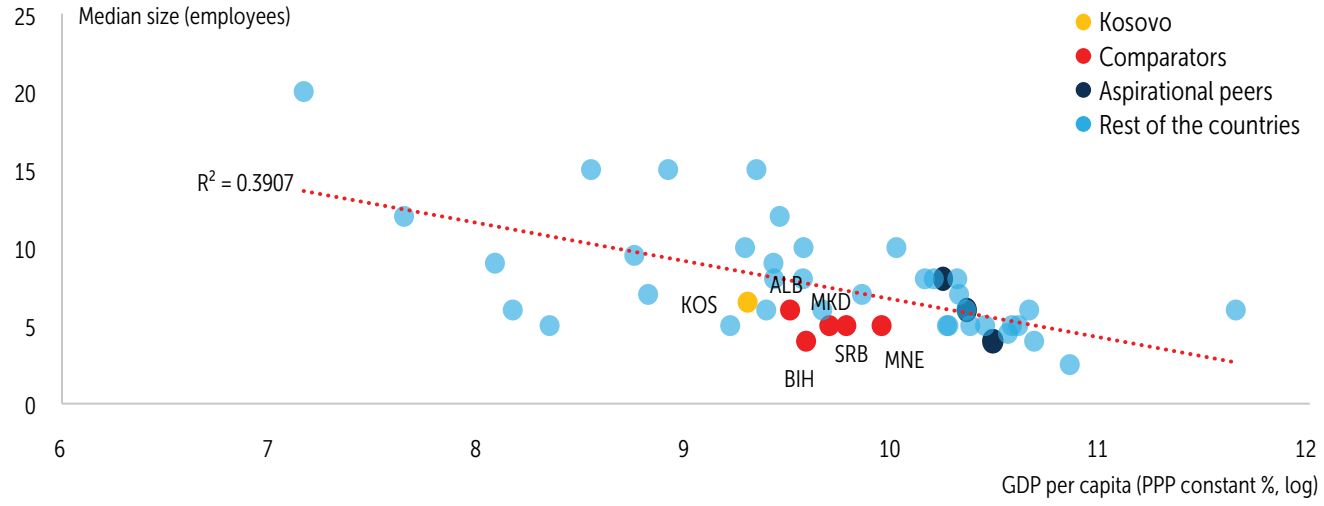
Figure 18.

Firm Size at Entry

a) Median number of employees after entry by firm age*



b) Median number of employees at entry and GDP per capita in US$ PPP. 2018



Source: KTR and Enterprise Surveys data; World Bank staff calculations.

Notes: Average entry size and average size of active firms are the total number of employed persons divided by the number of total active unit of each category. Activities: B-N (excluding K64.2) of NACE Rev. 2.

Over a five-year period, 33 percent of firms are born as and remain micro enterprises, 44.5 percent of the micro enterprises continue to be micro, and other firm classes similarly lack dynamism. Focusing on the cohorts of firms in 2012 and 2013, Table 2 shows that about 58 percent of small, 64 percent of medium, and 74.4 percent of large enterprises stay in the same class over a five-year period. Only about 2 percent of micro enterprises became small firms, 5.5 percent of small become medium, and 4.6 percent of medium firms become large.

Table 2. Five-Year Transition Matrix by Firm Class, 2012 and 2013 Firm Cohorts, Average

Size class at reference year	Size class five years after the year of reference				
	Micro (0-9)	Small (10-49)	Medium (50-249)	Large (250+)	Economic Exit
Births	33.7	2.6	0.4	0.1	63.2
Micro (0-9)	44.5	2.3	0.0	0.0	53.2
Small (10-49)	17.9	57.7	5.5	0.0	18.9
Medium (50-249)	5.0	12.9	63.6	4.6	13.9
Large (250+)	3.5	0.0	8.1	74.4	14.0

Source: KTR data; World Bank staff calculations.

Notes: This table shows the share of firms by size class in the year of reference and five years later; we use data for the 2012 and 2013 firm cohorts to identify entrants and incumbents and track changes in the number of employees over a five-year period. To control for potential idiosyncratic shocks in a particular year, calculations are made by taking the average between the two firm cohorts. Year of reference refers to the first year the firm enter the panel, either 2012 or 2013. Economic exit are classified as those units that report positive turnover in year of reference but do not report turnover in the next two years. Size class is defined according to the number of employees of the firm in the year of reference, as noted in parentheses.

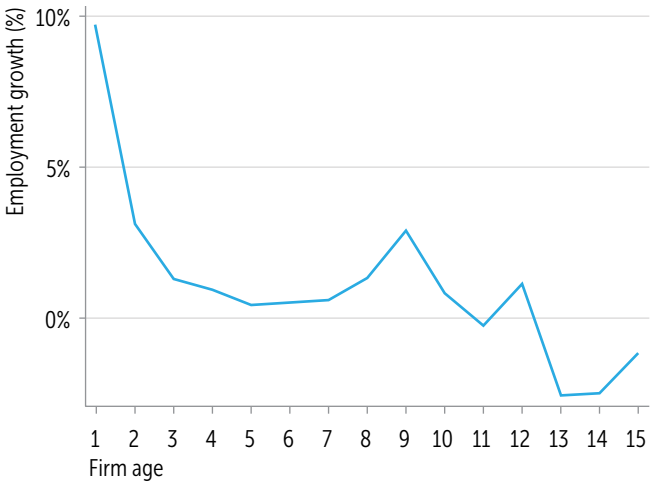
Firm mortality is higher for smaller companies and a notable proportion of small and medium enterprises become smaller over time. In line with the international evidence (Hsieh and Klenow 2014; Cusolito and Maloney 2019) closure rates are highest among new firms (63 percent) and micro enterprises (53 percent) and lowest among medium and large firms (about 14 percent). Moreover, about 18 percent of small companies become micro-sized and about 13 percent of medium become small (Table 2).

Micro firms have the lowest employment growth rates; small, and especially medium, firms show higher and more stable growth. In line with the international evidence (Hsieh and Klenow 2014), younger firms have higher employment growth than older firms, especially in their first two years after birth (Figure 19A). Over time micro firms consistently have lower employment growth than small and medium enterprises, and their growth rates may turn negative or close to zero in 10 years (Figure 19b).

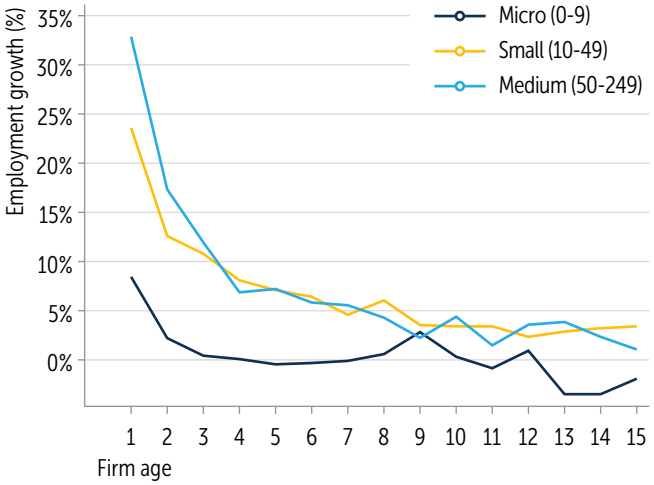
Figure 19.

Firm age and Employment Growth

a) Firm Age and Employment Growth (Percent)



b) Firm Age and Employment Growth by Number of Employees at Birth (Size Class)



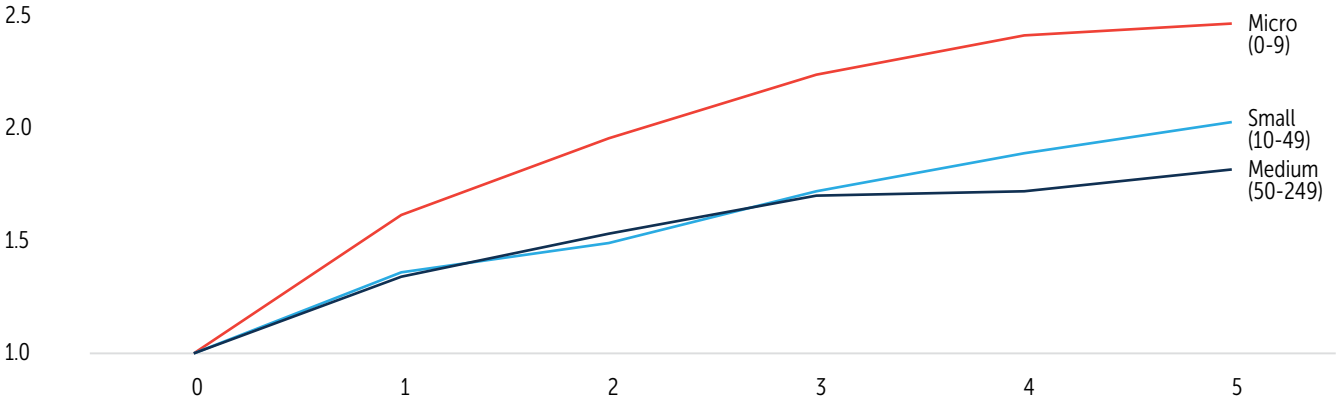
Source: KTR data; World Bank staff calculations.

Notes: Annual growth rate is calculated as the number of employed persons in the period of reference relative to the number employed in the year before. To increase sample size and analyze the relationship between firm age and employment growth more robustly, we calculate age as the difference of a given year relative to the year the firm was registered. Figure 19B is based on data only available for five years. Both figures include the entire universe of firms (e.g. incumbents, entrants and exiters).

Conditional on surviving five years after their creation, companies born micro (0–9 employees) and small (10–49) grow faster and more sustainably than those born medium (50–249), which suggests that there are barriers to growth for larger firms. Figure 20 shows that micro enterprises are able to increase the number of employees 2.5 times over a five-year period, but small companies only 2 times. Medium companies increase employment by 1.7 times up to the third year but then become practically stagnate. Although this declining rate of growth relative to firm size has been observed in many countries (Syverson 2011; Cusolito and Maloney 2019), in Kosovo it suggests the presence of restrictions on firm growth beyond a certain threshold of workers.

Figure 20.

Employees by Firm Age and Size over Five Years, Average 2012–18, Index, Entry Year = 1



Source: KTR data; World Bank staff calculations.

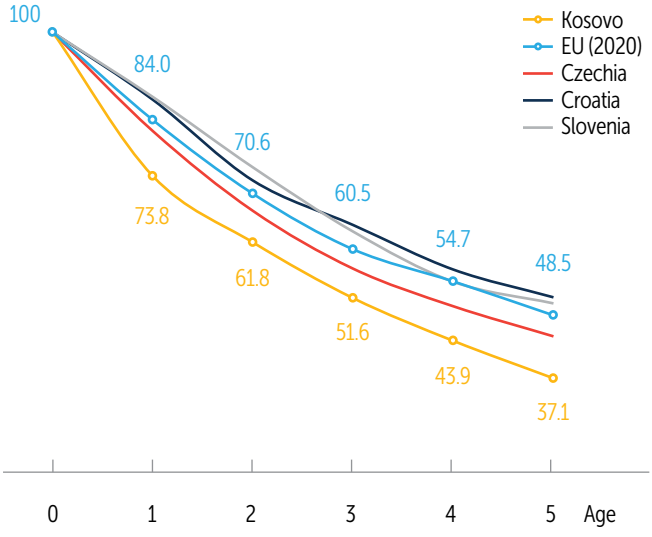
Notes: The figure depicts the fraction of persons employed in active units relative to entry, by size class at birth solely including firms that survived after their first year. Since there are many entry cohorts, we average employment figures across cohorts. Figures in parenthesis in the x axis labels refer to number of employees.

Only about 74 percent of firms survive the year after they enter the market, 10 percentage points less than such firms in aspirational peers and the EU. Considering all firms irrespective whether they reported or not sales in previous years, this difference is also fairly constant over the next four years of firm operations (Figure 21A). Conditional on surviving in the previous year, firm survival in the first year after entry, the "valley of death", is also markedly lower than in the EU and in the aspirational peers, although it gradually converges in the subsequent years (Figure 21.b).

Figure 21.

Firm Survival in Kosovo, Average 2012–18, Percent

a) Firms that survive by age after entry Percent of firms



b) Firms that survive for another year (Conditional on surviving)

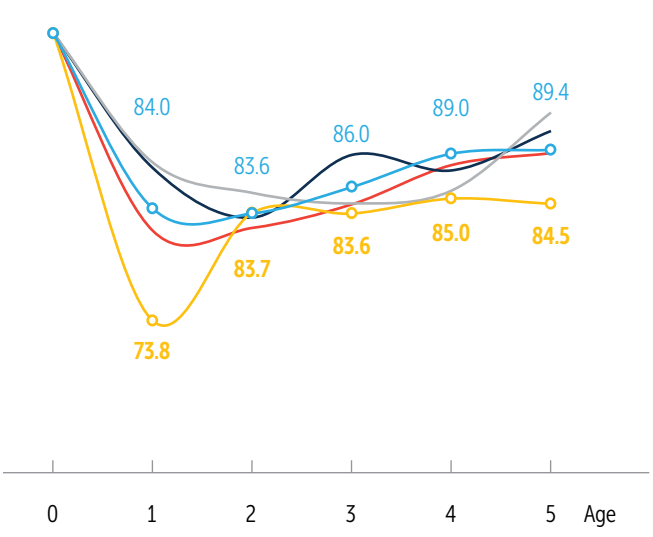
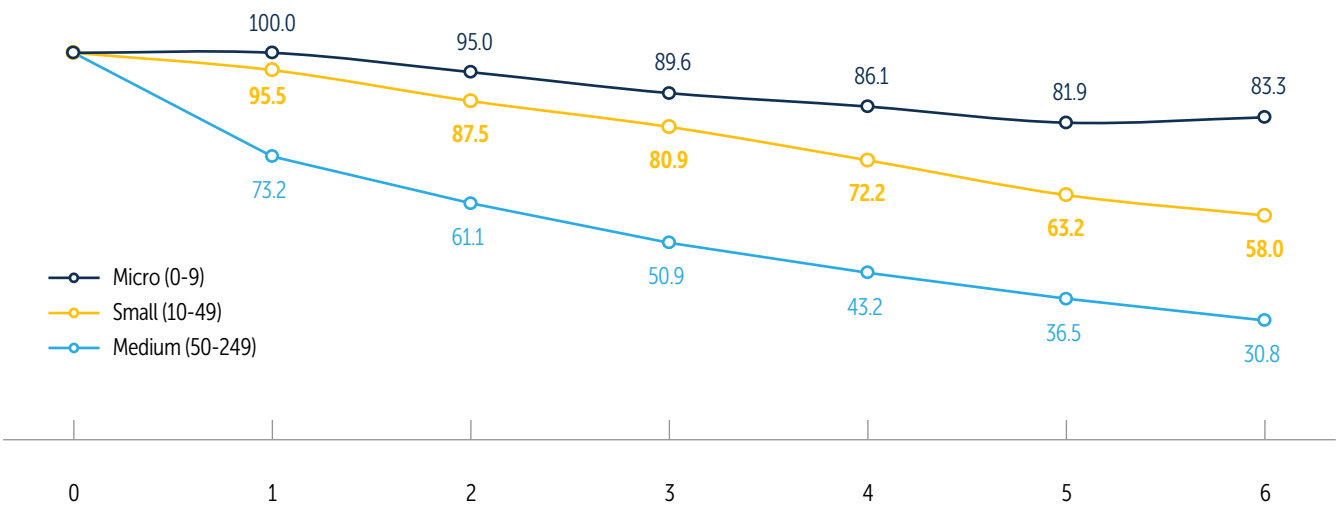


Figure 21.

Firm Survival in Kosovo, Average 2012–18, Percent

c) Survival rates by firm size (number of employees)



Source: KTR and OECD Business Dynamic Indicators data; World Bank staff calculations.

