Economic restructuring and FDI as drivers of labour productivity growth in CEECs

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Extended abstract

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Introduction

New economic challenges were brought in the 2020s by the pandemic crisis, and the subsequent geopolitical and energy crisis which highlighted the vulnerability of the growth model in CEE countries (Gál&Lux 2022, Lux 2023). The early-2020's crises marked the end of an economic era and some basic economic conditions have permanently changed, including the monetary environment (higher inflation and interest rates) and governmental indebtedness. Demographic challenges, including population ageing and skilled labour migration from East to West makes labour markets tight, especially in CEE countries. To bring these economies onto a sustainable growth path, more emphasis should be placed on the intensive growth, i.e., the increase of labour productivity, together with increasing domestic value added of production. CEE countries feature a dual economic structure with a large gap between the performance of domestic and multinational, as well as SME and large firms. In order for FDI-dominated sectors to make a lasting contribution to economic catching-up, it is necessary to increase the share of domestic suppliers, to move up the value chains and to attract higher value-added activities (Varga, Rippel 2023).

Sustainable catching-up depends on productivity growth. Carone et al. (2006) discusses that the main factors driving trend productivity growth relate to labour input, capital input and technological progress. Other factors, such as changes in the sectoral composition of the economy are also considered among such factors. Technically, the two main components of labour productivity growth are capital deepening (an increase of capital to labour ratio) and total factor productivity growth (representing overall efficiency). Carone et al. (2006) argue that during the transition phase, in less developed economies capital deepening contributes most to labour productivity growth, but in later stages of development, TFP growth becomes the

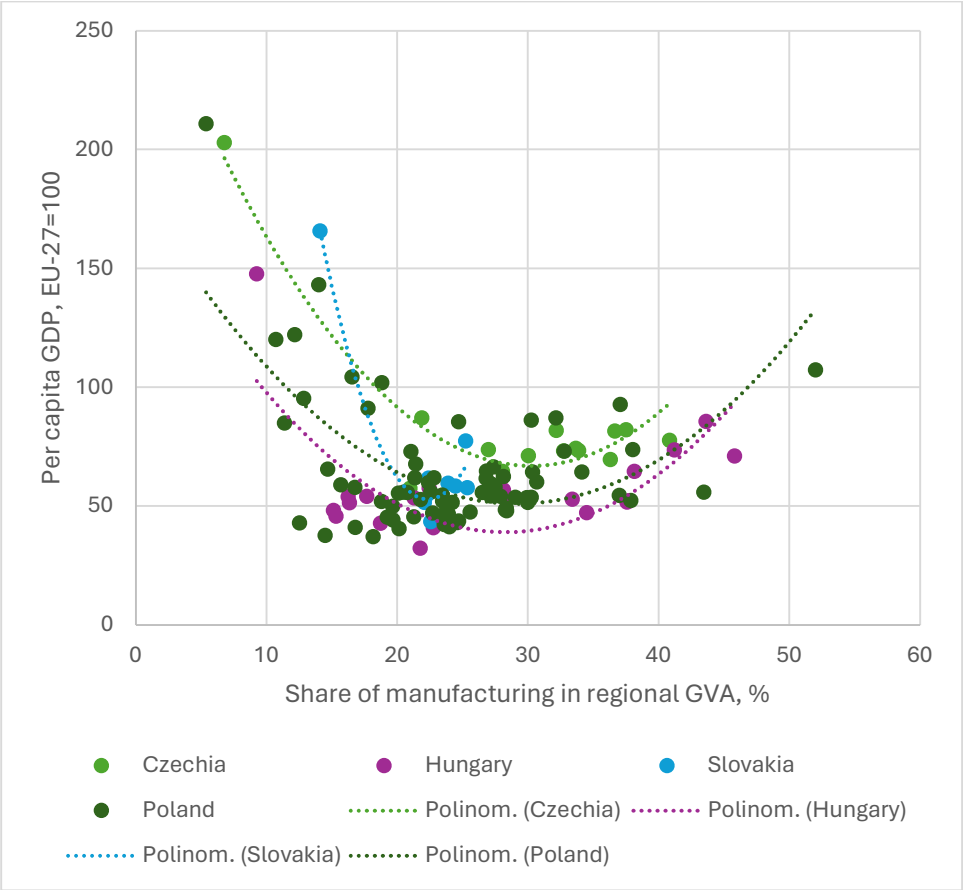
dominant factor. This lies upon innovation and human capital investments, for which the availability of skilled labour and high-quality jobs are key factors. Furthermore, the catching-up of wages is a competitiveness factor as it plays a key role in retaining and attracting skilled labour, boosting domestic demand and raising living standards in a globally integrated labour market (Zanaty 2022). There is also a need for a developed entrepreneurial ecosystem that makes the use of human resources more effective thereby contributing to productivity improvement.

