

Allocative Efficiency, Firm Dynamics, and Productivity in Latvia

Bingjie Hu and Can Ugur

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Prepared by Bingjie Hu and Can Ugur

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ABSTRACT: Latvia's economy has faced challenges in competitiveness, with labor productivity growth slowing over the past two decades. This paper analyzes labor productivity growth in Latvia and the Baltic region, focusing on allocative efficiency and firm dynamics. Resource misallocation has significantly hindered productivity growth. The findings also indicate a decline in allocative efficiency and limited impact from net firm entry. The contribution of firm entry to productivity growth is negative, while that of firm exit is positive. The paper emphasizes the importance of government policies to support high-quality firm entry, facilitate efficient exit, and improve allocative efficiency to boost productivity growth in Latvia.

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SELECTED ISSUES PAPERS

Allocative Efficiency, Firm Dynamics, and Productivity in Latvia

Latvia

Prepared by Bingjie Hu and Can Ugur ¹

¹ The authors would like to thank Helge Berger, Luis Brandao-Marques, Romain Duval, Vincenzo Guzzo, Kazuko Shirono, and the Latvian Authorities for their helpful comments. They would also like to thank Maryam Vaziri for sharing the sample codes.



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ALLOCATIVE EFFICIENCY, FIRM DYNAMICS, AND PRODUCTIVITY IN LATVIA¹

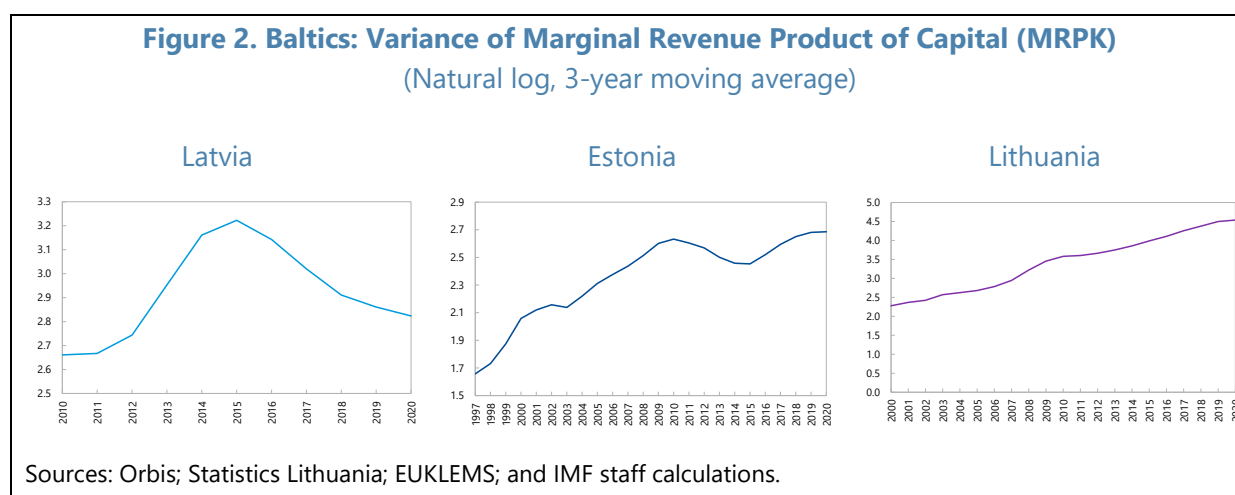
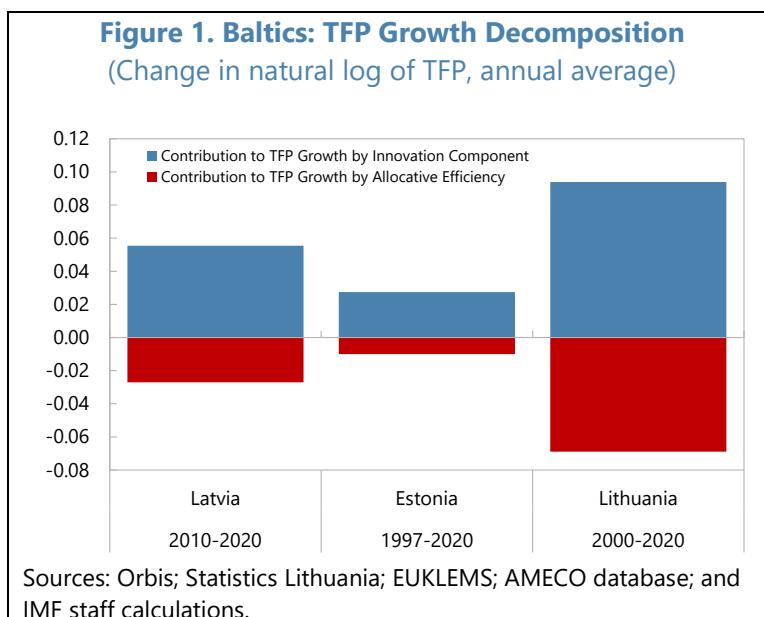
Latvia's economy has faced remarkable challenges to its competitiveness in recent years, with labor productivity growth decelerating during the past two decades. This paper decomposes aggregate labor productivity growth in Latvia and the rest of the Baltic region into contributions by allocative efficiency, firm entry, firm exit and the average productivity growth among continuing firms. The results suggest that the contribution by allocative efficiency declined over time and that by firm entry (net of exit) was limited.