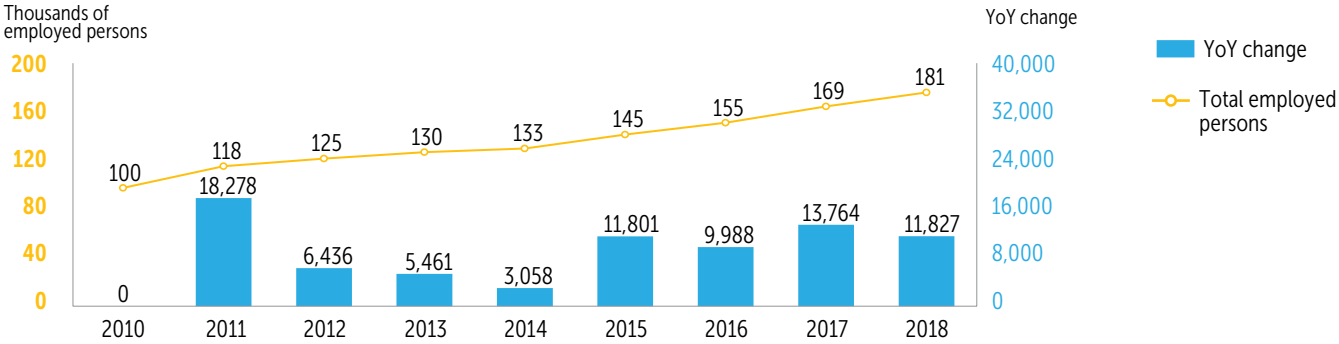
Notes: the figure depicts the percent of active units that survive at different ages after entry. Since there are many entry cohorts, we average the cohort figures. For example, the survival rate at year 1 is the number of units in the reference period (t) newly born in t-1 having survived to t divided by the number of enterprise births in t-1. For selected EU countries, we use 2010-2017 averages. Activities: B-N (excluding K64. 2) of NACE Rev. 2. While Figure 20 a reports the annual survival rate for all firms, irrespective whether they report sales in the previous years, Figure 20 b calculates the rate of survival per year conditional on the firm reporting sales in the panel in the previous year

Only about 70 percent of micro firms survive the first year, and in subsequent years their survival rates are much lower than those of small and medium enterprises. In the first year, 95.5 percent of small and 100 percent of medium enterprises also survive. In years two to five, the survival differential between micro and medium companies is on average 30 percentage points (pp) and between micro and large firms 40 pp (Figure 20C).

According to the administrative data employed in this note, between 2010 and 2018 Kosovo's economy created about 80,000 new jobs. Between 2011 and 2014 jobs created averaged just under 5,000, and from 2015 up to 2018, jobs created annually averaged 10,000 (Figure 22). Employment creation did accelerate starting in 2015 and by 2018 had reached 180,600.[18]

Figure 22.

Thousands of Employees in Active Firms, 2010–18



Notes: Employed persons in active firms (based on sales). Activities B-N (excluding K64.2) of NACE Rev. 2.

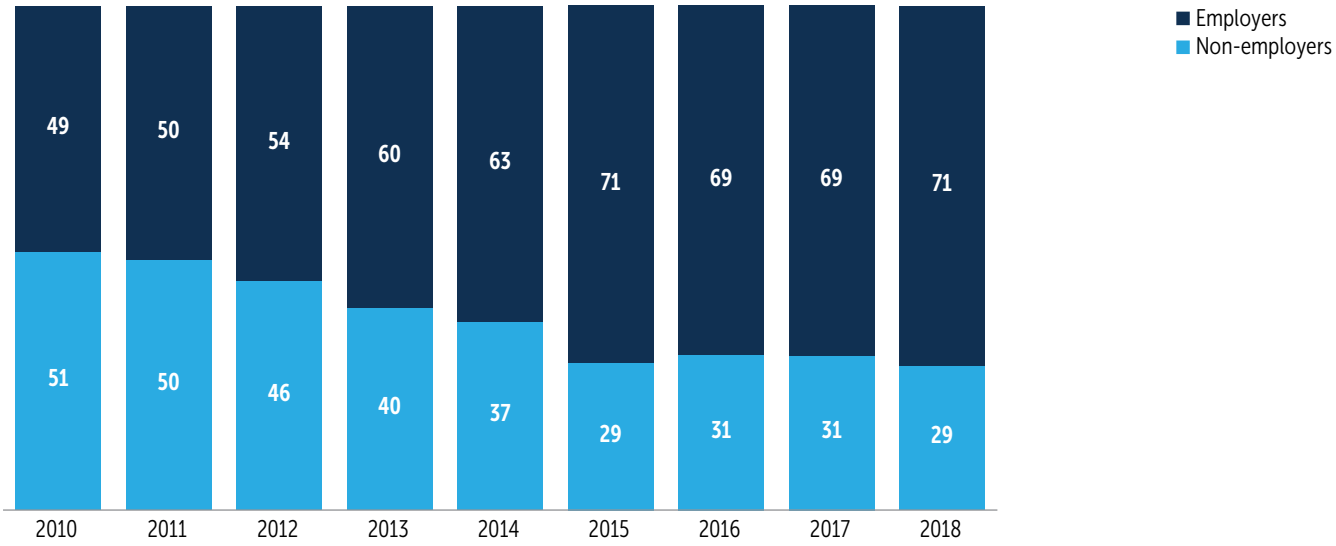
Source: World Bank's own calculations based on KTR.

18 The administrative data broadly coincides with KTR information; according to KSA national accounts data, gross employment, measured by number of employees, went up by about 50 percent between 2009 and 2019 and 20 percent between 2015 and 2019 (https://askdata.rks-gov.net/PXWeb/pxweb/en/ askdata/).

Job creation was partly related to workers being registered by firms that had not reported employees before. The proportion of active firms reporting employees went from 63 percent in 2014 to 71 percent in 2018 (Figure 23), and new registrations explained about 22 percent of net job creation. Similarly, Table A1.1 in Annex 1 shows that the average number of employees per firm practically doubled (from 3 to 6) between 2010 and 2018 but the median number basically did not vary. Finally, Table A2.4 in Annex 2 also indicates that firms that started reporting employees experienced faster employment growth in the years thereafter.

Figure 23.

Firms Reporting Employees, Percent of Total Firms, 2010–2018



Source: KTR; World Bank staff calculations.

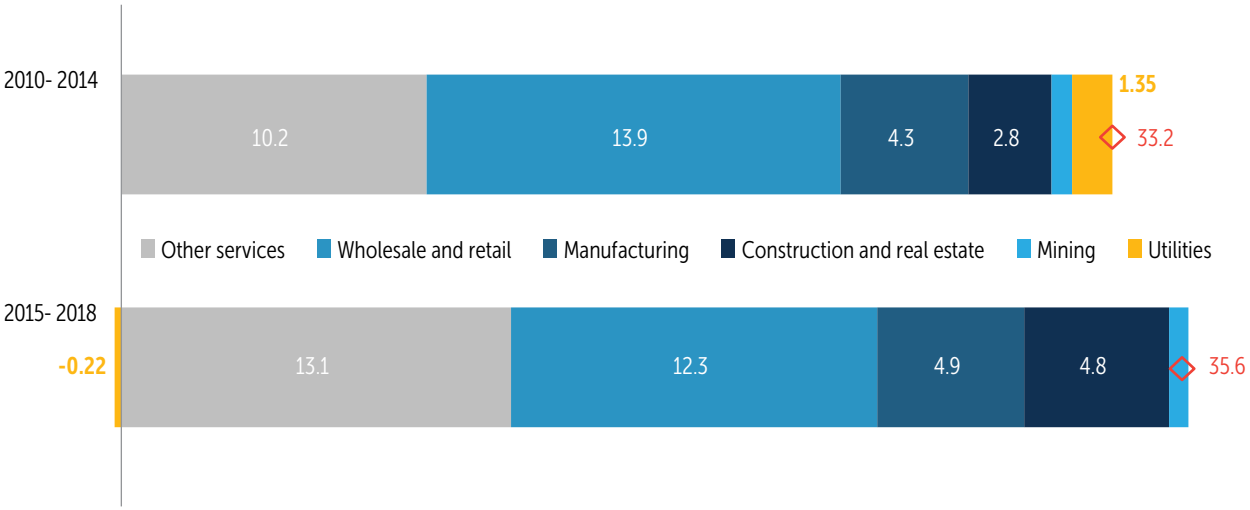
Notes: Activities B-N (excluding K64.2) of NACE Rev. 2.

Younger firms with higher productivity and access to credit had higher net job creation rates. Firms with higher revenues per capita tend to experience higher net job growth rates (Table A2.4. The magnitude of the coefficient is even larger when controlling for industry (NACE 4 digits), geographic (municipality), and time (year) fixed effects. The negative sign of the age coefficient suggests that younger firms experience higher net job creation. Access to credit is also positively correlated with more rapid employment growth.

By sector, employment growth was mainly driven by W&R and other services and to a lesser extent by manufacturing and construction. Other services and W&R accounted for about 25 pp out of nearly 35 percent of total job growth in both 2010–14 and 2015–18. Manufacturing and construction explained between 4.3–4.9 and 2.8–4.8 percent of total job growth, depending on the period; mining and utilities (electricity, gas, water and sewerage services) accounted for only a minor share (Figure 24).

Figure 24.

Contribution to Employment Growth by Sector, 2010–14 and 2015–18, Percent



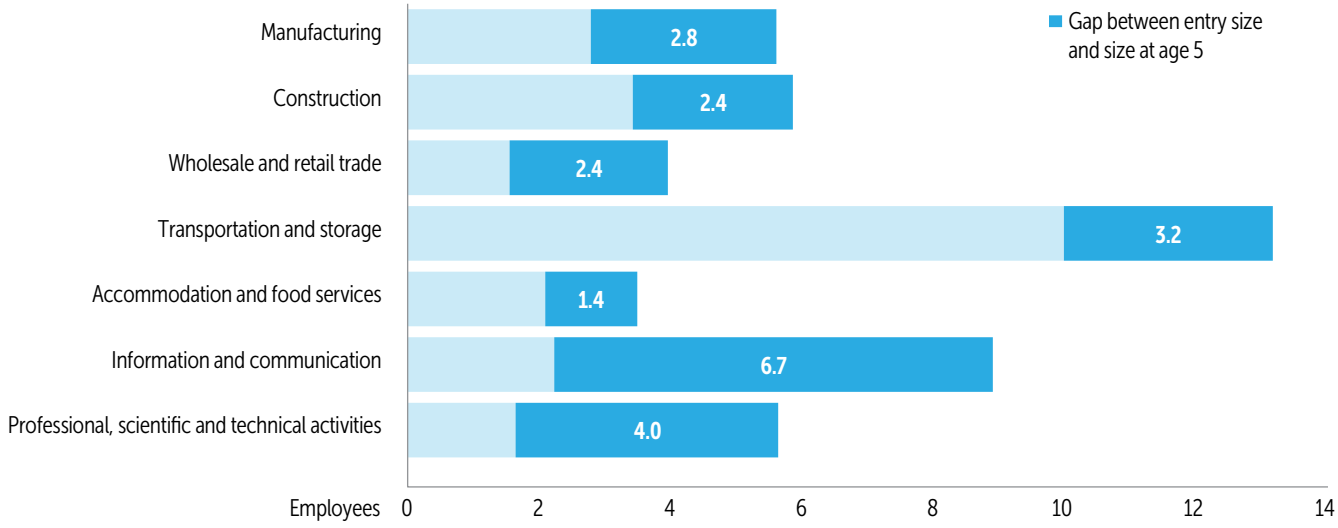
Source: KTR; World Bank staff calculations.

Note: Activities B-N (excluding K64.2) of NACE Rev. 2.

ICT and professional services are the most dynamic job creators. The data on job creation in the five years after firm entry reveal that the most dynamic activities are information and communication, which averages 6.7 employees, and professional services, 4. In industries with large numbers of workers and contribution to total job creation, such as W&R, construction, and manufacturing, new firms managed to create only half as many jobs as the more dynamic industries (Figure 25).

Figure 25.

Employment Growth, Firms by Sector Surviving 5 Years, Average Number of Employees, 2017–18



Source: KTR; World Bank staff calculations.

Notes: Difference between t the number of employees and the number of employees five year later conditional on the firm "surviving" or reporting sales in the previous year. We report activities in which more than 10 companies enter the market. See Annex 1 for more detailed sector classification.

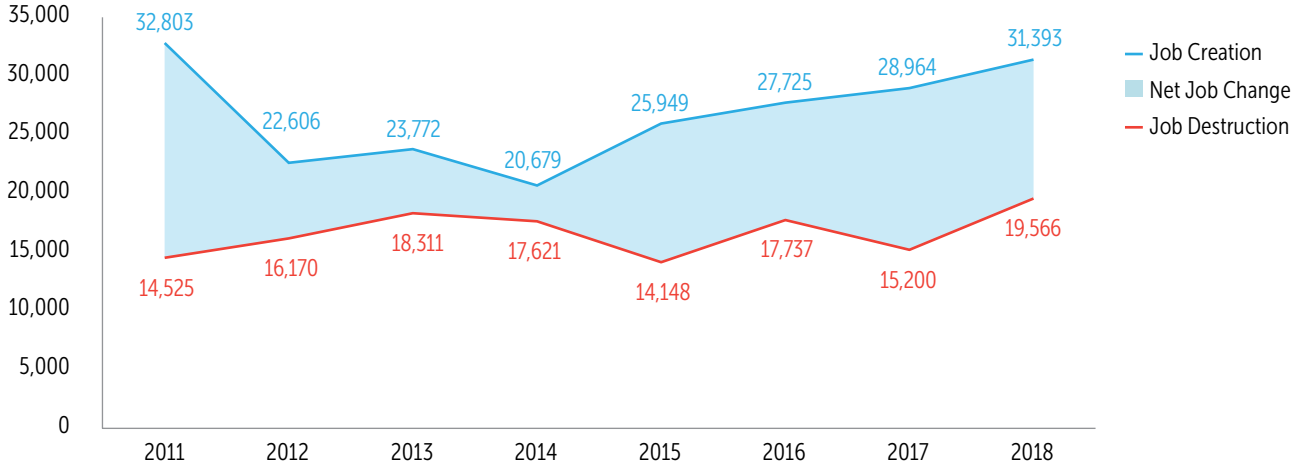
From 2015 on, annual net job creation doubled, driven by rising job creation and falling job destruction, almost all by incumbent firms. As a result, the economy has been creating an average of about 10,000 net new jobs annually, about twice the net jobs created annually between 2011 and 2014 (Figure 26A). Rising net job creation among incumbent firms, and to a lesser extent, entry of new firms, along with relatively stable exit rates, largely explain the rise in aggregate net job creation (Figure 26B).

Figure 26.

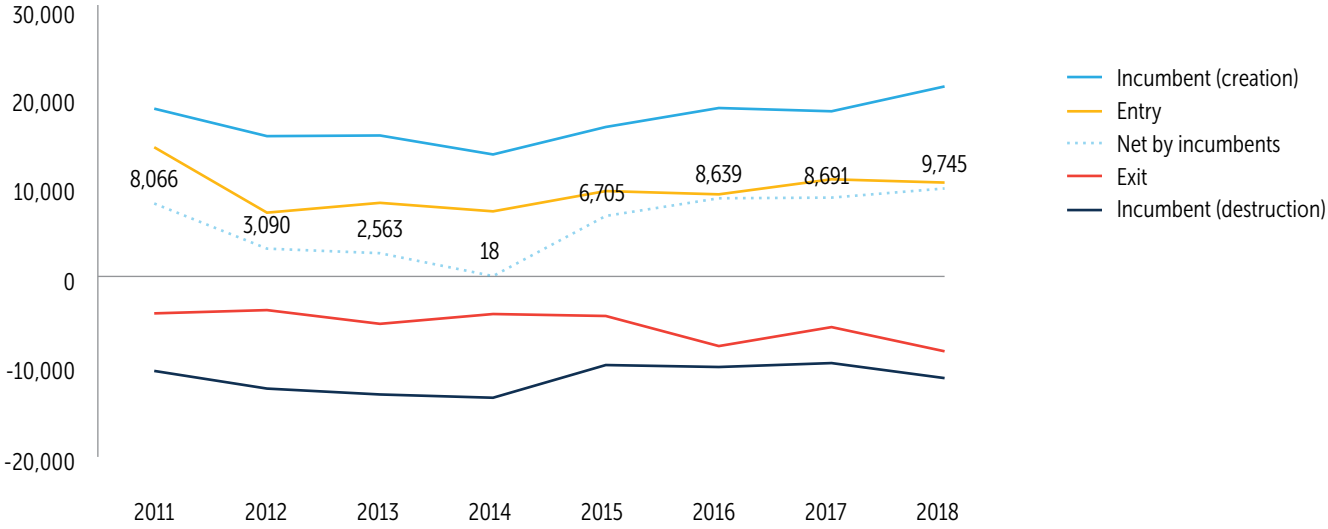
Net Job Creation, 2011–18

a) Net change in number of jobs

Employed persons



b) Incumbents entering and exiting



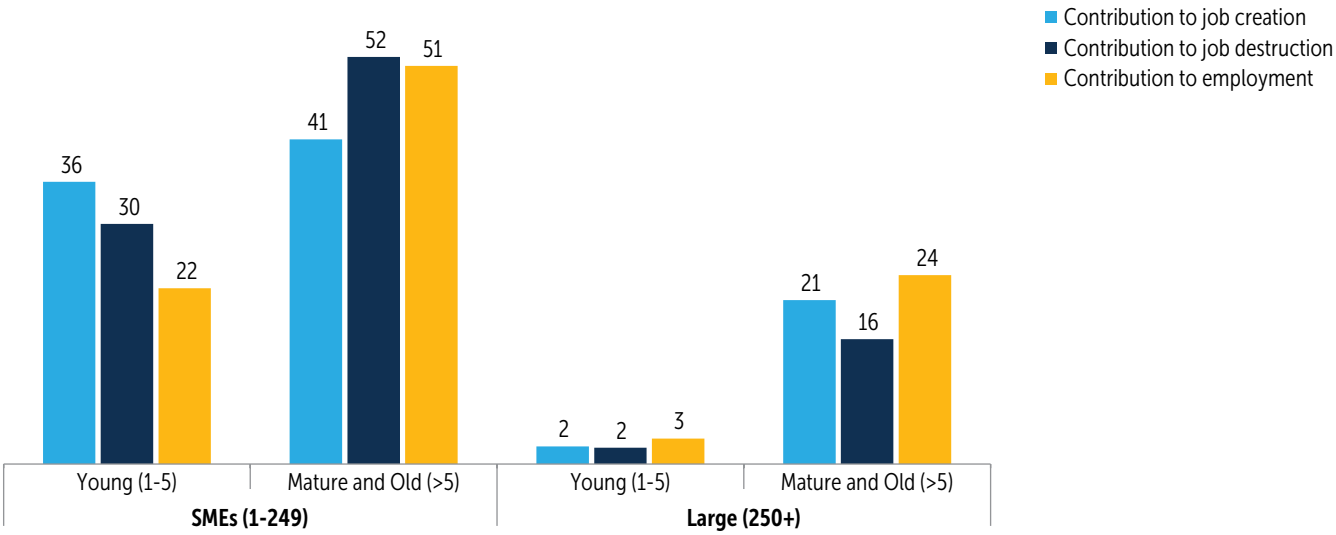
Source: KTR data; World Bank staff calculations.