Per capita GDP disparities in the EU countries are mostly attributable to labour productivity disparities, especially after the second half of the 2010s. This is mostly attributable to the fact that labour markets are tight, unemployment is relatively low even in peripheral areas. Labour productivity differentials within the EU reflects the low road of development in CEE countries, furthermore, the large core-periphery divide is marked not just at the EU level (between countries), but also at the sub-national level (within countries).

The regional distribution of foreign direct investments is highly concentrated in the capital cities in Czechia and Slovakia, non-capital areas having a minor share. The capital cities of Czechia and Slovakia are decoupled from the rest of the country in terms of the FDI to GDP ratio, but in Hungary, Budapest does not stand out considerably from the other leading regions. At the same time, concentration is on an increasing trend in Czechia, a decreasing trend in Hungary and it is stagnating at a high level in Slovakia.

The structural composition of FDI shows marked differences, because knowledge-intensive service-oriented investments are concentrated almost exclusively in the capitals, while in non-capital regions the manufacturing investments dominate. As a result, there is a U-shaped relationship between the relative economic development and the relative share of manufacturing in a regional disaggregation (Figure 1).

Figure 1. The relationship between the relative weight of the manufacturing sector in regional GVA and the relative per capita GDP by NUTS3 regions



Source: own editing based on Eurostat data

After the crisis, the growing emergence of services in global foreign trade became a general phenomenon with IT and other financial and business services increasingly entering international trade alongside traditional services (tourism, contract work, transport). The growth rate of services exports has recently been more stable than that of goods exports, as demand for services is less dependent on the cyclicality of the economy.

The Hungarian economy as a developed economy has a high degree of tertiarisation, but the share of the industry sector (dominantly manufacturing) is high compared to the Western European countries, where it is mostly below 20%. Also, the growth of the share of construction was spectacular after 2010.

Although the export of goods was around 67 percent of the GDP at an average in the 2010s, the import of goods was around 66 percent of the GDP, therefore, the trade balance of goods could not contribute positively to the aggregate GDP growth in every year (actually, it contributed negatively to GDP growth with -1.2 to -2.1 percentage points in most years between 2014-2019). The export of services was around 17 percent and the import of services was around 13 percent, therefore, the trade balance of services is positive, and so is their contribution to GDP growth (with between 0.3 and 1.7 percentage points in the period 2014-2019). During the pandemic crisis the balance of services temporarily turned into negative, but it soon recovered. In the process of tertiarisation there is a slow but steady growth of the share of services within the Hungarian gross value added, which is now around 67%. Based on these facts, our perception is that the manufacturing export-oriented economic structure is not beneficial for long-term, sustainable economic growth. However, a specialisation on higher value-added services would require targeted policy efforts to increase human capital endowment.

Data and methods

The aim of the research is twofold: first, we investigate the changes of economic structure in CEE countries in a comparative manner at the sub-national, NUTS3, level over the period after 2010 with the help of exploratory statistics. Second, we investigate the relationship between FDI and labour productivity change in a regional disaggregation. Labour productivity changes are decomposed with the help of the shift-share method to a structural change effect and a within-sector growth effect (see Sávai et al. 2022). Finally, we compare these regional data with FDI using OLS regressions.