A. Latvia's Productivity Challenge

1. Latvia's economy has faced remarkable challenges in recent years. Russia's war in Ukraine led to supply disruptions and a sharp increase in input costs for firms. Despite some moderation in inflation after the initial shock, the level of input costs has remained high for Latvia and the Baltic region and, in conjunction with slow productivity growth, has led to erosion of competitiveness (Armendariz and others 2024). The income convergence relative to the average of euro area slowed down in Latvia during the past five years and lags that in the other Baltic economies (see Text Figure 1 in 2025 IMF Latvia Staff Report). At the same time, aging and defense are increasing public spending needs that must be financed with greater fiscal revenue, which must come to a certain extent from higher economic growth. Therefore, improving productivity growth is critical to restoring competitiveness and maintaining fiscal space.

2. In Latvia, labor productivity growth has decelerated during the past two decades. It lags that of the other Baltic economies (see Text Figure 1 in 2025 IMF Latvia Staff Report). One possible reason why Latvia, like most EU member states, lack fast-growing, high-productivity firms is that capital and labor may not be allocated in an optimal manner. With frictions in capital, labor, and product markets, resources may be misallocated, resulting in a large dispersion of productivity across firms (Hsieh and Klenow 2009, IMF 2024). Previous studies have investigated the role of allocative efficiency using firm-level data (Armendariz and others 2024) and found that resource misallocation dragged down productivity growth in the last two decades (Figure 1). In addition, there is evidence of rising dispersion in the marginal revenue product of capital, especially for Estonia and Lithuania, indicating capital misallocation (Figure 2).

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3. Allocative efficiency and business dynamism are important for productivity growth. For example, as less productive firms exit the market, capital and labor is reallocated towards more productive firms, which helps boost aggregate productivity growth. Reducing resource misallocation and equalizing marginal products of capital and labor across firms could dramatically boost productivity (Hsieh and Klenow 2009). One way to enhance productivity is through within-firm efficiency enhancement such as innovation and management improvements. Another way is the reallocation of resources towards more productive firms (Olley and Pakes 1996). A complementary way of improving allocative efficiency is through the exit and entry of firms, which can also contribute significantly to productivity growth (Box 1).

4. Government policies can play an important role in resource allocation during recessions. Crises can have asymmetric effects across sectors. For example, during the Covid crisis, declining sectors such as hospitality and retail faced severe contractions due to lockdowns and reduced

demand, while healthcare and remote-work infrastructure companies experienced expansion. On the other hand, after Russia's invasion of Ukraine in 2022, energy-intensive industries like chemicals and glass manufacturing suffered much more than services. Targeted support for displaced workers can mitigate the social costs of *creative destruction*, but it is important to avoid subsidies to nonviable firms, which may delay the necessary reallocation and lead to productivity stagnation.

Box 1. Latvia: Firm Dynamism and Productivity Growth

Aggregate productivity growth depends on technological advancements, allocative efficiency (i.e., the movement of resources toward their most productive uses), and business dynamism (entry and exit of firms). The entry of firms into a market improves productivity because new firms increase market competition (Jaimovich and Floetotto, 2008) and because they become more efficient as they grow, compared to incumbents, including through higher productivity gains from R&D and innovation, especially in high-tech sectors (Masso and Tiwari 2021).

Firm-level data on labor productivity show that worsening allocative efficiency accounted for much of the decline in aggregate productivity growth observed in the United States between the late 1990s and the mid-2000s (Decker and others 2017). Market share reallocation among surviving firms plays an important role in driving aggregate productivity growth. For example, in the United States, declining entrepreneurship and reduced labor market reallocation may have slowed down the creation and expansion of high-growth young firms since 2000 (Decker and others 2017). Moreover, firm entry and exit contribute to about 30 to 40 percent of productivity growth in the case of Slovenian manufacturing firms during 1995-2000 (Melitz and Polanec 2015).

Business dynamism has declined in the USA since the 1980s, which is reflected in the decline in firm entry and exit rates, slower job reallocation, and a declining role of young firms in job creation (Decker and others 2017). The pace of job reallocation also declined in the United States in recent decades (Decker and others 2020).

5. Specific policies aiming to protect vulnerable businesses and households from the impact of the crisis may delay resource reallocation and hamper productivity growth (IMF, 2020). For instance, within-sector labor reallocation towards more productive firms was unresponsive to productivity shocks in the COVID-19 crisis in the case of Estonia (Merikull and Paulus 2024), due to a generous job retention scheme implemented by the government. The government program had negative effects on aggregate productivity growth which offsets the positive employment effect, as the net gains from the program were limited. However, Pelosi and others (2021) find that zombie firms in Italy had a lower take-up of support measures during the pandemic and higher exit rates than other firms.

6. In this paper, we present evidence on the contribution of allocative efficiency, and firm entry and exit to labor productivity growth during the past two decades using firm-level data from the Baltic economies. We find that the contribution of allocative efficiency to labor productivity growth declined over time. The contribution by firm entry is negative as entrants on average have lower labor productivity levels than incumbent firms. The contribution by firm exit is positive, but the contribution by net firm entry has been limited.