Note: Net job change equals gross job creation minus gross job destruction. Activities: B-N (excluding K64.2) of NACE Rev. 2. See Annex 1.A for detailed definitions of incumbent, entry, and exit.

Young SMEs are driving job creation. Although they contribute just 25 percent of total employment, young SMEs accounted for nearly 40 percent of the jobs created annually between 2016 and 2018. As firms mature, they lose some dynamism. Even among small and medium companies, mature and old firms explain 50 percent of total employment but only one-third of gross job creation. Furthermore, large, mature firms contribute less than proportionately to gross job creation (Figure 27).

Figure 27.

Job Creation, Destruction, and Employment by Firm Age and Size, Average 2016–18



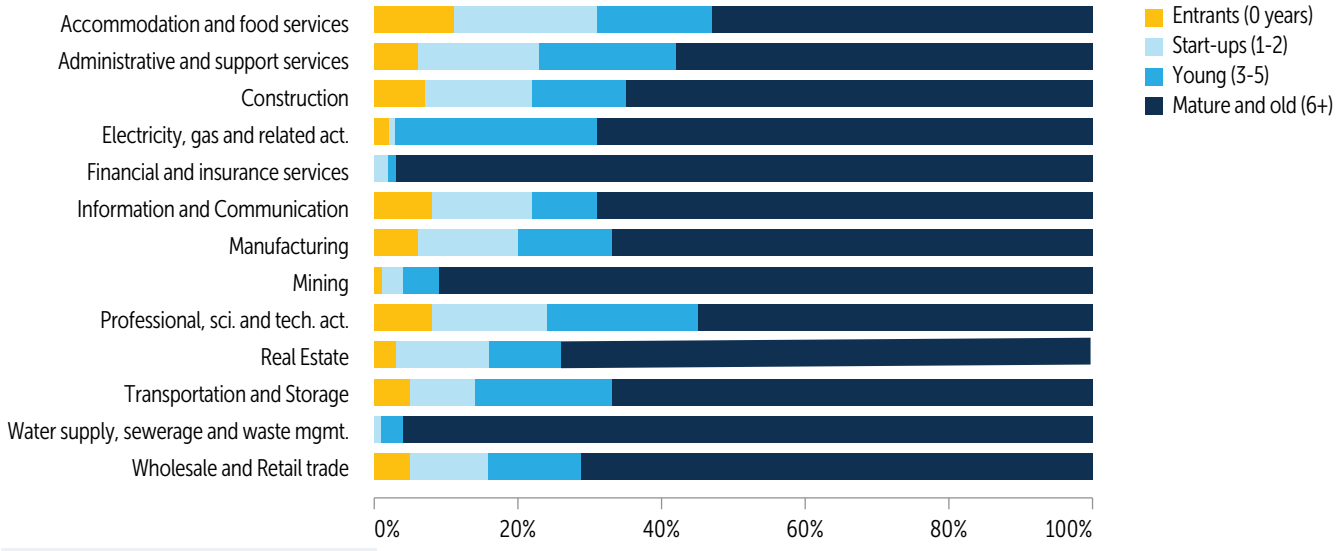
Source: KTR; World Bank staff calculations.

Notes: Using the same criteria as Criscuolo, Gal, and Menon 2014 we exclude entrants (0 years). Young are companies 0–5 years of age; mature and old firms have lasted more than five years. Activities: B-N (excluding K64.2) of NACE Rev. 2. Micro firms average 0–9 employees, small 10–49, medium 50–249, and large 250 and more.

In 2010–18 young firms and startups, including entrants, accounted for about 45 percent of total employment. On average, startups accounted for about 33 percent of total employment, young firms for about 16 percent, and mature firms for the rest. However, there is considerable heterogeneity by sector. Setting aside entrants, the proportion of jobs in younger firms is largest in accommodation and food services, 74 percent, and professional and administrative services, about 60 percent each. In contrast, about 95 percent of workers in financial services and water supply and 90 percent in mining are employed by mature firms (Figure 28).

Figure 28.

Employment by Firm Age, Percent of Total, Average 2016–18



Source: KTR; World Bank staff calculations.

Notes: Entrant firms have less than a year in the market, startups up to 2 years, young up to 5 years, and maturing more than 5 years. Activities: B-N (excluding K64.2) of NACE Rev. 2. Calculations for this figure do not match exactly the estimates in Figure 26 because they incorporate entrants and startups and do not consider the contribution of age by firm size class. See Annex 1 for more detailed sector classification.



02

Firm Productivity and Access to Credit

This section first presents the main results of our estimates of TFPR and LP for 2013–17.[19] It then examines the drivers of TFPR growth and compares TPFR in domestic firms, firms with foreign shareholders, and exporters. It also assesses productivity differences by the gender of the firm decisionmaker. Finally, it delves into the links between access to credit and productivity and the main barriers to productivity growth.



19 We exclude 2018 from the productivity analysis because reporting of key variables, such as investment and purchases of inputs is significantly lower in that year than in previous years.

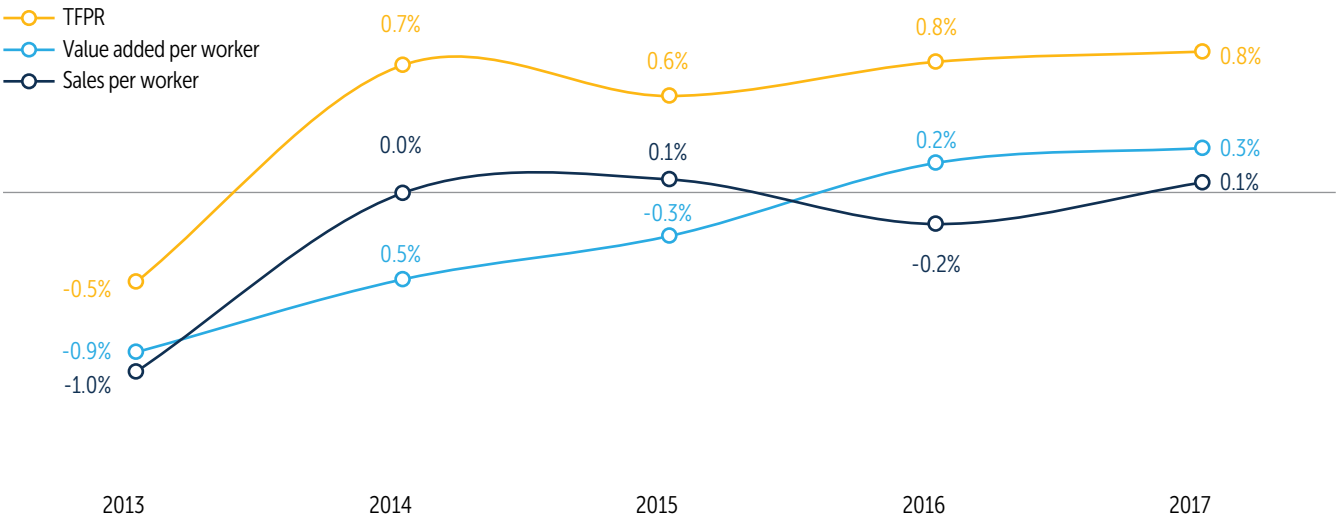
1.3. TFPR and Labor Productivity

Between 2013 and 2017, TFPR grew by 0.5 percent annually, but LP (value added per worker) fell by –0.25 percent. Although TFPR growth in Kosovo was negative in 2013 (–0.5 percent), between 2014 and 2017 it grew at an annual average of about 0.7 percent. While LP growth, proxied by value added per worker, was negative in 2013–15, it was marginally positive in 2016 at 0.17 percent and 2017 at 0.26 percent. During this period proxies for LP, sales per worker, and average wages per worker, exhibited similar dynamics (Figure 29A). This timid recovery in productivity growth rates coincided with the acceleration in net job creation (see Figure 21). Between 2012 and 2017, TFPR grew by 2.4 percent, while LP measured as sales fell by 1.1 percent, as value added per worker by 1.2 percent, and as sales per worker by 0.5 percent (Figure 29B).

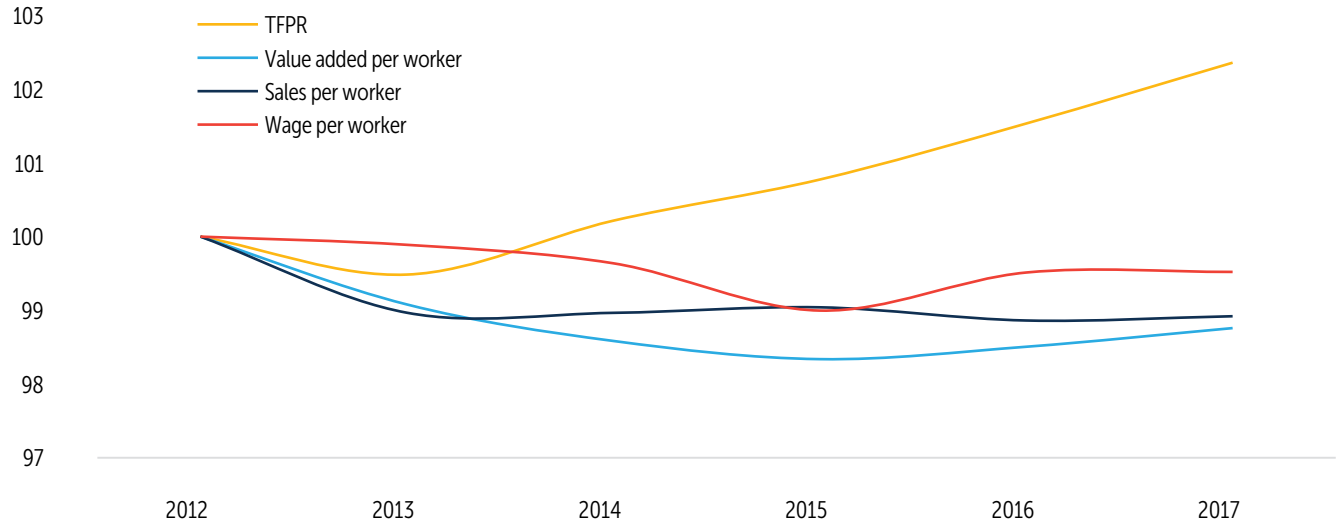
Figure 29.

TFPR, Sales, and Value Added per Worker, 2013–17

a) Annual Percent Change



b) Index 2013=100



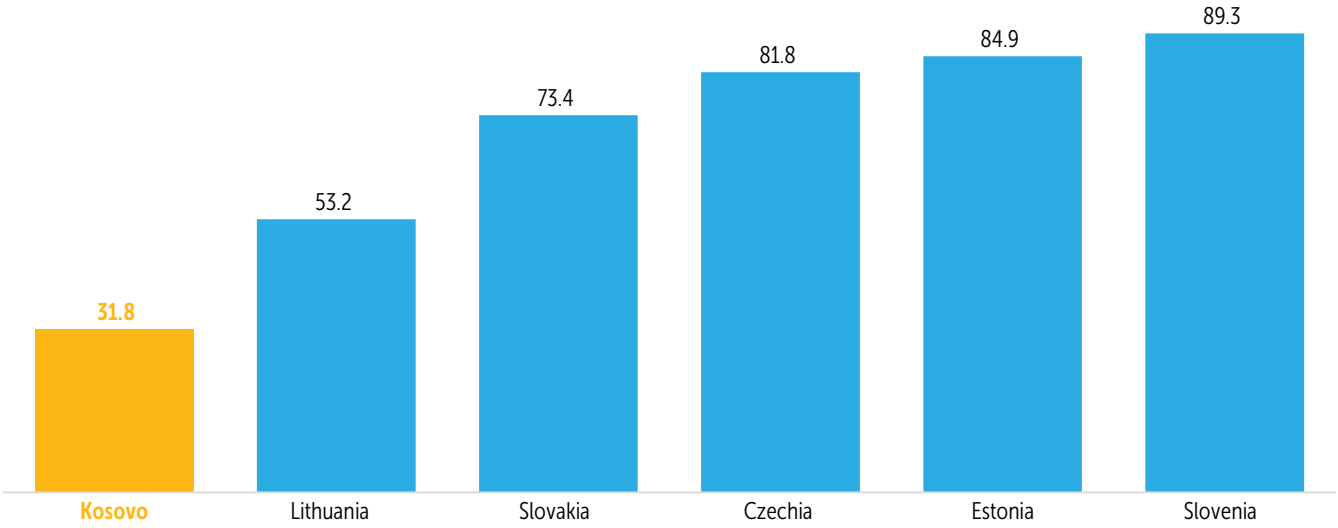
Source: KTR; World Bank staff calculations.

Notes: TFPR and value added per worker are adjusted for firm entry and exit (Melitz and Polanec, 2015). TFPR is estimated following Levinsohn and Petrin (2003). Figures are weighted by firm employment in the entire sample dataset (see Box 1 for details). We include the total business economy, repair of computers, personal and household goods, except financial and insurance activities.

Labor productivity in Kosovo is only one-third that of the EU; and it is much lower than in aspirational countries. Kosovo's LP (sales per worker) of 33.5 percent of the EU average compares badly to Lithuania's 53 percent and the even higher LPs of Slovakia, Czechia, Estonia, and Slovenia (Figure 30).

Figure 30.

Labor Productivity Relative to the EU, 2018, Percent



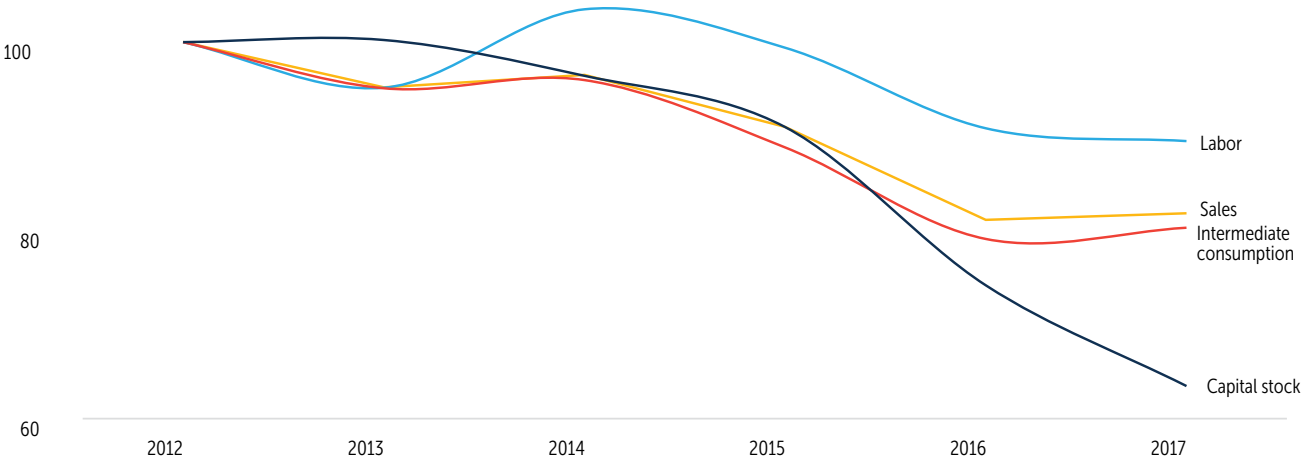
Source: KTR; World Bank staff calculations.

Notes: Labor productivity is calculated as the ratio of total turnover (sales) in euros to the total number of employees. We include the total business economy, repair of computers, and personal and household goods, except financial and insurance activities. The figure depicts LP in each country relative to the EU average LP as percent.