Results

The decomposition of GVA change to the contribution of employment change and labour productivity change

The growth of gross value added (GVA) can be decomposed into the growth of employment and the growth of GVA per employee. Between 2010 and 2015 the GVA change was almost entirely attributable to the growth of employment, while the contribution of employment and productivity growth was more balanced in the second half of the decade. With a focus on sectoral differences, our calculations show that while the productivity improvement was observed in the manufacturing sector between 2010 and 2015, it was the sector where it decreased the most between 2015 and 2019. Presumably as a result of the large-scale investments, the highest growth performance was measured in construction and in real estate activities.

Concerning regional differentials, our results show that the FDI-manufacturing oriented and the re-industrialising regions of Hungary have recorded the highest progress during the first half of the decade, however, Győr-Moson-Sopron and Zala counties were the most notable exceptions after 2015. The highest productivity improvement was measured in Budapest and in the otherwise relatively underdeveloped regions after 2015.

A shift-share analysis of labour productivity change

Next, we focus only on the change of labour productivity and the decomposition thereof based on a shift-share method as presented by OECD (2018) and Sávai et al. (2022). The shift-share analysis decomposes labour-productivity change to a within-sector productivity growth effect, a static shift effect and a dynamic shift effect:

- Within-sector productivity growth effect: it captures the effect of productivity growth within the different industries in the absence of structural change.
- Static shift effect: it measures the contribution to aggregate labour productivity growth of a shift of employment resources towards sectors or branches with lower or higher labour productivity levels at the beginning of the period.
- Dynamic shift effect: often referred as the interaction effect, it measures the extent to which positive/negative efficiency gains interact with the expansion/contraction of different industries.

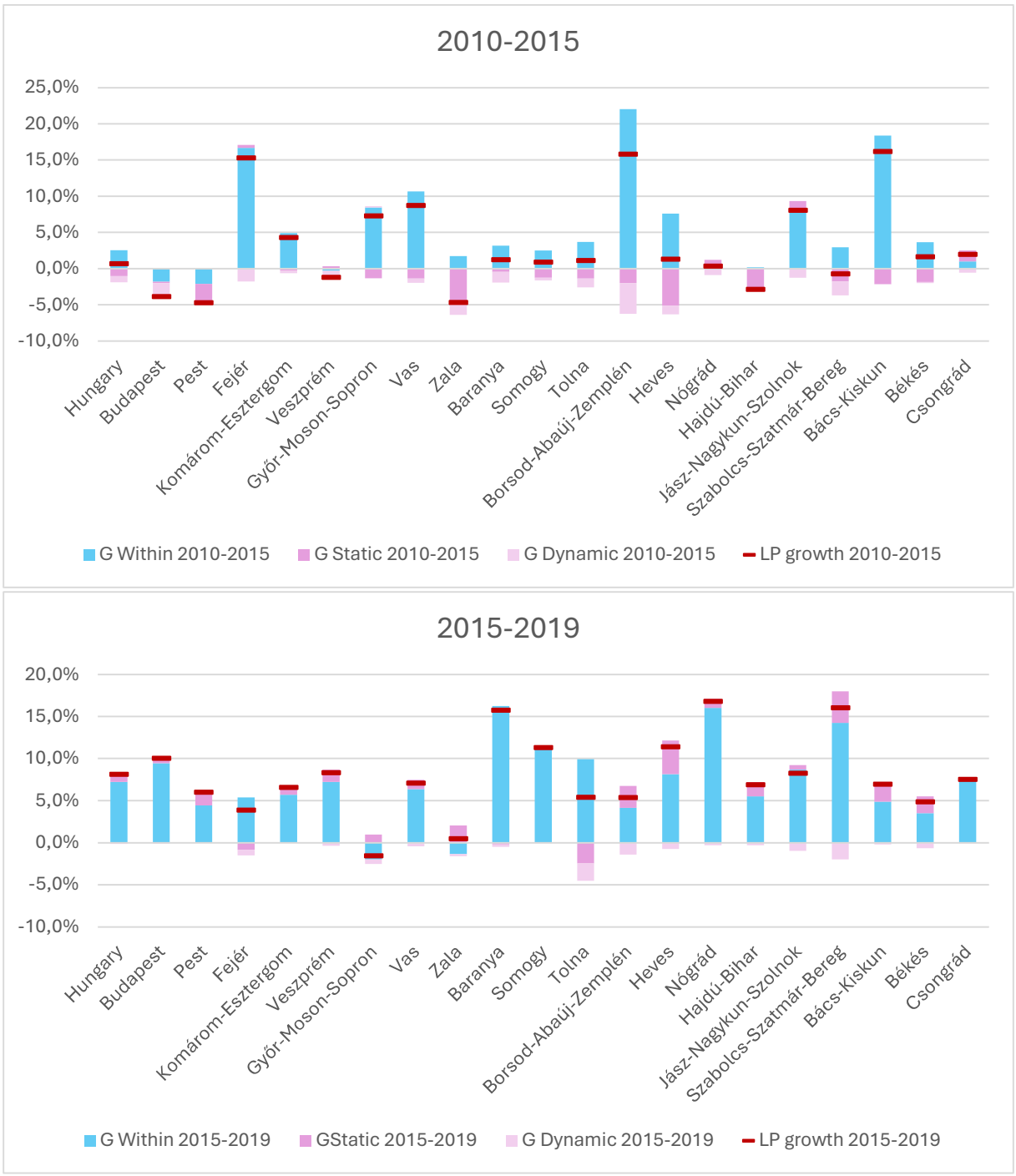
The sum of the static and dynamic shift effects is a measure of the overall resource reallocation process in the economy.