B. The Labor Productivity Growth Decomposition Exercise

7. Following Decker and others (2017), we decompose labor productivity growth into four components: 1) sector-level average productivity growth for all continuing firms; 2) an allocative efficiency term, represented by the covariance of firm-level labor productivity and the share of industry employment accounted by the firm; 3) the contribution by firm entry, represented by the product of the employment share of entrants and the difference between the productivity of entrants and that of continuing firms in a given year; 4) the contribution by firm exit, represented by the product of employment share of exiting firms and the difference between the productivity of continuing and that of exiting firms. The change in industry aggregate labor productivity is thus given by:

$$\Delta P_i = \Delta \bar{p}_{i,c} + \Delta cov_c(\theta_f, p_f) + \theta_{E2}(P_{E2} - P_{C2}) + \theta_{X1}(P_{C1} - P_{X1})$$

- P_i is industry aggregate labor productivity, \bar{p}_i is the unweighted average of the log of firm-level labor productivity for firms in industry i , θ_f is the share of industry employment for firm f , p_f is the log of labor productivity for firm f . The covariance term can be interpreted as a measure of allocative efficiency, or the degree to which higher-productivity firms have access to more resources (Decker and others 2017). Δ indicates year-over-year log differences, C denotes continuing firms which have employment over two years, $E2$ denotes entrants in the second year of the calculation, $X1$ denotes firms that exit after the first year. $C1$ and $C2$ denote continuers in the first and second years, respectively.
- The first term in the expression represents within-firm average productivity growth for continuing firms; the second term represents the change in allocative efficiency among continuing firms; the remaining terms represent the aggregate contribution of net entry. We calculate the decomposition for each industry each year and aggregate the annual components at the country level using sector-level employment shares in the initial year. Then, we present results on the evolution of the contribution of average productivity growth, allocative efficiency, and the contribution of firm entry and exit to labor productivity growth over time.

Results for Latvian Firms

8. Our analysis using the Latvian firm-level administrative data shows that the contribution of allocative efficiency declined and turned negative during 2016-21 (Figure 3). This is represented by the covariance between employment share and labor productivity level across the firms within industries. The results suggest that firms which are expanding their employment to a greater extent tend to be lower-productivity firms. The labor reallocation towards higher-productivity firms was stagnant during the sample period.

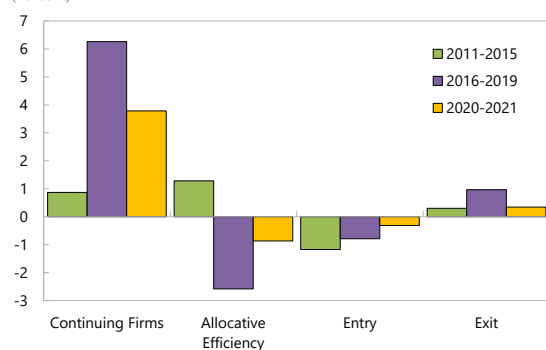
9. The contribution by firm entry to labor productivity growth is consistently negative throughout the sample periods. The results suggest that entrant firms tend to have lower labor productivity levels than incumbent firms on average. One explanation is that entrant firms tend to have less capital than incumbent firms and therefore feature lower value added per unit of labor input (Melitz and Polanec 2015). Firm exit makes a positive contribution to labor productivity growth,

which outweighs the negative contribution by firm entry during 2016-19 in the case of Latvia. However, the productivity growth contribution by net firm entry is very limited.

Figure 3. Latvia: Decomposition of Labor Productivity Growth for Latvian Firms

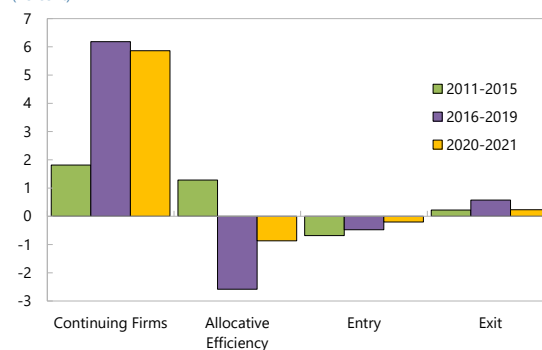
Total Economy: Labor Productivity Growth Decomposition

(Percent)



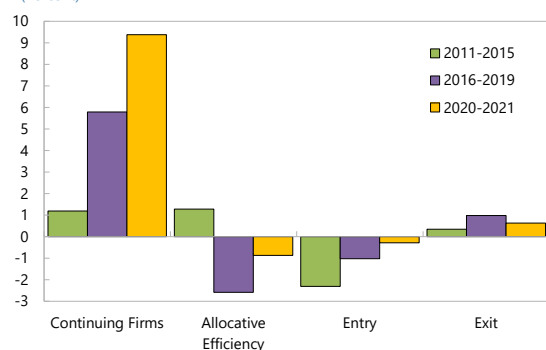
Manufacturing: Labor Productivity Growth Decomposition

(Percent)



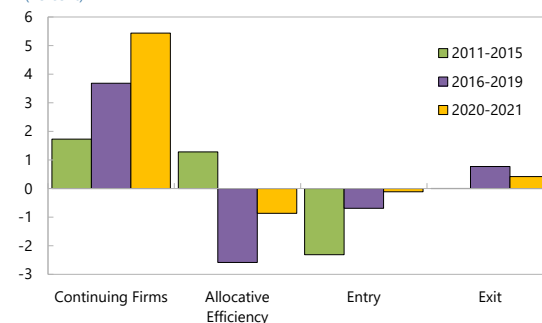
ICT: Labor Productivity Growth Decomposition

(Percent)



Professional Services: Labor Productivity Growth Decomposition

(Percent)



Sources: CSB Latvia; and IMF staff calculations.