Between 2012 and 2017 use of capital and intermediate inputs by Kosovar firms declined. Figure 31 suggests that during the period TFPR growth was partly driven by that decline, although firm output decreased to a much lesser extent; firms were able to produce the same output with less inputs of production. In parallel, the use of labor fell less than proportionately to the use of capital, suggesting that firms also became more labor-intensive.

Figure 31.

Labor, Capital, and Intermediate Inputs, 2012–17, Index 100=2012



Source: KTR; World Bank staff calculations.

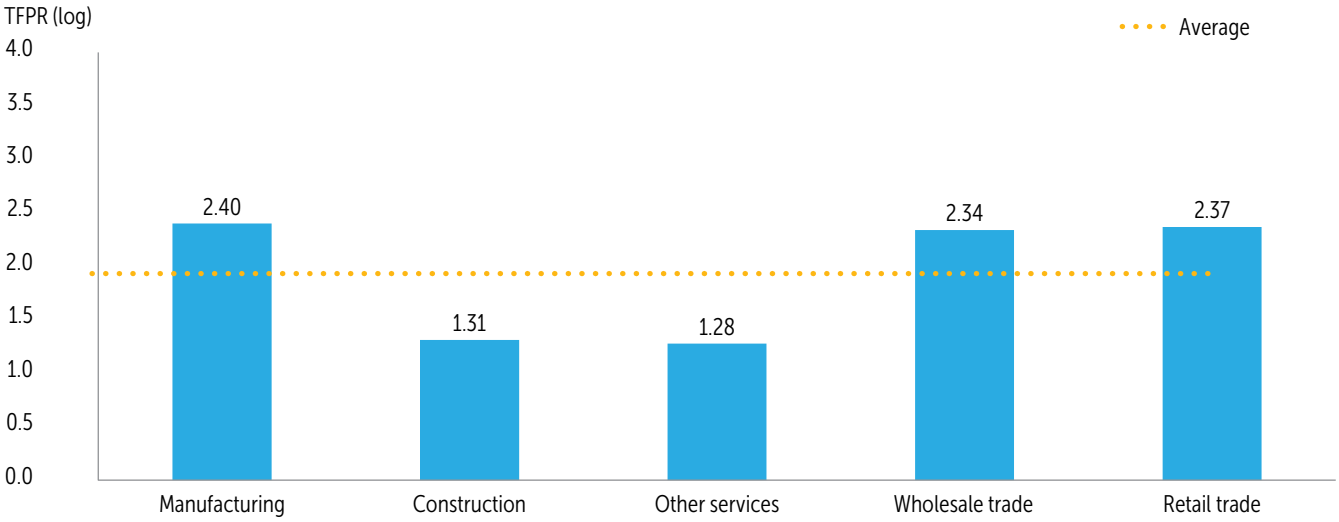
Notes: Labor is calculated as the number of employees times the average wage (wage bill) in order to control for possible heterogeneities in worker labor productivity. The figure only comprises the sample of firms with data available to estimate TFPR. Activities: B-N (excluding K64.2) of NACE Rev. 2.

Manufacturing is the activity with the highest TFPR—about 26 percent higher than the average sector, closely followed by retail (24.7 percent) and wholesale (23.2 percent). Construction and other services are the industries with the lowest TFPR, about 30 percent lower than the average sector (Figure 32A). Looking at LP, Figure 32B shows wholesale trade has the highest value added per worker, follow by construction and manufacturing.

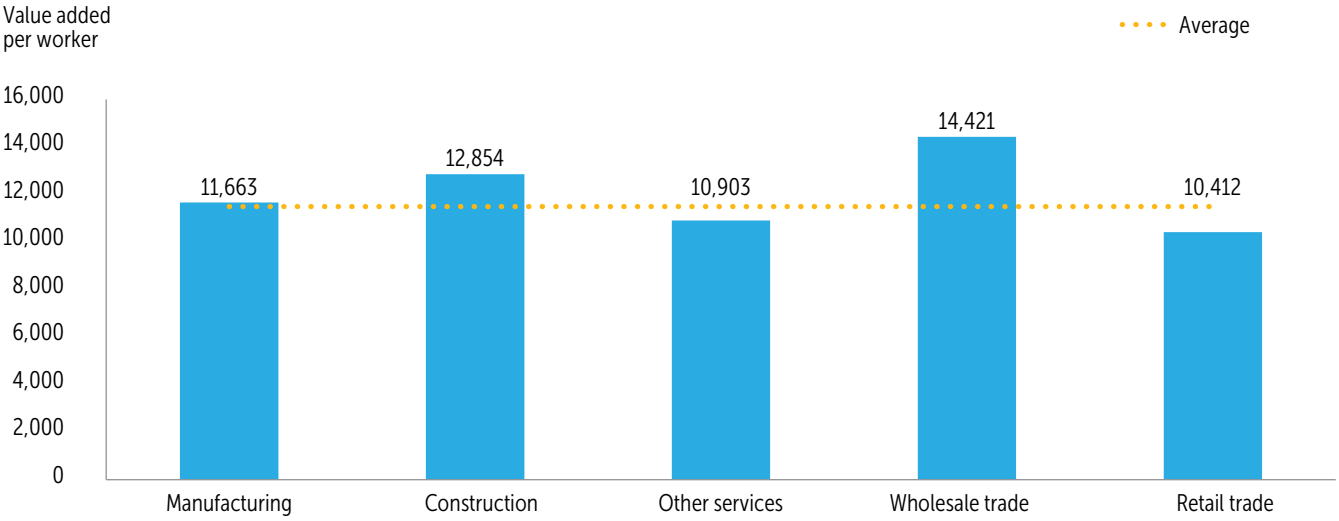
Figure 32.

TFPR and value added per worker by Sector and Average

a) TFPR by Sector and Average in logs



b) Value Added per Worker by Sector and Average in Euros



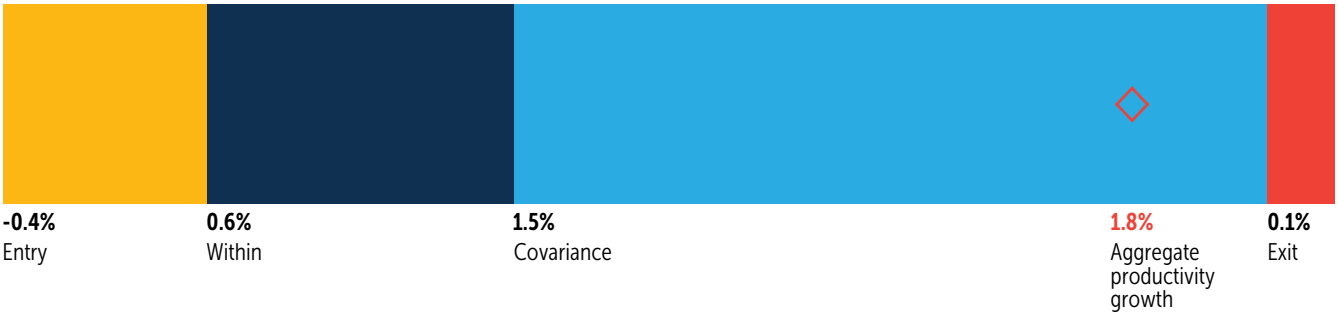
Source: KTR; World Bank staff calculations.

Notes: Labor productivity is calculated as total value added (total sales minus input purchases) divided by the number of employees. Like the TFPR calculations, LP estimates were adjusted by for firm entry and exit (Melitz and Polanec 2015). Sector averages were calculated using firm employment weights (see Box 1 for details). Activities: B-N (excluding K64.2) of NACE Rev. 2.

TFPR growth has been driven by market reallocation toward more productive firms. Box 2 explains how the sources of TFPR growth are decomposed in this note following Melitz and Polanec (2015). Figure 33 shows that in the 2012–17 period about 80 percent of average TFPR annual growth rate explained by the increasing productivity of incumbent firms (covariance), reflecting a reallocation of labor and other inputs to the most productive companies (Foster, Haltiwanger, and Krizan 2001).

Figure 33.

Decomposition of TFPR Growth, 2014–17, Percent Change



Source: KTR; World Bank staff calculations.

Notes: TFPR was calculated following Levinsohn and Petrin (2006), adjusted for firm entry and exit (Melitz and Polanec 2015). Covariance refers to the change in the share and average productivity of incumbent firms; within denotes the change in average firm productivity; and entry and exit refers to the contribution to aggregate TFPR of firms exiting and entering the market. Activities: B-N (excluding K64.2) of NACE Rev. 2.

The contribution of firm productivity, typically related to the adoption of technology, innovation, and improved management techniques, was much lower in Kosovo than in other developing countries; firm dynamism had only a marginal role. "Within" firm productivity growth only accounted for about a third of TFPR growth, far less than in other developing countries for which there is comparable data.[20] Underscoring once again the lack of dynamism of Kosovo's economy, exit of less productive firms had only a relatively minor, though positive, role, and entry of new firms contributed negatively to aggregate TFPR growth (Figure 32).

Box 2. Decomposing the Sources of TFPR Growth[21]

In this note, TFPR is decomposed into different components following Melitz and Polanec (2015) to gauge how much surviving, entering, and exiting firms contribute to aggregate productivity changes. The contribution of incumbent firms is decomposed further into the reallocation of resources across firms by the *between* component (measured by the covariance term); and increases in productivity *within* firms.

The between component is positive when resources are allocated from less productive to more productive firms and the within component is positive when existing firms become more productive due to technology adoption, innovation, and better managerial skills. Among barriers to reallocation of resources might be trade barriers, excessive regulations, and overbearing state-owned enterprises.

Kosovo's economy is producing low-quality entrants: new firms are smaller, pay lower wages, and are far less productive than the median company. Figure 34 illustrates[22] that entrants' sales are only 33 percent of a median company's sales. Similarly, employment of a Kosovar entrant is only about 40 percent of that of a median company's. Moreover, entrants pay 30 percent less in wages, sales per worker is only about 20 percent, and TFPR is 11 percent lower when compared to the median firm.

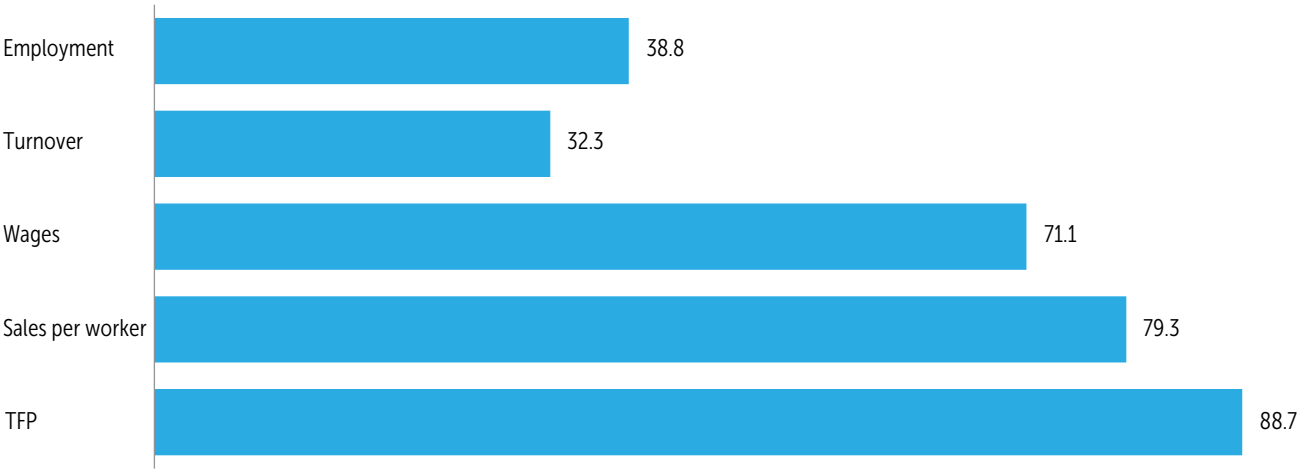
20 According to Iacovone et al. (2018), the "within" component accounted for more than 40 percent of the variation in TFPR growth in their sample of Latin American economies. Similarly, Cusolito and Maloney (2018) found that the "within" component accounts for more than 33 percent of TPFR variation in their sample of developing countries.

21 Based on Cusolito and Maloney (2018)

22 It refers to the median LP and TFPR of incumbents, entrants, and exiting firms.

Figure 34.

Characteristics of Entrants Relative to the Median Firm. Percent



Source: KTR; World Bank staff calculations.

Notes: TFPR was adjusted for firm entry and exit (Melitz and Polanec 2015). TFPR is estimated following Levinsohn and Petrin (2003). Figures are weighted by employment in the entire sample dataset (see Box 1 for details). Activities: B-N (excluding K64.2) of NACE Rev. 2. (See Annex 1A for more detail of the definitions of incumbent, entry and exit.

There are large and persistent differences in TFPR and LP by firm and sector. For instance, median TFPR in the 90th percentile is 1.6 times higher than in the 10th percentile. As for LP, the differences in productivity are even starker: about 90 times between leading (90th percentile) and laggard firms (10th percentile). By sector, dispersion in TFPR is largest in wholesale trade (1.9 times) and manufacturing (1.8), but less marked in construction (1.3) and services (1.34). Similar results are obtained for LP but with larger differences. By firm size, micro companies (0-9 employees) exhibit the largest distance between leading and laggard firms in LP (about 98.7 times), although the difference is smaller in TFPR. By contrast, productivity dispersion is largest in medium (50-249 employees) and large (250+) companies with respect to median TFPR than with respect to median LP (Table 3).

Table 3. Ratio of Productivity in "Laggard" (90th percentile) to "Frontier" (10th percentile) Firms by Sector and Size, Average 2012-18

Dimension	Category	TFPR	Sales per worker
Sector	Other services	1.445	52.5
	Manufacturing	1.797	52.1
	Retail trade	1.646	65.9
	Wholesale trade	1.878	126.7
	Construction	1.328	149.7
Size class	Micro (0-9)	1.456	98.7
	Small (10-49)	1.540	27.4
	Medium and large (50+)	1.879	23.1
Sector average		**1.595**	**89.370**

Source: KTR; World Bank staff calculations.

Notes: TFPR was calculated following Levisohn and Petrin (2006), adjusted for firm entry and exit (Melitz and Polanec 2015). LP is also adjusted by firm entry and exit. TFPR and LP dispersion is calculated as the ratio between mean TFPR/LP in the 90th percentile relative to mean TFPR/LP in the 90th percentile at NACE 2-digit.

Micro firms are much less productive than small, medium, and large firms, especially in wholesale and manufacturing. Median TFPR in small firms is more than double than median TFPR in micro firms and is 1.3 times larger in large companies. These differences are even more pronounced in wholesale, in which median TFPR in medium and large firms is 1.6 times higher than in micro firms, and in manufacturing, where median TFPR in medium and large firms is 1.5 times higher than micro firms; the productivity gap between micro and other firm classes is smaller in construction (1.03) and other services (1.07) (Table 4).

Table 4. TFPR in Micro-Enterprises Relative to Other Firm Classes

Sector	Size class	Ratio
Manufacturing	Small	1.136
	Medium and Large	1.467
Construction	Small	0.999
	Medium and Large	1.038
Services	Small	0.976
	Medium and Large	1.070
Wholesale	Small	1.147
	Medium and Large	1.591
Retail	Small	1.132
	Medium and Large	1.407
Average	**Small**	**1.078**
	Medium and Large	**1.315**

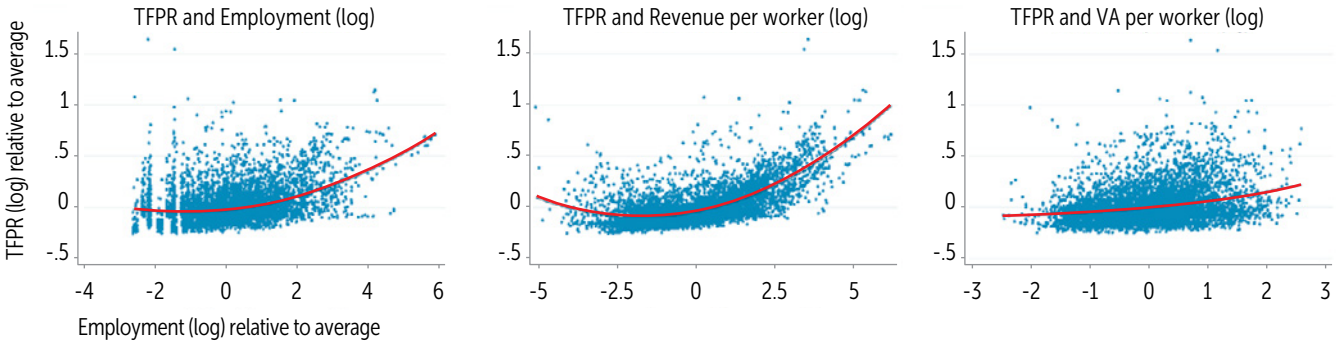
Source: KTR; World Bank staff calculations.