The results of our calculations show that between 2010 and 2015, the structural effect was relatively minor and negative in almost all regions, while the dominant source of labour

productivity change was the within-sector change. This means that the economic restructuring was unfavourable for productivity improvement in almost all regions.

The structural change effect has turned into positive in almost all regions but remained weak during the second half of the decade.

Figure 3. The decomposition of labour productivity change by NUTS3 regions



Source: Author's elaboration

FDI and labour productivity

Finally, we examine the cross-sectional relationship between the FDI penetration and the two main components of labour productivity change (within sector effect and static+dynamic structural effect) as well as the overall labour productivity change. The regression was estimated

with the OLS method. Our results (Table 1) confirm that FDI positively contributed to labour productivity change between 2010-2015 which was attributable to the within-sector effect, but no significant relationship is detected in the second half of the period or with respect to the structural change effect.

Table 1. Regression results

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
Dependent variable	LP change	LP change	Within-sector productivity growth effect	Within-sector productivity growth effect	Structural change effect	Structural change effect
Period	2010-2015	2015-2019	2010-2015	2015-2019	2010-2015	2015-2019
R-squared	0.230748	0.024978	0.229876	0.053957	0.002201	0.054702
Obs.	20	20	20	20	20	20
Constant	-0.00197	0.072844	0.019509	0.064162	-0.02148	0.008682
FDI-change	0.299973	0.055962	0.309351	0.083963	-0.00938	-0.028
p-value	0.032054	0.505737	0.032427	0.324381	0.844295	0.32097

Source: author's elaboration

Conclusion

Our research arrived at the conclusion that the Hungarian economy was best able to benefit from the productivity-enhancing effects of FDI in the first half of 2010. The FDI has been able to stimulate the economies of the more developed, non-capital areas, thereby reducing territorial disparities. However, the benefits of FDI and export-oriented manufacturing growth were much weaker in the second half of the decade.

The dominant part of labour productivity growth occurred in the form of within-sector growth, at the same time, the growth effect of structural reallocation was weak. The shift effect was largely negative in the first half of the period, but it turned into positive after 2015. All in all, the manufacturing export-oriented economic model is not suitable to keep the economy's internal income-generating capacity on a sustainable path. There is a need to rethink the economic specialisation of the regions and the national economies which will help these countries move away from the low road of development.

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