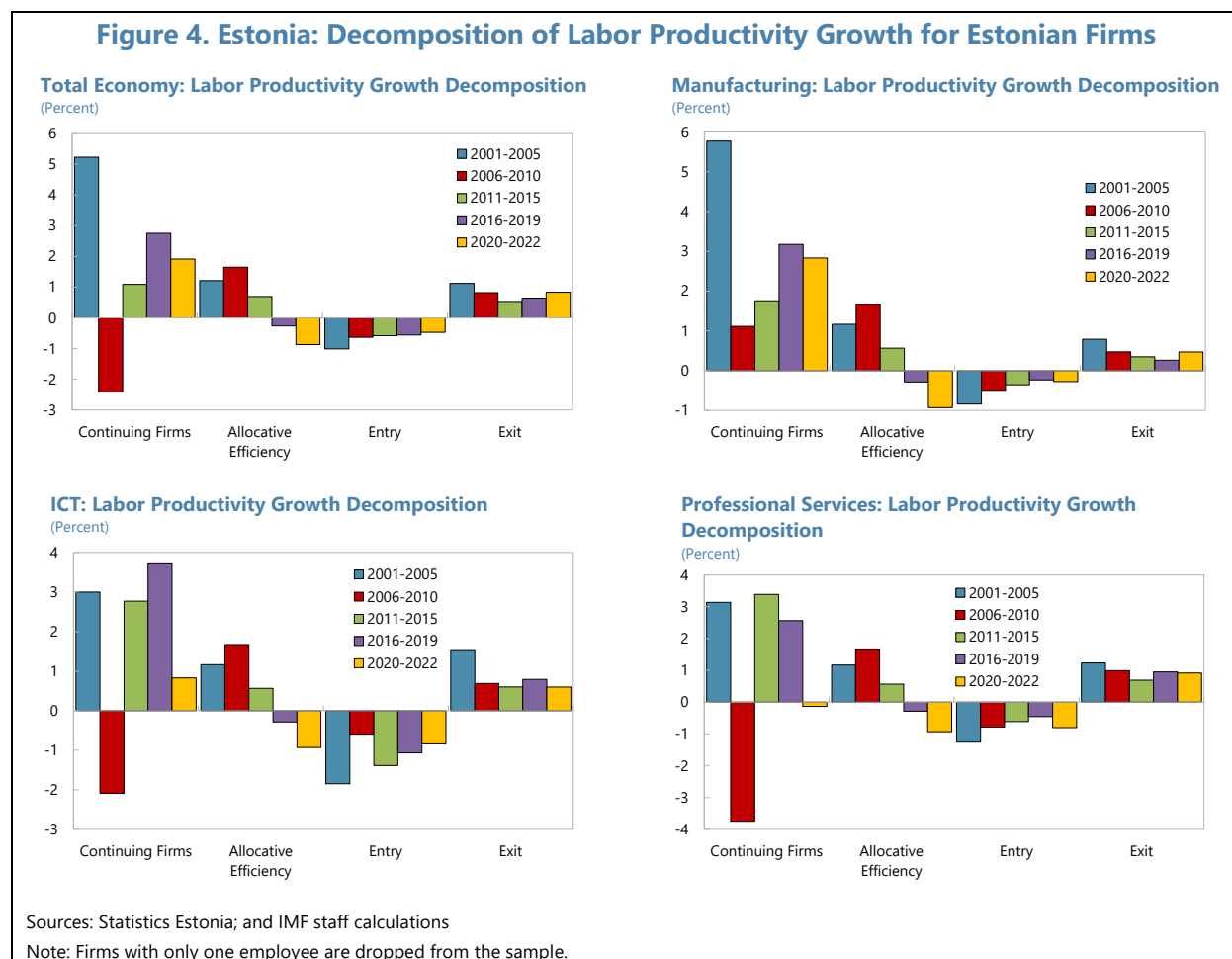
Note: Firms with only one employee are dropped from the sample.

10. The results obtained using administrative data for the industry level are consistent with the aggregate ones.² For instance, the contribution by allocative efficiency to labor productivity growth is negative for industries such as agriculture, manufacturing, construction, wholesale, and retail trade. The contribution by firm entry is negative throughout the sample period, and that by firm exit is positive and more than compensates for the negative contribution by firm entry during 2016-19 (See Figure 3 for example).

² There are some differences between results using administrative data and Orbis data for Latvia. This is not surprising, because the Orbis data for Latvia covers a limited sample of firms. For instance, for most of the industries, we find a positive but declining contribution by allocative efficiency to labor productivity growth over 2012-19. It turned negative in 2020. The negative contribution by firm entry narrows while the positive contribution by firm exit increased throughout most of the sample period. For most industries, the industry-level results using Orbis data are broadly consistent with those for the aggregate economy.