Notes: TFPR was calculated following Levisohn and Petrin (2006), adjusted for firm entry and exit (Melitz and Polanec 2015). LP iis also adjusted by firm entry and exit. Dispersion is the average logged difference between TFPR in micro firms and the other firm classes. The TFPR ratio equals $e$lnT(FPRm) -ln(TFPRj) where ln(TFPRm) is the logged median TFPR in m micro-firms and ln(TFPTj) is the logged median in j, the other firm classes.

Higher TFPR is correlated with higher employment, revenues per worker, and to a lesser extent, value added per worker. The simple correlations plotted in Figure 35 indicate that more productive firms have far more workers and sales per worker, and to a lesser extent, more value-added per worker. Table A2.5 in Annex 2 shows that these correlations are robust to controlling for firm size and capital stock as well as sector, location (municipality), and year fixed effects.

Figure 35.

TFPR, Employment, Revenue, and Value Added per Worker, Logarithms, 2012–18



Source: KTR; World Bank staff calculations.

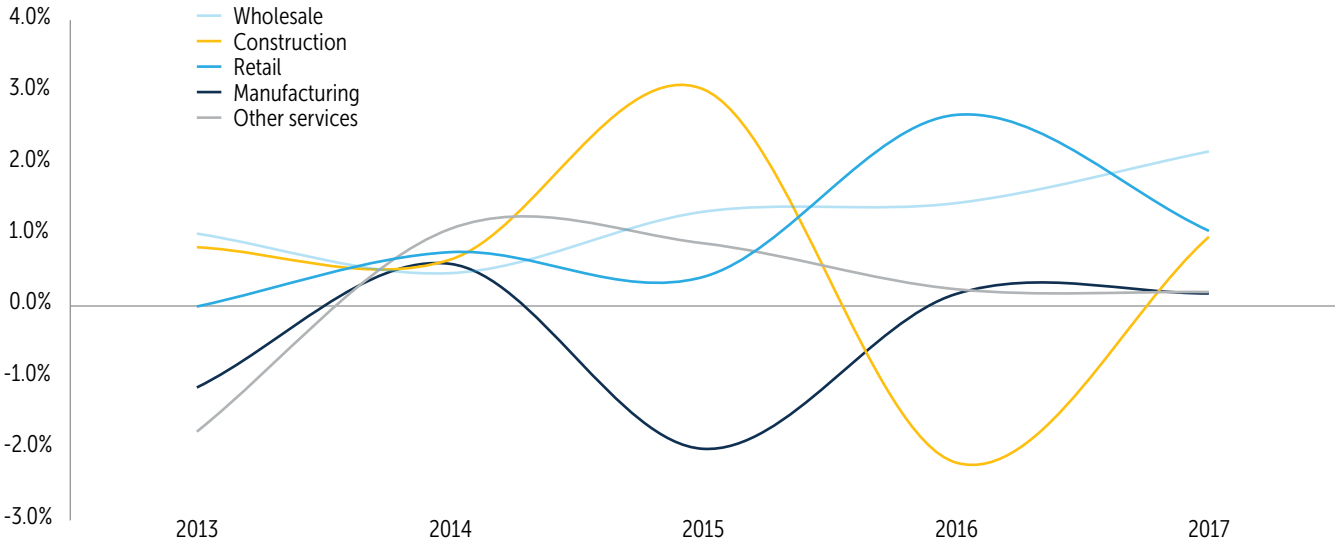
Notes: TFPR, employment, revenue, and value added per worker (in logs) relative to industry-by-year average. Activities: B-N (excluding K64.2) of NACE Rev. 2.

Wholesale was the activity that had the highest TFPR growth rate in 2013–17. Between 2013 and 2017, TFPR in wholesale grew by 6.55 percent, followed by retail (5 percent) and construction (3.26 percent). In contrast, TFPR in manufacturing fell by –2.2 percent, but growth was also low in other services (0.6 percent). During that period, wholesale also had the highest annual average TFPR growth, 1.3 percent, almost triple the economy's average of 0.5 percent, followed by construction (1 percent). Manufacturing had negative average annual TPFR growth of –0.5 percent), and for other services at 0.7 percent it was just above the average (Figure 36A).

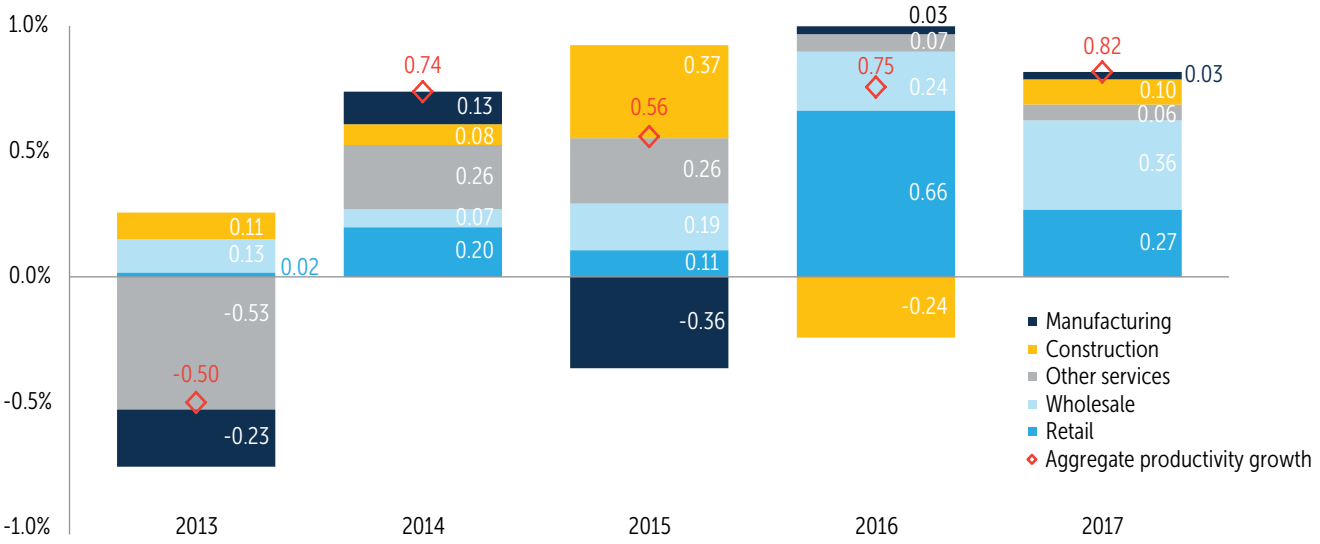
Figure 36.

Total Factor Productivity Revenue (TFPR) by Sector, 2013–17

a) Year-on-year percent change



b) Contribution to TFPR Growth by sector, percent change, 2013–17



Source: KTR; World Bank staff calculations.

Notes: TFPR is calculated following Levisohn and Petrin (2006), adjusted for firm entry and exit (Melitz and Polanec 2015). See Box 1 and Annex 1 for details. Activities: B-N (excluding K64.2) of NACE Rev. 2

Wholesale and retail were the main engines of aggregate TFPR growth between 2013–17 (Figure 36B). Wholesale accounted for about 50 percent and retail for 40 percent of yearly aggregate productivity growth. Construction explained another 17 percent and other services 5 percent, but manufacturing dragged down aggregate TFPR performance with negative growth in 2013 and 2015 and only marginal positive contributions in the other years.

Firms engaged in international trade are larger, more productive, more capital-intensive, and pay higher wages than domestically oriented companies. Firms that export and import have on average more employees and sales, higher value-added, and higher capital stock and wages per worker (Table A2.6 in Annex 2). Similar results, though with less statistically significant coefficients, are obtained for firms engaged exclusively in either exporting or importing. These results are robust to controlling for time, municipality, and industry fixed effects.

Firms in which more than 50 percent of shareholders are foreign are also larger, more productive, more capital-intensive, and pay higher wages (Table A2.8). In contrast, firms with lower foreign-shareholding are statistically indistinguishable from domestic-owned companies except for higher wages and capital per employee. It appears that in Kosovo managerial control by foreign investors rather than just foreign shareholders might be correlated with higher productivity. Results are robust even when time, municipality fixed effects and firm size are controlled for.

Firms with female decisionmakers, especially in manufacturing and W&R, tend to be smaller, less productive, and more labor-intensive (Table A2.8). Female-run companies have 20 percent fewer employees than male-run firms and 57 percent lower total sales. These differences are much larger for manufacturing and W&R enterprises, though not statistically significant for other sectors. Sales per worker are on average 10 percent lower in female-run firms in general, and about 30 percent lower in female-run manufacturing companies. Moreover, female-run companies average 30 percent less capital per worker, with larger differences in W&R, manufacturing, and professional services.

1.4. Access to Credit and Productivity

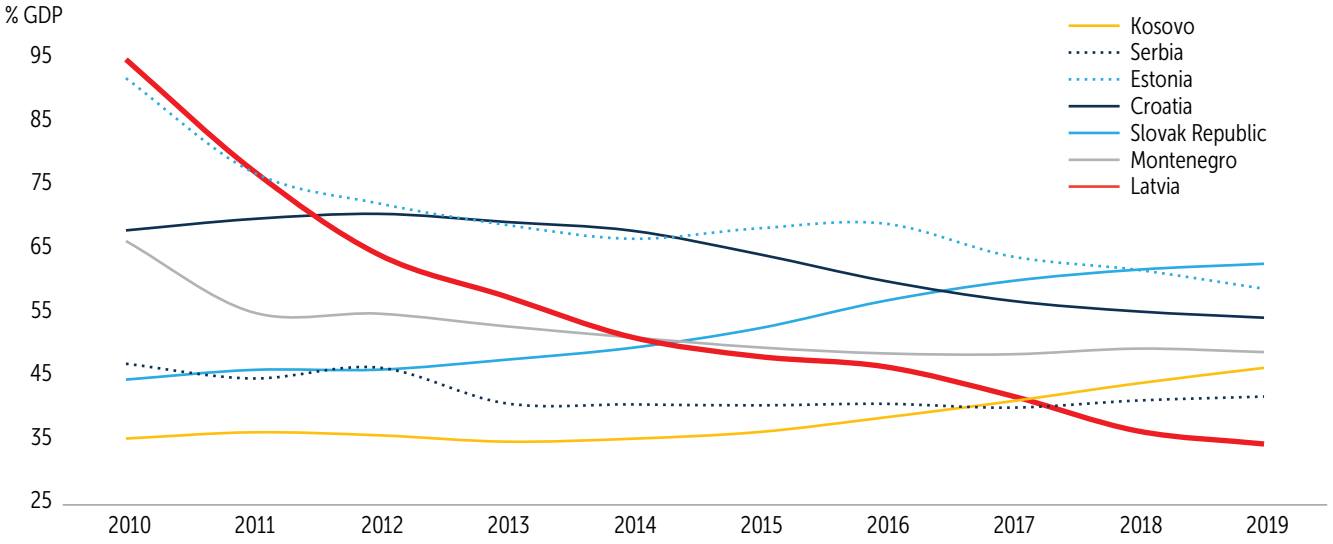
Limited access to finance can affect firm productivity in several ways. It can prevent hiring workers, innovation, and investment. On the other hand, it can induce exit of less productive firms, which may benefit aggregate productivity growth. Credit constraints can discourage entry of potentially more productive new firms, which may also induce a fall in total productivity growth. Finally, restricted access to credit may have reallocation effects, by forcing less productive firms to shrink and by restricting expansion of more productive companies (Linarello et al. 2019)

This section analyzes the links between access to credit and TFPR based on detailed micro data from the KCR, combined with firm-level information from the KTR (see Box 1 and Annex 1 for details). It first examines the recent evolution and sector distribution of credit to the private sector. It then explores two dimensions of the credit-productivity nexus: (1) what determines access to credit; and (2) the links between access to formal finance and firm TFPR growth.

Between 2010 and 2018, domestic credit to the private sector in Kosovo increased by 24 percent, from 35.4 to 44.1 percent of GDP. Despite this positive performance, other comparator countries, such as the Slovak Republic, Estonia, and Croatia, registered much higher and faster growth in their credit-to-GDP ratios (Figure 37).

Figure 37.

Domestic Credit to the Private Sector, Percent of GDP



Source: WDI 2021.

Less than a third of firms have access to financing in Kosovo through formal channels. The activities with the highest proportion of firms with that access are mining 47 percent, and construction 42 percent; the industries with the least access to credit are accommodation and food services and professional services, all about 20 percent (Table 5).

Table 5. Credit in Kosovo, Summary Statistics, 2018

Sector	Firms Accessing Credit (%)	Loans per Firm (€'000)	Total Loans (€ million)	Share of Total Loans (%)	Nominal Interest Rate (pp)
Mining and quarrying	47.7	163.2	10.8	0.9	5.0
Manufacturing	32.5	139.9	198.7	18.5	4.9
Electricity, gas, steam and air-conditioning supply	28.4	449.6	5.0	0.4	2.7
Water supply; sewerage, waste mgmt. and remediation act.	38.3	59.9	2.9	0.3	5.1
Construction	42.3	195.6	171.0	15.0	3.2
Wholesale and retail trade	25.8	144.4	575.1	52.2	4.3
Transportation and storage	34.1	61.4	24.1	2.1	6.9
Accommodation and food services	20.1	46.9	31.2	2.9	6.1
Information and communication	25.2	154.5	25.2	2.4	5.9
Financial services	34.3	126.1	5.1	0.4	3.0
Real estate activities	14.5	319.7	3.3	0.3	3.5
Professional, scientific and technical activities	21.2	61.2	17.2	1.5	5.4
Administrative and support services	33.6	189.2	31.2	3.1	3.6
All firms	27.7	135.6	1,100.9	100.0	4.3

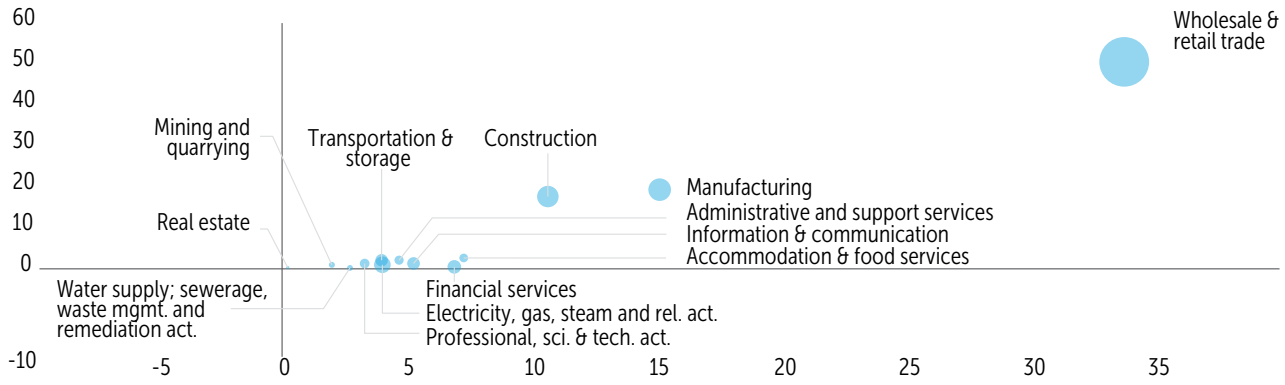
Source: KCR data; World Bank staff calculations.

Note: Firms not reporting location (municipality) were excluded from the sample.

More than 50 percent of banking credit is directed to W&R, followed by manufacturing (19 percent) and construction (17 percent). No other activity absorbs more than 3 percent of total financing. Accommodation, food services, and transportation have the lowest share of credit (Table 5). Credit to the private sector is therefore allocated to the economic activities with the largest shares in total employment (Figure 38). Qualitatively similar results are obtained when plotting the sectoral distribution of credit against the share of each activity in total sales or value added.[23]

Figure 38.

Credit Disbursed and Employment by Sector, 2010–18, Percent of Total



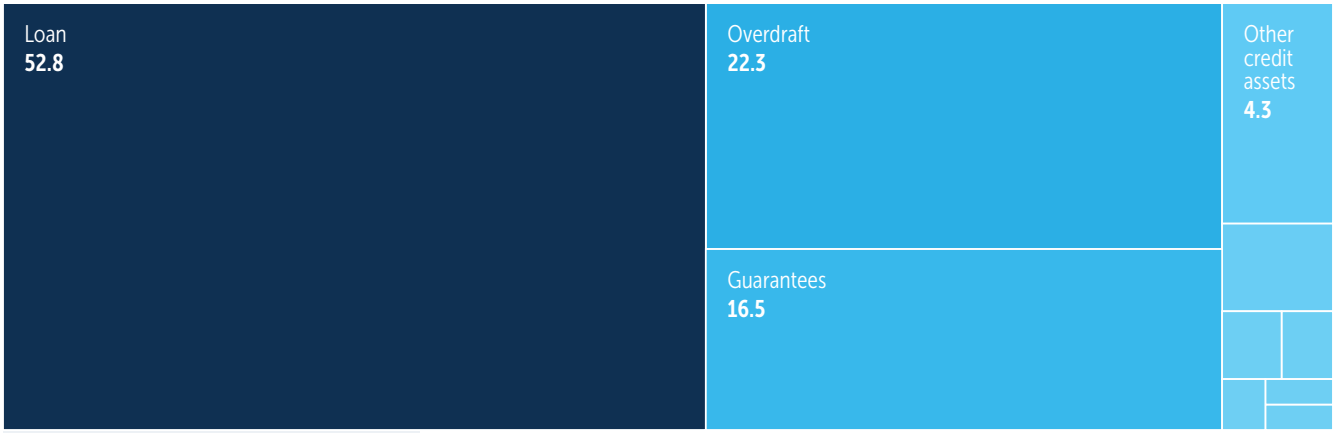
Source: KCR data; World Bank staff calculations.

23 Results not presented here in lieu of space but are available upon request to the authors.

By type of financial instrument, loans account for more than half of credit to the private sector. Overdrafts account for another 20 percent, followed by guarantees with 17 percent. Other forms of financing account for the remaining 11 percent, led by other credit assets at about 5 percent and letters of credit at about 3 percent. (Figure 39). The relative share of guarantees in total credit to the private sector has been relatively constant since 2015, averaging 15 percent.

Figure 39.

Credit to the Private Sector by Type, Average 2010–18, Euros and Percent of Total



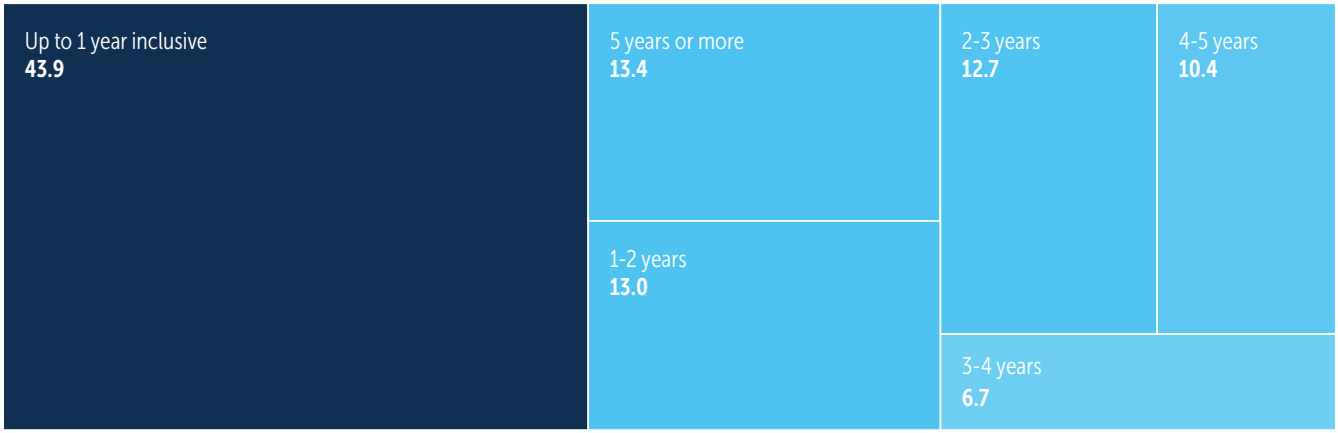
Source: KCR data; World Bank staff calculations.

Note: Firms not reporting municipality were excluded from the sample.

In Kosovo, 70 percent of credit to the private sector consists of short-term loans: 44 percent have a term of up to one year, 13 percent 1–2 years, and 12.7 percent 2–3 years (Figure 40). Clearly, long-term finance, which is typically linked to productivity-enhancing investments, is scarce in Kosovo.

Figure 40.

Loans to the Private Sector by Term (Years), Average 2015–18, Percent of Total



Source: KCR data; World Bank staff calculations.

Note: Firms not reporting municipality were excluded from the sample.

Micro enterprises, firms oriented to the domestic market, and startups are particularly affected by the lack of access to credit. According to the latest BEEPS, 74 percent of SMEs in Kosovo report having needed a loan but being either rejected or discouraged from applying— the largest share among Western Balkans countries.[24] Only 24 percent of micro firms have access to credit (Table 6). Moreover, access to financing is 7 pp lower for small enterprises (63 percent) than for medium and large firms (about 70 percent).

24 See https://www.beeps-ebrd.com/indicators/

Table 6. Access to Credit by Firm Class, Average, 2015–18

Characteristic	Type	Percent of Firms
Size class	Micro (0–9)	24.3
	Small (10–49)	63.4
	Medium (50–249)	72.8
	Large (250 and more)	71.2
Age class	Start-ups (0–2 years)	21.5
	Young (3–5 years; excludes Start-ups)	28.2
	Mature (6+ years)	31.2
Foreign trade	Non-exporter	26.6
	Exporter	57.8
	Non-importer	20.4
	Importer	53.9
Foreign shareholding	No foreign shareholders	45.2
	0.1–24.9% of total assets	42.0
	25–49.9% of total assets	36.9
	50–100 of total assets	54.2
Gender of decision-maker	Male-run companies	45.6
	Female-run companies	38.1

Sources: Data from Kosovo Tax and Credit Registries and KPS; World Bank staff calculations

Of the factors that affect creditworthiness, startups have the lowest proportion of firms with access to credit at about 22 percent, followed closely by firms not engaged in foreign trade: only 20.4 percent of non-exporters and 26.6 percent of non-importers were able to secure financing, compared to 57.8 percent of exporters and 53.9 percent of importers. Less than 40 percent of female-run companies are acceptable to the financial system compared to more than 45 percent of male-fun firms. While firms with some foreign-shareholding seem to have similar or even less access to credit than firms with only domestic shareholders, companies in which foreigners exert management control with more than 50 percent of the shares have about 10 pp greater access to finance, 54 percent, compared to 45 percent for firms that have only domestic shareholders.

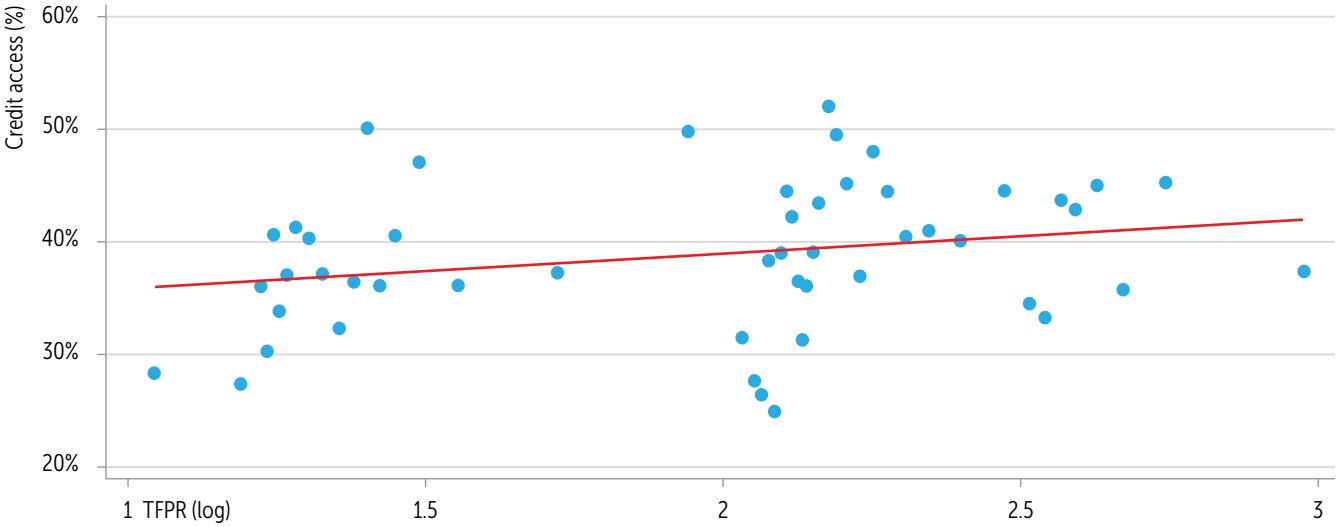
High performance and larger firms belonging to more concentrated sectors and located in non-majority municipalities are more likely to get access to credit.[25] The determinants of access to credit are spelled out econometrically in Table A2.10: Note that the probability of obtaining credit is higher for firms with higher TFPR growth. As expected, the correlation between productivity growth and access to credit operates with some lag; financial institutions typically grant financing based on observed firm performance in the past, not on firm productivity growth at the time of granting the credit. The probability of getting access to finance is higher the more concentrated the sector the firm is in as proxied by the normalized HHI. It may be that market power drives access to credit more than firm efficiency. The results also suggest that larger firms also have a 1 percent higher probability of gaining access to finance. Enterprises in non-majority municipalities are less likely to obtain credit. Gender of the firm decisionmaker does not have a statistically significant correlation with firm access to finance. And while firm age is statistically correlated with access to finance, the magnitude of the coefficient is not economically significant.

Access to credit is poorly correlated with higher firm productivity, which suggests that in the local financial system, capital is misallocated. Figure 41 examines the links between credit allocation and firm productivity in Kosovo by plotting the results of a simple regression analysis of access to credit with respect to TFPR, controlling for firm size, capital stock, sector, municipality, sector concentration (proxied by the HHI), and exporter status. The findings suggest that access to finance is not well correlated statistically with firm productivity.

25 Non-majority municipalities are municipalities with more than 40 percent of Serbian population. See Box 1 for further details.

Figure 41.

Productivity and Access to Credit



Source: KCR and KTR; World Bank staff calculations

Notes: The figures plot access to credit, a dichotomic variable equal to one if the firm was granted any financing and zero otherwise, against TFPR (in logs) controlling by firm size, capital stock, sector, municipality, and exporter status.

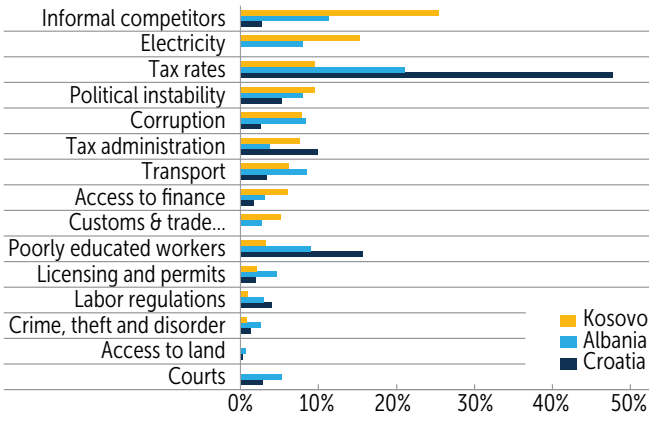
1.5. Barriers to Productivity

Firms reported informality and unreliable electricity supply as the main barriers to productivity growth (Figure 42 A). One-third of Kosovar firms cited informality as the main barrier, a considerably higher proportion than in Albania and Croatia. Moreover, 64 percent of the enterprises in Kosovo cited as a barrier having to compete with an informal firm, the second largest proportion among Western Balkans countries after North Macedonia. About 25 percent of companies also cited unreliable electricity supply as a major impediment; that was a problem for only 8 percent of firms in Albania.[26] While tax rates and administration in Kosovo are perceived as less stringent for investment than in comparator countries, more firms in Kosovo were concerned about political instability and corruption.

Figure 42.

Barriers to Investment and Exports. Percent of firms

a) Barriers to investment



b) Obstacles to exporting to the EU



Source: Enterprise Survey (2019).

Source: Kosovo's American Chamber of Commerce, "Free Movement of Goods and Conformity Assessment" 2018.

26 See https://www.beeps-ebrd.com/indicators/.

Exporters to the EU market cited lack of international links, shortages of skilled workers, and a negative brand reputation as the main barriers to growth. About 60 percent of respondent firms identified the lack of international market links as a major obstacle to exporting to the EU, and about 38 percent reported the lack of skilled workers as a major impediment. For instance, the IT sector does not have enough well-trained programmers, or even graduates with basic IT skills, which prevents companies from pursuing larger outsourcing contracts (World Bank 2016). Moreover, about 33 percent of the companies singled out "Negative Kosovo brand reputation" as a formidable barrier to trade with the EU. Lack of internal manufacturing capacity and low product quality were also named as major barriers (Figure 41B).

Firms reported not only shortages of skilled workers but also a poor match between training systems and employer needs. According to STEP 2019, 75 percent of firms that had attempted to fill a high-skill position and 60 percent firms that tried to fill a medium to lower skill position encountered problems finding workers with the appropriate skill or experience. Furthermore, nearly 60 percent of employers think that general education does not give students practical experience, and almost 50 percent think it does not build up-to-date knowledge or soft skills like discipline, timeliness, and people skills. Although employers are more satisfied with the TVET outcomes, 35–42 percent of employers think that TVET systems do not provide the skills the market needs.

Infrastructure gaps, too, limit firm productivity growth. Kosovo has invested heavily in new physical capital. Most main roads and local roads have been upgraded, but many national and regional roads did not receive much attention. The railway infrastructure is outdated, but only the north-south section of it merits investment because that connects with European and Asian markets. The mining sector requires, among other improvements, an upgrade of the railway system (World Bank 2016).

Improving firm productivity will depend on more private investment in R&D, physical capital, and management training. Firms with higher R&D- and capital stock-to-sales ratios are more productive in term of sales and value added per worker (Table 7). Investment in training, especially management techniques, is also correlated with more productive firms. By contrast, firms subsidized by the government are less productive, as are firms with a higher proportion of unpaid workers in total workers, though the latter relationship is less statistically robust.

Table 7. Potential Correlates with Productivity in Kosovo

	Investment in R&D (Percent of Sales)	Capital Stock (Percent of Sales)	Unpaid Workers (Percent of Total Workers)	Government Subsidies	Investment in Training
Sales per worker	0.618***	0.218***	-0.031	-0.978***	0.293**
	(0.147)	(0.025)	(0.121)	(0.233)	(0.121)
Value added per worker	0.488***	0.175***	-0.338*	-1.256***	0.248
	(0.182)	(0.040)	(0.185)	(0.342)	(0.160)

Source: KPS data; World Bank staff calculations.

Notes: This table shows the results of a cross-sectional regression of sales and value added per worker on each of the covariates, controlling for firm size, age, gender of the decisionmaker, worker skills, firm capital stock, exporter status, municipality, and sector. Government subsidies is a dummy variable equal to one if the firm receives any government subsidy and zero otherwise. Investment in training is a dummy variable equal to one in the firm reports investing in training and zero otherwise.

The Impact of COVID-19 on Firms

This section assesses the economic effects of the COVID-19 shock on Kosovo's firms based on the recent World Bank Business Pulse Survey (BPS) and updated administrative data. The BPS covered more than 100,000 businesses in 49 countries; it was conducted in Kosovo on a sample of about 1,200 in June and July 2020 to understand the economic impact of the crisis in April 2020 and firm expectations for the next six months.

As in Western Balkans peers, in Kosovo sales dropped in domestic firms affected by lockdown and MSMEs. Sales eroded by 55 percent in April 2020 relative to April 2019, a slightly larger decline than in neighbors like Moldova (54.7 percent) and Albania (46.7 percent). For the whole year, based on tax records, revenues dropped by 9.5 percent. As expected, accommodation and food services, transportation and storage, real estate, and arts and entertainment suffered the most, and by firm size, smaller companies had the worst experience based on BPS.

As for jobs, firms largely responded by granting leave and reducing hours and wages, but the BPS found that MSMEs experienced higher net job losses: About 40 percent of firms granted leave, 13 percent reduced hours, and 9 percent reduced wages. Only 6 percent fired workers; 2

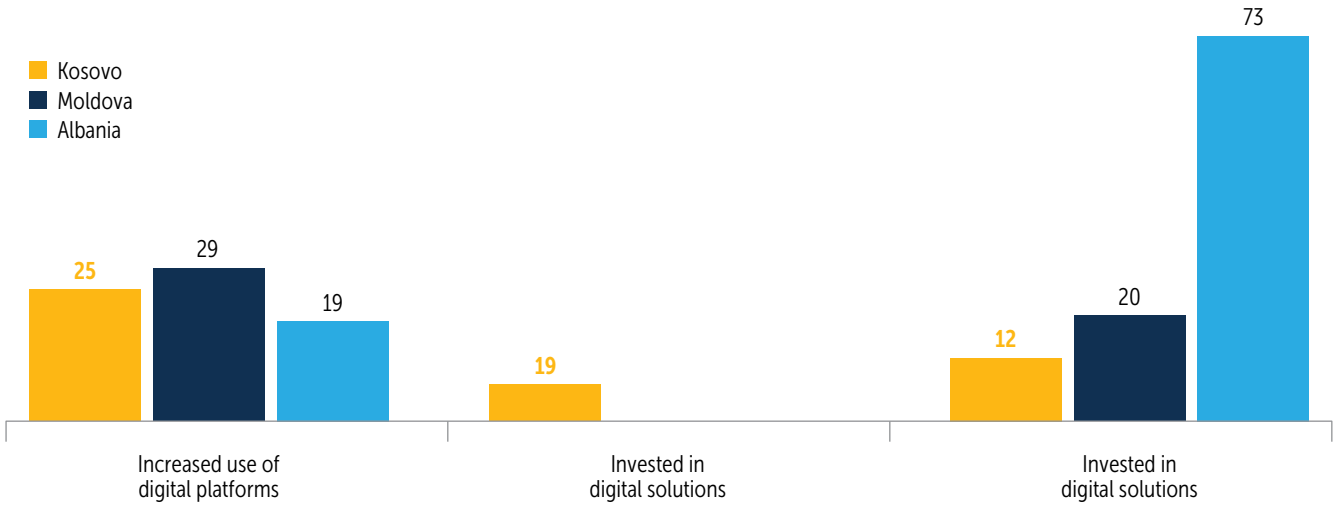
percent hired. Firms in sectors that were shut down experienced net job losses similar to firms in sectors not shut down and used other means of adjustment, such as reducing hours and wages less intensively; new job losses were higher in medium and small firms. Consistent with the BPS findings, tax records also show that formal employment weathered the impact of the downturn. It appears that wage-subsidy and other policy measures not only helped preserve formal jobs but also encouraged formalization because employment increased, based on administrative data. However, unemployment jumped, probably from losses of informal jobs: registering as unemployed was a prerequisite for benefiting from government social protection measures.