How do Latvian Firms Compare to Estonian and Lithuanian Firms?

11. The analysis of Estonian and Lithuanian firms using microeconomic data shows that the contribution of allocative efficiency to labor productivity growth also declined over time (Figures 4 and 5).³ For Estonia, firms with higher productivity have been growing in terms of employment during 2001–2015. However, allocative efficiency worsened over time after 2010 and the contribution to labor productivity growth turned negative after 2016. For Lithuanian firms, the contribution by allocative efficiency to labor productivity growth declined and turned negative after 2011.



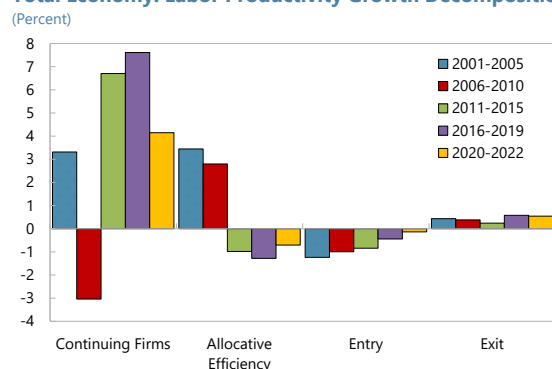
12. The contribution of firm entry is negative too in both Estonia and Lithuania. The contribution by firm exit to labor productivity growth is positive throughout the sample period, and

³ Given limited data availability through Estonia's statistical register data, value added per employee was proxied by firms' turnover per employee. The same exercise was repeated using Orbis data on Estonian firms and results show a similar pattern: the contribution of allocative efficiency declines over most of the sample period and turns negative in recent years; the contribution by firm entry to labor productivity growth is negative and is offset by a positive contribution by firm exit. The findings using Orbis data for Estonia at the industry level are also broadly consistent with those based on statistical register data.

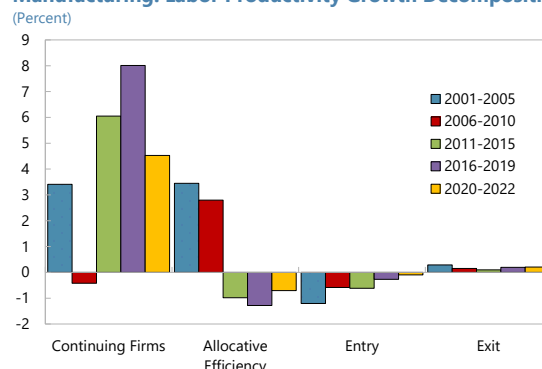
increasingly after 2015. For Lithuanian firms, the contribution by firm exit failed to compensate for the negative contribution by firm entry during 2001-15.

Figure 5. Lithuania: Decomposition of Labor Productivity Growth for Lithuanian Firms

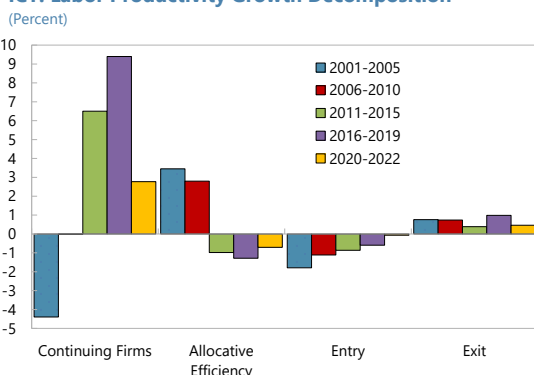
Total Economy: Labor Productivity Growth Decomposition



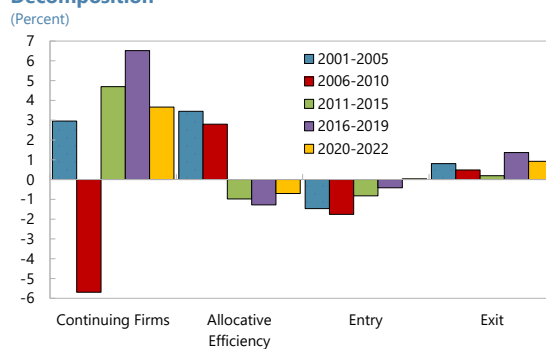
Manufacturing: Labor Productivity Growth Decomposition



ICT: Labor Productivity Growth Decomposition



Professional Services: Labor Productivity Growth Decomposition



Sources: Statistics Lithuania; and IMF staff calculations.