Firms globally integrated through FDI and exports dealt with the shock better than domestic-oriented firms. Average drops in sales in April 2020 were 43 percent for companies with foreign shareholders, 50.9 percent for exporters, and 55.2 percent in domestic-oriented firms. The crisis demonstrated the importance of global integration if Kosovo firms are to become more resilient.

Digital adoption was weaker in Kosovo than in comparator countries, with responses highly heterogenous by firm size and manager gender. Firm responses focused on increasing use of platforms (25 percent), and to a lesser extent innovating in products and services (12 percent), although these reactions were weaker than in Moldova and Albania (Figure 32). Large firms invested the most in digital solutions and innovation and used digital platforms most intensively. As did female-run companies.

Figure 43.

Digitalization and Innovation in Response to the COVID-19 Outbreak Compared, Percent of Firms



Source: BPS data; World Bank staff calculations.

Note: *Percent of firms that report affirmatively in each category. **Figures may not add up to 100 percent because type of question varies.

More than half of firms in Kosovo are already or are expecting to be in arrears, with SMEs most financially stressed, slightly more than in Moldova (53 percent) and much more than in Albania (33 percent). Arrears are likely to affect medium-size companies the most. Primary production, services and construction are the sectors in most financial distress.

More firms in Kosovo reported benefiting from policy measures than in comparator countries; wage subsidies were the most common measure at end July 2020. At first complex procedures hindered access to benefits for MSMEs. The number of firms in Kosovo that reported benefiting from policy measures (65 percent) was much higher than in comparator countries (e.g., 2 percent in Moldova, and 39 percent in Albania). More than 95 percent of beneficiary firms reported having received wage subsidies. A smaller proportion of larger firms received wage subsidies than other firm classes, but large firms benefited more from eased financial conditions (e.g., deferral of payments due on loans, rent, mortgages, and utilities). Going forward increasing awareness and clarifying eligibility requirements are likely to increase coverage of future public assistance, especially for MSMEs. Small firms reported complex procedures as the main barrier to benefiting from policy measures.

Firms in shutdown sectors and companies in majority municipalities received more public assistance. Of firms in shutdown sectors, 70 percent received public assistance, compared to 63 percent in non-shutdown sectors. While 65 percent of firms located in majority-municipalities benefited from policy measures, compared to only 50 percent of those in non-majority regions.



Conclusions and Tentative Policy Implications



Kosovo's economy is dominated by low-productivity micro and small enterprises with low survival rates. A striking feature is the lack of dynamism in creating new firms: for the last decade the net rate of firm creation has been close to zero and the country has far fewer firms per million inhabitants (firm density) than the EU and aspirational peer averages as well as what might be expected given Kosovo's income per capita.

Kosovar firms are smaller than EU and aspirational peers, especially medium and large enterprises. Moreover, Kosovo is also not well integrated into global markets through FDI and exports. Firms also seem to find it difficult to expand beyond small and medium size, and survival rates are far lower than in the EU and aspirational economies. Kosovo has a markedly lower proportion of exporters and firms with foreign shareholders than in the EU, aspirational peers, and even other Western Balkans economies. The importance of FDI and international trade for fostering economic growth and employment creation is clear from the fact that importers and foreign-controlled enterprises on average have more formal employees, are more productive and capital intensive, and pay higher wages than companies oriented to the domestic market.

Furthermore, in Kosovo productivity trails that of aspirational peers and the EU. For instance, labor productivity is only one-third of the EU average. In the decade up to the COVID-19 pandemic, average annual growth rates of labor productivity were negative, and annual growth of TFPR was relatively low.

Kosovo's substandard productivity is explained by lower firm productivity and the small and largely negative contribution of firm dynamics. Confirming the economy's lack of dynamism, exit of less productive firms contributed only marginally to aggregate TFPR growth, and entry of new firms had a negative contribution. Finally, the large dispersion in productivity between "laggard" and "frontier" firms suggests that there are distortions in product and input markets, especially in services.

Despite its dreary productivity performance, between 2015 and 2018 Kosovo's economy speeded up the creation of jobs, driven by higher job registrations among young SMEs. **Higher firm productivity is associated with higher job creation.** In 2015–18, compared to 2011–14 annual net job creation practically doubled, driven by rising net job creation by incumbent firms, especially young SMEs. Formal employment growth was also driven by higher worker registration rates: firms reporting having employees went from about 50 percent in 2010 to about 70 percent in 2018. Highlighting the centrality of productivity for fostering formal employment growth, higher firm net job creation was associated with the most productive firms, exporters, and younger and larger firms with access to credit.

Despite its crucial role in fostering firm growth and productivity and job creation, access to formal finance is limited to only a third of the companies and mostly to short-term loans. Micro and small enterprises, startups, domestic-market-oriented firms, companies in less concentrated economic sectors, and enterprises in non-majority municipalities are hindered by the lack of formal finance. About 70 percent of loans have a term of no more than three years.

To foster firm productivity, Kosovo needs a multidimensional policy strategy. Based on the main findings of this and other background notes prepared for the Kosovo CEM, Table 8 organizes this note's main policy recommendations along the three main sources of firm TFP growth: (1) growth of the firm ("within"); (2) market reallocation ("between" firm productivity); and (3) dynamics related to firm entry and exit.

Table 8. Main Drivers of Lower TFPR Growth and Recommended Policy Changes

TFPR Sources	Not Enough "Within" Firm Productivity	Limited Market Reallocation ("Between" Firms)	Lackluster Firm Dynamics (Entry and Exit)
Drivers	• Low private R&D and capital investment • Inadequate firm management practices and room for improvement in quality infrastructure and standards • Weak numeracy and literacy skills of worker's not matched with employer demands, especially in TVET (Technical and Vocational Educational Training) • Poor integration with GVCS via exports and FDI • Limited access to finance for young firms	• Deficient railway and road infrastructure • Informality • Cumbersome and costly procedures for MSMEs to access the electricity grid • Unequal access to financial incentives and public procurement for publicly owned enterprises (POEs)	• High barriers to entry in some services sectors (e.g., telecommunications and electricity) • Cumbersome asset liquidation procedures and inadequate insolvency laws • Lack of access to formal young firms and SMEs access to formal finance • Lack of commercial courts and poorly trained legal staff • Inefficient, costly, and opaque inspection procedures
Proposed Policy Changes	• Devise a strategy to attract FDI, strengthen the investment agency, and create an investor grievance mechanism • Foster reforms in TVET and general education (e.g., improve teacher wages and training, and education infrastructure, and match curricula with firm needs) • Strengthen the National Innovation System (NIS) and provide management training for MSMEs. • Expand the role of microfinance (e.g., payment services, remittances, access to equity capital and e-services) and use of the Kosovo Credit Guarantee Fund. • Foster the development of Venture Capital Funds targeted to startups and dynamic young firms.	• Prevent allocation of discriminatory financial advantages to POEs. • Ensure equal treatment of private firms and POEs in public procurement processes. • Enhance the quality and control of the regulatory process (e.g., draft a clear regulation on the interaction between regulators and interest groups; and strengthen the Regulatory Impact Assessment process). • Streamline procedures and reduce fees for MSMEs to access the electricity grid, draft and implement a new and greener energy strategy	• Facilitate business registration by: (a) introducing the silent consent principle; and (b) developing an effective e-signature system to allow full online registration. • Streamline asset liquidation procedures. • Foster the development of commercial courts and provide appropriate training to legal staff) • Expand the role of microfinance and foster digital-enabled business • Promote digitalization and technology adoption, especially in MSMEs and female-run companies • Incentivize piloting programs to improve diffusion of good management practices among MSMEs.

Sources: Cusolito and Maloney (2019) and other background notes prepared for the forthcoming Kosovo CEM. See the other background notes for more detailed actions plans.

Table 8 summarizes some the drivers behind the three sources of firm TFPR growth identified in this note and the other Kosovo CEM background papers. It also outlines some policy actions to address the main obstacles to firm productivity in Kosovo. (The background papers provide more detailed actions plans.)

This multidimensional pro-productivity strategy should have three main pillars:

- First, the low productivity of Kosovar firms relative to the EU, aspirational economies, and Western Balkans peers suggest the urgent need to (1) improve firm capabilities related to human capital skills (e.g., matching TVET curricula to firm demands, strengthen the general education system to better build basic numeracy and literacy skills), and emphasize management and organizational practices (e.g., provide training and technical assistance to MSMEs and strengthen the quality of infrastructure); (2) encourage adoption of technology and innovation and investment in R&D (e.g., by strengthening the National Innovation System [NIS][27]); (3) facilitate microenterprise access to finance (e.g., among other measures, expand the role of microfinance institutions and SME guarantee funds); and (4) adopt strategies to attract FDI and promote exports (e.g., build up the investment agency) The country also needs to foster digitally enabled businesses: only 9 percent of firms engage in digital-intensive activities, and the digital response of Kosovar firms, especially MSMEs, to the COVID-19 shock trailed other Western Balkans countries.

- Second, the declining contribution to TPFR growth of reallocation of labor to the most productive firms reinforces the need to remove barriers that prevent movement of capital, labor, and other inputs and the barriers in product markets related, for instance, to informality (e.g., the urgency of streamlining registration, inspection, and tax procedures); competition policy (allowing private firms easier access to financial incentives and public procurement and improving the quality and control of regulation) unreliable and costly energy supply (e.g., streamlining access for MSMEs to the Kosovo Energy Distribution and Supply Company electricity grid); and inadequate transport infrastructure (e.g., promote investment in some national and regional roads and upgrade the North-South railway corridor). Kosovo also needs to improve the gender agenda: only 9 percent of firms are female run and firms with a female decisionmaker tend to be smaller and less productive, especially in manufacturing and wholesale and retail.

- Third, the negligible contribution of new firms to TFPR growth illustrates how important it is to foster entry of highly productive and fast-growing enterprises, just as the negative contribution of firm exits to productivity growth could be indicating the presence of high barriers to exit. The barriers already identified (see Table 8) to entry of more productive enterprises, especially access to formal finance, and the barriers to exit of nonviable firms, such as simplified and accelerated liquidation procedures, clearly need to be dismantled.

More targeted policies, improved communication, and streamlined application procedures are necessary to support MSMEs dealing with the economic effects of the COVID-19 economic crisis. Recognizing the limited fiscal resources, policies should be targeted especially providing support to displaced workers and minimizing layoffs by firms in financial stress and confronted by heightened demand or supply shocks. Targeted policies, such as the Kosovo Credit Guarantee Fund, can be influential in addressing MSME liquidity constraints. Improved communication of public support measures and simplified application procedures to enhance uptake and reduce the regulatory administrative burden (especially inspections) not only to encourage local companies but also to attract FDI are key.

27 See Cirera and Maloney 2019. The NIS incorporates local and international R&D suppliers (universities and research institutions, among others), government agencies related to R&D and innovation, and private firms investing in R&D and adopting product, process, and organization innovations.

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Annex 1.

Technical Appendix



A. Firm Dynamics

Data sources: Tax Registry from Kosovo Statistics Authority and Kosovo Productivity Survey

Period covered: 2010-2018

Unit-level: Establishment

Methodological definitions and benchmarking: Definitions follow the Eurostat *Manual on Business Demography Statistics* (OECD 2007), which ensures international comparability. We also draw on Eurostat and the OECD, which provide comprehensive and relevant standardized information on business and employment dynamics: *Business Demography Statistics* and, the *Annual Enterprise Statistics* (Eurostat), and the *Structural and Demographic Business Statistics* (SDBS, OECD).

Size class: Micro (0–9 employees), small (10–49), medium (50–249), and large (250 and more)

Age class: Entrants (0 years), start-ups (1–2 years), young (1–5 years), and mature and old (6+)

Sector: B-N (excluding K64.2; *Activities of Holding Companies* in *Financial and Insurance Activities*) according to NACE Rev. 2m as followed in Eurostat and OECD manuals unless otherwise stated.

Employed persons: Eurostat defines an employed person as a person aged 15 and over who performs part-time or full-time work for pay, profit, or family gain.

Active unit: Reported positive turnover in the reference year.

Entry: A unit enters the market in *t* if it is active in the period of reference but was not active in *t-1* and *t-2*.

Exit: A unit exits the market in *t* if it is active in *t* and is not active *in t+1 and t+2*.

Incumbent: Unit is active in *t* if it reports activity in *t-1, t and t+1*.

Table A1.1. Methodological Definitions of Firm Status in Market

Status in t	t-2	t-1	t	t+1	t+2
Entry	No	No	Yes		
Activation		No	Yes		
Exit			Yes	No	No
Inactivation			Yes	No	
Incumbent		Yes	Yes	Yes	

Entry rate in t**:** Sum of all entries in *t* divided by total active units in the period of reference.

Exit rate in t: Sum of all exits in *t* divided by total active units in the period of reference.

Turnover rate in t**:** Sum of entry and exit rates in *t*.

Incumbent share in t: Difference between gross job creation in *t* and gross job destruction in *t*.

Survival unit in t+s**: Share of units** that entered the market in *t* and survives *s* periods ahead, percent.

Survival rate in t+s**:** Share of total units that entered the market in *t* that survived in *t+s, percent*.

Entry size in t**:** Number of employed persons of entrant units.

Post-entry growth in t+s**:** Total employed persons in an active unit in *t+s* relative to total employed persons of entrants in *t* that survived to *t+s*.

Age: Each firm is given an entry cohort year if the year of entry is known. Age is then calculated as the difference between the year of reference and the entry year. For firms in the database before 2012, their entry year unknown, that were active throughout the periods of analysis, we assigned a 'symbolic' age in 2017 and 2018 in order to carry out the age analysis.

Sector and main sector: Unit activities are classified according to NACE Rev. 2 at the four-digit level. Because some companies started operations in one sector but then switched to another activity, we generated the '*main sector*' variable, which reports the sector in which the firm spends most of its life cycle.

Gross job creation in t**: S**um of all positive unit-level variations of employed persons in active units in *t* relative to *t-1*.

Gross job destruction in t**:** Sum of all negative unit-level variations of employed persons in active units in *t* relative to *t-1*.

Net job change in t: The difference between gross job creation and gross job destruction in *t*.

Total employed persons (total employment): Sum of employed persons of active units.

Gross job creation rate in t**:** Gross job creation in *t* divided by total employed persons.

Gross job destruction rate in t: Gross job destruction in *t* divided by total employed persons,

B. TFPR Estimation

Following Levinsohn and Petrin (2003), we estimate TFPR using semi-parametric methods. We use this approach as we do not have access to data on firm initial capital stock and only a small number of firms in the KAS dataset report investment. Hence, we use data on costs of production (intermediate consumption) reported in the personal income tax and corporate income tax forms in the KAS dataset.

To estimate TFPR, we take the firm's total wage bill as the free-standing variable and our estimate of the capital stock as the state variable. Production costs enter into the production function as a proxy for capital stock. Because data on worker skills and number of hours worked are unavailable, we use the total wage bill to control for heterogeneity in labor productivity and labor intensity (hours worked per year). The total wage bill is the result of multiplying workers' hourly wages by the number of hours worked. If production factors are paid according to their marginal productivity, the total wage bill should account for labor productivity differences across firms (Cusolito and Maloney 2018).

To estimate the capital stock, we follow OECD methodology (2009) by using data on investment in durable goods from the KAS dataset, combined with self-reported information on firm assets provided by the KPS. We compute firm *i* average investment over time , and estimate initial capital stock by dividing the average investment by the depreciation rate . Hence, the initial capital stock of firm *i* is expressed as follows: . As does OECD (2009), we assume that the depreciation rate is constant over time and across industries.