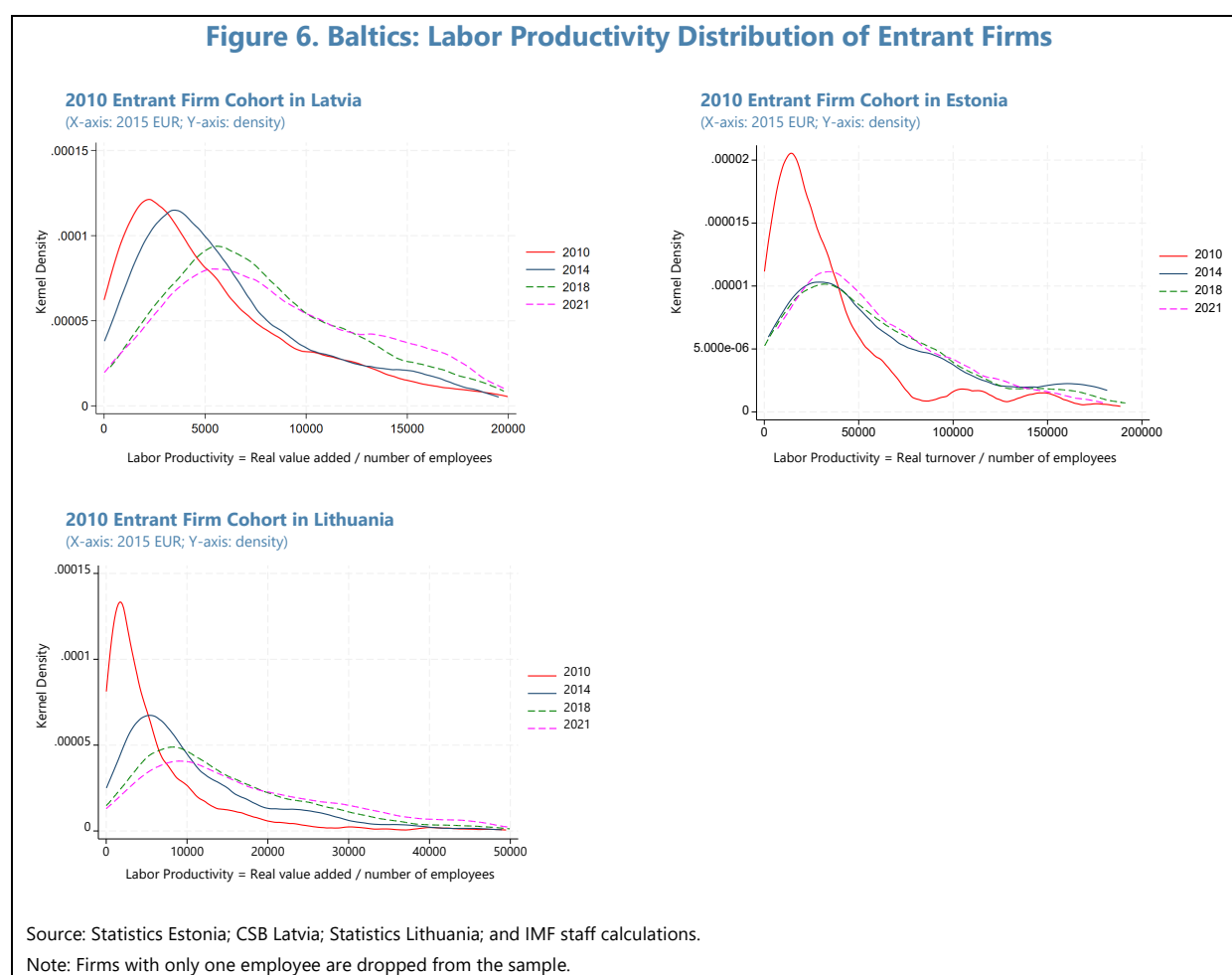
Note: Firms with only one employee are dropped from the sample.

C. Discussion of the Results

13. The productivity growth contribution by net firm entry is limited in Latvia, as it is for the other two Baltic economies. The negative (positive) contribution by firm entry (exit) to labor productivity growth suggests that entering (exiting) firms have lower labor productivity on average than continuing firms. One possible explanation is that entrant firms tend to have less capital than incumbent firms and thus lower labor productivity (Melitz and Polanec, 2015). Another possible explanation for this stylized fact is that incumbent firms have market power that allows them to invest in productivity-enhancing technologies. For instance, De Ridder (2024) shows that incumbent firms with high intangible investment enjoy competitive advantages because their marginal costs of production are lower and fixed costs are higher, which serve as a barrier to entry. Moreover, unlike potential entrant firms, incumbents tend to invest in incremental R&D to increase productivity and profits using existing technologies and processes, while young firms more often invest in radical R&D to replace incumbents, and may have a smaller immediate effect on productivity (Acemoglu

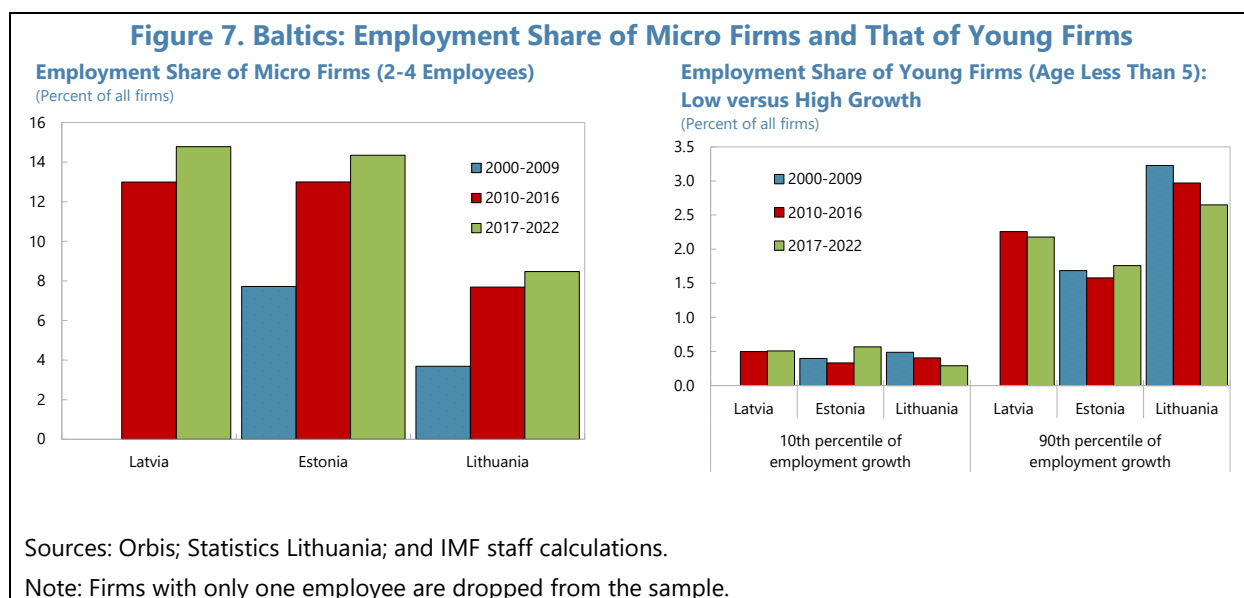
and Cao, 2015). In fact, in Latvia, entrant firms are usually less productive than incumbents possibly because they are smaller, tend to have less capital and experience, and lack the resources and established networks of incumbents. Some of these shortcomings may come from limited access to finance (e.g., because of lack of collateral) or from lack of access to skilled labor.

14. However, the productivity level of entrant firms improves over time. Figure 6 illustrates the distribution of labor productivity over time and across all firms that entered the market in year 2010 in Latvia and the other two Baltic economies, respectively. The distribution is skewed toward the low end at the time of entry but gradually shifts towards the center over time, suggesting positive labor productivity growth across the distribution of all firms which entered in 2010. Within ten years, the average labor productivity increased significantly, and productivity levels became more evenly distributed.



15. The employment share of micro firms also increased over time in Latvia and the other two Baltic economies over the past few decades (Figure 7). Labor productivity growth slowed down during the same period. If labor is trapped in stagnant micro firms, aggregate growth will be slow. Our results suggest that the fast-growing young firms take up a bigger share of employment (2-3 percent in the case of Latvia) than slow-growing young firms, however, their footprint in the

aggregate economy remains small as compared to more advanced economies such as the United States, where the corresponding employment share is about 6 percent.

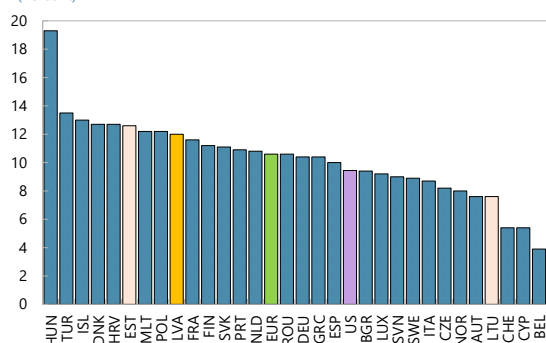
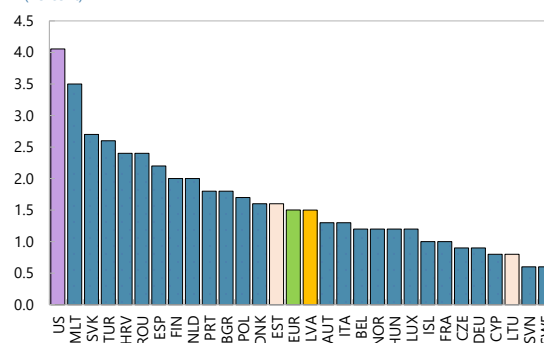


D. Policy Implications

16. As the labor productivity growth contribution by net firm entry is small in the Baltic economies, policy makers need to address the constraints faced by young firms to promote productivity growth. Firm-level data on productivity may help distinguish temporary low productivity of startups from persistent low productivity of nonviable firms. Government programs should target innovative young firms that support long-term economic growth, instead of helping the unproductive small firms survive.