Given the relatively small size of our sample, we estimate TFPR for five highly aggregated sectors: *manufacturing* (firms classified as letter C in NACE Rev. 2); *construction* (F and L); *other services* (H transport and storage, I: accommodation and food services, J: information and communications, M: professional, scientific, and technical services, and N: administrative and support service activities); *wholesale trade* (division 46: wholesale trade, except of motor vehicles and motorcycles, and class 4531: wholesale trade of motor vehicle parts and accessories); and finally *retail trade* (division 47: retail trade, except of motor vehicles and motorcycles, plus activity classes 4511: sale of cars and light motor vehicles, 4519: sale of other motor vehicles, 4520: maintenance and repair of motor vehicles, 4531: retail trade of motor vehicle parts and accessories, and 4540: sale, maintenance and repair of motorcycles and related parts and accessories.



Annex 2.

Additional Tables and Figures



Table A2.1. Summary Statistics, Kosovo Statistics Authority

	Firms			
Year	Total ('000)	Micro (%)	Exporters (%)	Importers (%)
2010	27.918	95.268	-	-
2011	30.299	94.789	1.8	18.9
2012	30.866	94.450	1.8	20.5
2013	28.123	93.372	2.3	23.8
2014	28.556	93.059	2.4	24.1
2015	29.041	92.542	2.9	26.3
2016	28.709	91.821	3.4	17.3
2017	30.25	91.537	3.5	17.3
2018	29.441	90.282	4	18.3
Average 2010-2018	**29.245**	**93.011**	**2.7**	**20.7**

	Employed persons			Firm Turnover ('000 €)			Wage per worker ('000 €)		Sales per worker ('000 €)	
Year	Total ('000)	Mean	Median	Total	Mean	Median	Mean	Median	Mean	Median
2010	100.035	3.583	0	5064265.99	181.398	9.059	4.585	3.521	47.613	16.193
2011	118.313	3.905	1	7967761.229	262.971	10.719	4.763	3.731	61.871	33.341
2012	124.749	4.042	1	8256137.147	267.483	9.818	4.908	3.804	62.089	35.278
2013	130.21	4.630	1	8372110.563	297.696	12.101	4.859	3.809	60.643	35.498
2014	133.268	4.667	1	8028598.981	281.153	12.758	4.738	3.663	58.236	33.589
2015	145.069	4.995	1	8496580.504	292.572	13.642	4.616	3.608	57.606	30.902
2016	155.057	5.401	1	9001941.122	313.558	15.318	4.709	3.757	57.073	31.038
2017	168.821	5.581	1	10042692.799	331.99	16.358	4.854	3.949	57.521	29.667
2018	180.648	6.136	2	10564413.334	358.833	16.989	5.015	3.977	57.526	28.123
Average 2010-2018	**139.574**	**4.771**	**1**	**8421611.297**	**287.517**	**12.974**	**4.783**	**3.758**	**57.798**	**30.403**

Source: KTR, World Bank staff calculations.

Notes: Active units are those with positive turnover in the relevant period. Activities included: B-N (excluding K64.2) according to NACE Rev. 2. Wages and sales per worker are weighted by employment. Monetary values in 2018 constant prices, using Kosovo's CPI deflator.

Table A2.2. Summary Statistics. Kosovo Productivity Survey. 2017

Sector	Firms			Management	Workers
	Surveyed (units)	Share (%)	Size (workers)	Women (%)	W/ tertiary education (%)
Mining and quarrying	25	0.452	9.45	0	18.310
Manufacturing	682	13.960	6.397	8.7	25.114
Electricity, gas, steam and air-conditioning supply	12	0.181	46.077	0	35.733
Water supply, sewerage, waste mgmt. and remediation act.	33	0.395	30.001	1.9	27.747
Construction	337	8.139	8.095	3.8	28.253
Wholesale and retail trade	1217	50.220	4.248	10.3	31.766
Transportation and storage	154	3.996	7.873	5.6	30.418
Accommodation and food services	366	11.046	6.306	7.7	39.498
Information and communication	149	2.777	11.762	6.9	61.368
Real estate activities	21	0.330	4.198	9.3	36.755
Professional, scientific and technical act.	205	6.183	3.36	10.4	71.657
Administrative and support services	113	2.319	7.094	14.7	42.716
All firms	**3314**	**100**	**5.654**	**9**	**32.925**

Sector	Foreign trade			Foreign shareholding	Sales, value added and assets		
	Unpaid (%)	Exporter (%)	Importer (%)	Share (%)	Sales per worker ('000 €)	VA per worker ('000 €)	Average assets stock ('000 €)
Mining and quarrying	0.714	0.6	28.3	0	14.961	4.987	2317.909
Manufacturing	9.231	4.4	36.6	5.29	27.415	21.027	493.623
Electricity, gas, steam and air-conditioning supply	0	1.8	59.2	18.14	31.886	26.562	3555.544
Water supply, sewerage, waste mgmt. and remediation act.	1.813	2.4	47.8	3.74	12.973	5.388	2942.46
Construction	3.262	1.4	31.4	10.17	26.576	19.364	307.793
Wholesale and retail trade	8.650	1	36.4	6.78	25.294	17.705	195.244
Transportation and storage	5.314	2.4	31.3	9.6	15.281	9.639	155.401
Accommodation and food services	5.917	0	25.9	3.86	8.378	5.692	88.864
Information and communication	1.787	2.7	44.7	4.61	28.261	17.696	915.221
Real estate activities	6.977	7.3	11.3	0	28.304	17.164	1244.783
Professional, scientific and technical act.	8.504	0	29.6	2.36	18.308	14.589	61.055
Administrative and support services	3.605	0	34.4	2.17	23.84	19.573	353.758
All firms	**6.67**	**1.4**	**34.4**	**6.15**	**22.974**	**16.526**	**277.497**

Source: KPS, World Bank staff calculations.

Notes: Surveyed units are the effective number of firms that responded the survey. The remaining variables are weighted using sample weights.

Table A2.3. Summary Statistics: TFPR Sample, Average 2012–18

Sector	Manufacturing	Construction	Wholesale and retail trade	Services	All firms
Firm sin sample	708	622	1,719	676	**3,725**
Employment	6.6	7.8	4.9	5.3	**5.5**
Value added	109.2	138.2	90.2	81.5	**95.3**
Turnover	391.8	526.3	655.3	307.2	**513.2**
Materials	282.6	388.1	565.1	225.7	**417.9**
Wage bill	26.1	31.7	20.8	22.5	**23.0**
Capital stock	715.6	931.4	577.9	358.2	**576.3**
Investment	84.1	111.4	70.2	42.6	**69.4**
TFP (log)	2.4	1.3	1.7	1.1	**1.6**
Value added per worker	16.2	19.4	17.8	16.9	**17.5**
Turnover per worker	**59.3**	**83.8**	**128.4**	**81.9**	99.9

Source: KTR, World Bank staff calculations.

Notes: TFPR is weighted by employment while Employment, VA, Turnover, Materials, Wage bill, Capital stock and Investment are weighted using firm weights.

Table A2.4. Net Job Creation and Labor Productivity

Dependent Variable: Net Job Creation	OLS (1)	FE (2)	FE (3)
Log Turnover	0.399***	0.684***	0.684***
	(0.066)	(0.124)	(0.124)
Log Capital stock	-0.138**	-3.127	-3.127
	(0.059)	(2.516)	(2.516)
Firm age	-0.151***	-0.181**	-0.181**
	(0.018)	(0.075)	(0.075)
Firm starts to report employees	2.518***	2.791***	2.791***
	(0.194)	(0.265)	(0.265)
Exporter status	-0.451	-1.078	-1.078
	(0.566)	(0.896)	(0.896)
Access to credit	0.158	0.039	0.039
	(0.219)	(0.238)	(0.238)
Municipality majority	-0.877	-0.086	-0.086
	(1.178)	(6.410)	(6.410)
HH Index (four-digit)	-1.596	76.464***	76.464***
	(8.660)	(22.549)	(22.549)
Small (10-49)	1.009***	1.796***	1.796***
	(0.320)	(0.367)	(0.367)
Medium (50-249)	7.657***	13.644***	13.644***
	(1.317)	(2.256)	(2.256)
Large (250+)	44.678***	66.635***	66.635***
	(12.921)	(20.641)	(20.641)
Constant	-5.549	30.027	30.027
	(9.312)	(31.415)	(31.415)
Industry effects (four-digit)	Yes	Yes	Yes
Geographic effects (municipality)	Yes	Yes	Yes
Year effects	Yes	Yes	Yes
Firm fixed effects	No	Yes	Yes
R-squared	0.04	0.02	0.02
Number of firms	14,534	14,534	14,534
Observations	66,291	66,291	66,291

Source: KTR, World Bank staff calculations.

Notes: the table presents the results of regressing firm net job creation (log difference between number of employees in t0 and t1) on a set on covariates, controlling by industry (4 digits), geographic (municipality) and time (year) fixed effects and using the entire dataset of firms provided by KRT. Entrants and exiters are excluded from the panel. Micro (0-9 employees) firms are the omitted variable. Columns (2) and (3) estimate the model using a fixed effects estimator. Robust standard errors. (*), (**) and (***) indicates significance level at (10), (5) and (1) per cent level.

Table A2.5. TFPR and Employment, Revenue, and Value Added per Worker (in Logs Relative to Industry-year Average)

Dependent variable: TFPR (log)	OLS (1)	OLS (2)	OLS (3)
Log Employment	0.064***		
	(0.002)		
Log Turnover per worker		0.096***	
		(0.003)	
Log Value added per worker			0.064***
			(0.003)
Constant	2.223***	1.383***	1.779***
	(0.017)	(0.033)	(0.030)
Industry effects (macrosector)	Yes	Yes	Yes
Year effects	Yes	Yes	Yes
Geographic effects (municipality)	Yes	Yes	Yes
R-squared	0.92	0.93	0.91
Observations	6,774	6,774	6,774

Source: KTR, World Bank staff calculations.

Notes: TFPR, employment, revenue and value added per worker (in logs). Robust standard errors. (*), (**) and (***) indicates significance level at (10), (5) and (1) per cent level.

Table A2.6. Exporting and Importing Premiums, Kosovo

	Log Employment	Log Turnover per worker	Log Turnover	Log Capital per worker	Log Wage per worker
	(1)	(2)	(3)	(4)	(5)
Exporter only	0.115***	0.558***	0.838***	-0.085***	0.043**
	(0.024)	(0.037)	(0.040)	(0.024)	(0.021)
Importer only	0.196***	0.423***	0.764***	-0.180***	0.110***
	(0.005)	(0.009)	(0.011)	(0.007)	(0.004)
Importer and exporter	0.353***	0.621***	1.155***	-0.320***	0.141***
	(0.014)	(0.021)	(0.023)	(0.015)	(0.009)
Constant	0.649***	9.588***	9.638***	11.288***	7.342***
	(0.125)	(0.554)	(0.473)	(0.158)	(0.207)
Industry effects (four-digit)	Yes	Yes	Yes	Yes	Yes
Geographic effects (municipality)	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.08	0.05	0.08	0.13	0.04
Observations	161,949	161,949	262,231	72,569	160,353

Source: KTR, World Bank staff calculations.

Notes: Robust standard errors. (*), (**) and (***) indicates significance level at (10), (5) and (1) per cent level. In each column, we regress the dependent variable on foreign trade dummies, which relate to the type of link that the firm has with foreign markets. "Exporter only" equals 1 if the firm exports but does not import; "Importer only" follows the same criteria for importing firms. Finally, the "importer and exporter" dummy values 1 if the firm both imports and exports in the year of reference. Each variable is constructed based on the VAT forms. Exporting/importing firms are those firms that report a positive export/import value in the year of reference while importers. Furthermore, we control for industry effects (four-digit level), geographic effects (municipality), year and firm effects.

Table A2.7. Foreign-shareholding Premiums in Kosovo

Dependent variables (col) / Independent variables (row)	Employment	Turnover	Per worker			
			Turnover	Value added	Capital	Wages
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign shareholding (% assets: 0.1%-24.9%)	-0.007	-0.265**	-0.207***	-0.103	0.720***	0.007
	(0.080)	(0.116)	(0.063)	(0.096)	(0.070)	(0.028)
Foreign shareholding (% of assets: 25%-49.9%)	-0.128**	0.144	-0.099	-0.293***	0.814***	0.082***
	(0.060)	(0.111)	(0.073)	(0.108)	(0.075)	(0.030)
Foreign shareholding (% of assets: 50%-100%)	0.978***	1.625***	0.537***	0.151**	0.860***	0.425***
	(0.077)	(0.134)	(0.076)	(0.074)	(0.152)	(0.041)
Constant	4.501***	14.670***	10.242***	9.261***	9.383***	8.336***
	(0.109)	(0.172)	(0.106)	(0.158)	(0.164)	(0.058)
Industry effects (two-digit)	Yes	Yes	Yes	Yes	Yes	Yes
Geographic effects (municipality)	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.20	0.20	0.27	0.17	0.25	0.23
Observations	17,285	20,381	17,285	9,976	16,644	17,227

Source: KTR, World Bank staff calculations.

Notes: Robust standard errors. (*), (**) and (***) indicates significance level at (10), (5) and (1) per cent level. In each column, we regress the detailed dependent variable on a set of dummies that breaks down the share of assets owned by foreign shareholders.

Table A2.8. Gender Premiums in Kosovo

Sector	Employment	Turnover	Per worker			
			Turnover	Value added	Capital	Wages
	(1)	(2)	(3)	(4)	(5)	(6)
All sectors	-0.205***	-0.053	-0.053	-0.176**	-0.076	-0.017
Manufacturing	-0.643***	-0.081	-0.081	-0.445***	-0.221**	0.003
Wholesale and retail trade	-0.224***	-0.029	-0.029	-0.013	-0.296***	0.038
Professional and administrative services	-0.122	-0.028	-0.028	0.508***	0.426**	-0.141***
Other services	-0.109	0.005	0.005	0.194	-0.133	0.030
Industry effecsts (two-digit)	Yes	Yes	Yes	Yes	Yes	Yes
Geographic effects (municipality)	Yes	Yes	Yes	Yes	Yes	Yes

Source: KTR, World Bank staff calculations.

Note: Robust standard errors. (*), (**) and (***) indicates significance level at (10), (5) and (1) per cent level. In each column, we regress the detailed variable on a *female-run company* dummy variable, which equals 1 if the establishment is run by a female and 0 otherwise. Each specification is estimated by OLS and includes geographic (at the municipality level) and sector effects (two-digit level).

Table A2.9. Access to Finance: Descriptive Statistics, Average, 2015–18

Year	Borrowers	Share of disbursed amount by borrower (%)			Share of disbursed amount by lender (%)			Approved amount ('000 €)	
	Total	Legal	Physic	Non-residents	Banks	Insurance company	MFI	Mean	Median
2015	11,137	98.3	1.6	0.0	91	7	1	0	0
2016	10,962	98.4	1.6	0.1	88	10	2	0	0
2017	10,516	98.2	1.7	0.1	90	8	2	0	0
2018	10,569	98.0	2.0	0.0	86	13	1	0	0

Year	Disbursed amount ('000 €)		Nominal interest rate (pp)		Duration (months)		Type of credit (% of total disbursed amount)			
	Mean	Median	Mean	Median	Mean	Median	Loan	Overdraft	Guarantee	Other
2015	0	0	9.7	8.0	42	24	51	26	17	5
2016	0	0	9.1	7.6	45	13	51	24	17	8
2017	0	0	7.5	7.4	43	21	56	20	14	9
2018	0	0	8.1	7.6	43	24	52	20	17	11

Source: KTR, World Bank staff calculations.

Note: TFPR is weighted by employment while Employment, VA, Turnover, Materials, Wage bill, Capital stock and Investment are weighted using firm weights.

Table A2.10. Drivers of Access to Credit in Kosovo

	(1)
TFP (log) change	**5.591*** **
	(1.235)
TFP (log) change (t-1)	**0.167*** **
	(0.043)
Serbian-majority municipality	**-0.550*** **
	(0.050)
Exporting firm	**-0.030** **
	(0.013)
Age	**0.003** **
	(0.001)
Small (10-49)	**0.174*** **
	(0.010)
Medium (50-249)	**0.244*** **
	(0.020)
Large (250+)	**0.326*** **
	(0.043)
Market concentration (HH index)	**0.257*** **
	(0.065)
Constant	**0.698*** **
	(0.052)
Year effects	Yes
Industry effects (four-digit)	Yes
R-squared	0.35
Number of firms	1,513
Observations	3,536

Source: KTR and KCR, World Bank staff calculations.

Note: Robust standard errors. (*), (**) and (***) indicates significance level at (10), (5) and (1) per cent level. Dependent variable is a dummy variable that is 1 if the firms was approved a positive loan amount during the period of analysis and 0 otherwise.

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Raising Firm Productivity

November 2021

Kosovo Country Economic Memorandum