Supporting High-Quality Entry

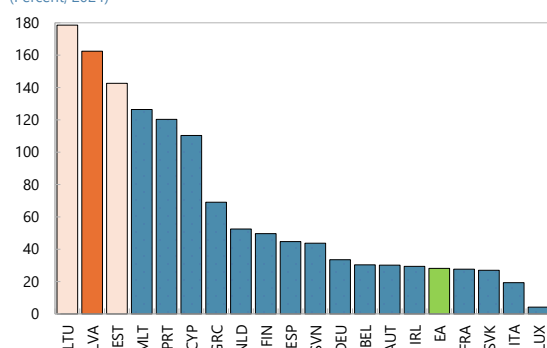
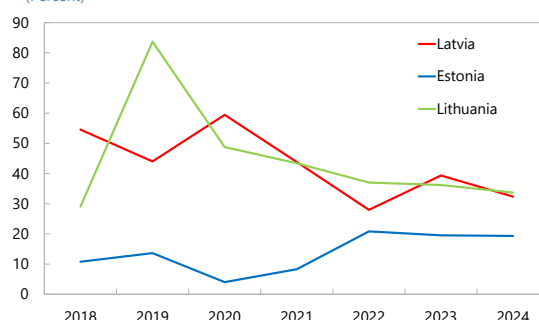
17. Firm entry rates in Latvia are higher than the EU average and other advanced economies such as the United States, even though entry rates for firms with more than 10 employees are lower (Figure 8). This suggests that barriers to entry are not a major obstacle to productivity growth. However, responding to the persistently low productivity growth of young firms, policy makers may implement targeted policies supporting high-quality entry. For instance, targeted subsidies funding R&D intensive startups with high growth potential may help foster productive new firms. High-potential new firms may benefit from policies that help them accelerate learning processes. This may include support for skilled workforce training, and programs facilitating the adoption of new technologies.

Figure 8. EU: Firm Entry Rates**Entry Rates: All Firms, 2019**
(Percent)**Entry Rates: Firms with More than 10 Employees, 2019**
(Percent)

Sources: OECD DynEmp; Business Dynamics Statistics; IMF staff calculations (2024 October Europe Regional Economic Outlook).

Facilitating Efficient Exit

18. Despite a remarkable decline by 10 percentage points during the past decade, the share of negative-equity firms is still very high in Latvia (about 30 percent as of 2022). The prevalence of small firms and significant share of those with liabilities that exceed assets may reflect the lack of access to the formal insolvency system in Latvia. The authorities have implemented reforms to the insolvency framework since 2016 to improve the efficiency and access to the insolvency process. In the past few years, asset recovery rate and duration of insolvency process have improved. Such recent progress should help promote the efficiency of resource allocation. Policy makers should continue to improve access to the formal insolvency process for micro and small firms (e.g., by making it cheaper) and establish an early warning mechanism such that the firms in financial distress could take actions to restructure debt at an early stage.

Figure 9. Euro Area and the Baltics: Collateral-to-Loan Ratios**Collateral-to-Loan Ratio of Newly Issued Loans to NFCs**
(Percent; 2024)**Share of Newly Issued Loans to NFCs with Collateral-to-Loan Ratio Equal to or Above 200%**
(Percent)

Source: Bank of Latvia.

19. Despite considerable progress made in recent years, asset recovery rates during insolvency processes are relatively low for Latvia and the rest of the Baltic region, as

compared to other OECD economies. Although recovery rates have risen to 67 percent in recent years (a high value compared to other advanced economies), this happens in the context of very high collateralization of loans (160 percent as of 2024). Moreover, because of the high collateral requirements (Figure 9), access to finance by small and medium-sized enterprises (SMEs) and startups is limited. Authorities could take measures to further improve asset recovery to address issues related to overcollateralization.

Encouraging Firm Dynamism by Reducing the Regulatory Burden

20. Although Latvia features more flexibility than the OECD average in economy-wide product market regulation indicators, there are some areas for improvement.⁴ On the one hand, its overall quality of product market regulation reflects a relatively competition-friendly regulatory framework. On the other hand, despite being less burdensome than the OECD average, licensing processes in Latvia could be further streamlined by adopting “silent consent” principles, for example. The authorities could also enhance market competition by reducing the use of retail price controls in certain sectors (e.g., pharmaceuticals) or lower barriers to entry in sectors like legal and notary services (thereby encouraging more net entry of firms).

Improving Allocative Efficiency of Capital and Labor

21. There is both anecdotal and empirical evidence that firms in the Baltic region are constrained by lack of access to finance and skilled labor and that the easing such constraints may help boost productivity growth (e.g., see Foda and others 2024). For example, a significant percentage of firms in Latvia cite finance availability as a major obstacle, one of the highest rates in the EU.⁵ Policymakers could provide targeted grants or subsidies to innovative firms expected to become more productive than incumbent firms, or for activities that enhance productivity, such as investment in R&D.

22. Improving allocative efficiency and enhancing firm dynamism could support productivity growth in Latvia. Policies should aim at facilitating access to finance and skilled talent for high-productivity firms. Innovative firms lacking tangible assets that can be used as collateral could benefit from a more developed domestic capital market and a potential savings and investment union in Europe. Migration and active labor market policies may be enhanced to allow faster integration of high-skilled migrant workers. Education policies could also be adopted to improve the availability of STEM programs and provide more incentives for local talents to stay in the domestic economy. Product market regulation could be made even more flexible to allow more competition and provide more incentives for firms to innovate.

⁴ See OECD country reports on product market regulations at <https://www.oecd.org/en/topics/sub-issues/product-market-regulation.html>

⁵ A recent survey by Turība Business School and SKDS reveals that 63 percent of Latvian entrepreneurs rated the business environment as poor in 2024, while 29 percent found it favorable, local media reported. The survey, conducted between November 2024 and January 2025, involved 750 business owners. The most significant concerns include limited financial access, labor shortages, and administrative burdens. Additionally, factors such as government influence on business, legislative stability, tax burden, and municipal policies remain problematic.

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