# FDI-Led Development without Structural Upgrading: Serbia versus Post-communist EU Member States

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## ABSTRACT

This paper reassesses Serbia's FDI-led development model from a post-Keynesian perspective, comparing Serbia with post-communist EU member states. It shifts attention from the volume of Foreign Direct Investment (FDI) to its sectoral composition and asks whether significant inflows of foreign capital have supported structural upgrading. The evidence shows a quantity–quality divergence: Serbia has attracted substantial FDI, but its inflows have remained weakly oriented towards high-value-added activities. Panel regression estimates confirm a negative Serbia-specific trend in the high-value-added share of FDI relative to the post-communist EU member states comparison group. The findings suggest that Serbia's FDI-led model has been macroeconomically useful but developmentally incomplete, supporting employment and external financing without producing a comparable transformation of the productive structure or labour market.

**Keywords:** FDI-led development; structural upgrading; labour market outcomes; Post-Keynesian economics; Serbia.
**JEL Codes:** F21; J21; O14; O43; P23.

## I. Introduction

More than three decades after post-transition European countries opened their economies to foreign capital, the developmental effects of this policy orientation remain contested. While foreign direct investment (FDI) has often been presented as a key driver of economic modernisation, employment creation, and integration into international markets, its broader consequences for labour market outcomes are less straightforward. This is particularly relevant in the Serbian context, where foreign capital has been assigned a prominent role not only in economic restructuring but also in shaping the institutional framework of the national economy.

The controversy becomes especially pronounced when the effects of FDI are assessed beyond the narrow question of job creation. Although foreign investment may contribute to employment growth, the quality of the jobs created, wage dynamics, working conditions, and the broader bargaining position of labour remain crucial dimensions of evaluation. These issues are particularly important in economies where foreign investors have received substantial public support, often through generous subsidies and discretionary incentive schemes. In such circumstances, the question is not only whether FDI creates employment, but also whether an FDI-led development model contributes to more sustainable and socially desirable labour market outcomes.

This paper approaches these issues from a heterodox economic perspective, with particular attention to post-Keynesian insights on demand, institutions, distribution, and the role of the state in shaping development trajectories. Such a perspective allows for a critical reassessment of the dominant policy assumption that foreign capital inflows generate broad-based improvements in labour market performance.

Serbia is analytically important because FDI continues to occupy a central position in national development policy. In many other post-transition economies, particularly among the post-communist EU member states, debates about the role of foreign capital in transition have increasingly shifted into the domain of economic history. In Serbia, however, these questions remain directly relevant to contemporary economic policy. The continued use of subsidies to attract foreign investors, combined with persistent concerns about wages, employment quality, and labour market segmentation, makes Serbia a particularly suitable case for reassessing the limits of an FDI-led development strategy.

The rest of the paper is organised as follows. Section 1 reviews the literature on FDI, transition, labour-market outcomes, and post-Keynesian interpretations of foreign-capital dependence. Section 2 presents stylised facts on Serbia's FDI performance relative to post-communist EU member states. Section 3 describes the empirical model and data. Section 4 presents the results. Section 5 discusses the findings through the post-Keynesian framework and draws implications for Serbia's FDI-led development strategy. Section 6 concludes and outlines policy implications.

## II. Literature Review and Hypothesis Development

FDI has occupied a central place in the literature on post-communist economic transformation. In the early transition period, FDI was expected to perform several functions simultaneously: recapitalise obsolete industrial assets, accelerate privatisation, transfer technology and managerial knowledge, and integrate formerly socialist economies into international production networks (Campos & Kinoshita, 2002; Estrin et al., 2009; Kalotay & Hunya, 2006). This view was particularly influential because transition economies entered the 1990s with weak domestic savings, outdated capital stock, and limited private-sector capabilities. Foreign capital was therefore treated not only as an external source of finance but also as a mechanism of restructuring and modernisation (Turnock, 2017).

The empirical literature generally supports the view that foreign ownership improved firm-level performance in post-communist economies. Djankov and Murrell (2002) find that privatisation improved enterprise performance, with stronger effects when ownership was transferred to external rather than insider owners. More broadly, foreign-owned firms tended to outperform domestic and state-owned firms in restructuring, productivity, and competitiveness (Estrin et al., 2009; Gugler et al., 2014; Iwasaki & Mizobata, 2018; Iwasaki & Tokunaga, 2016). Using meta-regression evidence, Iwasaki & Tokunaga (2016) report strong direct effects of FDI in transition economies. These findings explain why FDI came to be viewed as one of the main engines of post-socialist restructuring.

Yet the same literature also cautions against equating FDI inflows with broad-based development. The benefits of FDI depend on the distinction between direct effects and spillover effects. Direct effects arise within foreign-owned firms, while spillovers depend on whether foreign firms raise the productivity, wages, and technological capabilities of domestic firms. The evidence on direct effects is considerably stronger than the evidence on spillovers. Girma & Görg (2006), and Hanousek et al., (2011) show that spillovers depend upon absorptive capacity, infrastructure, sectoral linkages, and host-country policy (W. Bailey et al., 2024). Thus, FDI may improve performance inside foreign-owned firms without producing comparable upgrading in the domestic economy.

The labour-market literature reaches a similar conclusion. FDI affects labour demand, employment, productivity, and wages, but these effects are uneven across workers, firms, and sectors (D. Bailey & Driffield, 2007; Damijan et al., 2015; Hale & Xu, 2019; Oliveira & Forte, 2021; Siddique & Bardai, 2023). Foreign-owned firms often pay higher wages than domestic firms operating in the same industry (Delevic & Kennell, 2022; Feenstra & Hanson, 1997; Girma & Görg, 2006; Heyman et al., 2007; Martins, 2004). This premium is usually attributed to higher productivity, more advanced technology, export orientation, and stronger demand for skilled labour (Goldberg & Pavcnik, 2007). Evidence from post-communist economies confirms this pattern (Broniatowska & Strawiński, 2021; Delevic & Kennell, 2022; Earle et al., 2018; Jude & Silaghi, 2016; Lorentowicz et al., 2005; Varblane et al., 2002). However, a foreign-ownership wage premium does not necessarily imply economy-wide wage upgrading (Köllő et al., 2021). If foreign firms are concentrated in lower-value-added activities, higher wages within those firms may coexist with limited structural improvement in the broader labour market.

The distributional consequences of FDI are therefore ambiguous. During transition, income inequality rose sharply across Central and Eastern Europe as privatisation, labour-market liberalisation, and the dismantling of socialist welfare institutions replaced compressed wage structures with market-based wage setting (Keane & Prasad, 2002; Mahutga & Bandelj, 2008; Milanovic & Ersado, 2012). FDI contributed to this process through privatisation, between-firm wage gaps, and skill-biased wage premia inside foreign firms[1] (Ivaschenko, 2003; Josifidis et al., 2020; Josifidis & Supic, 2023;

[1] From a heterodox perspective, skill-based wage premia may also reflect forms of academic rent, whereby educational credentials generate unequal income advantages that do not necessarily correspond to proportional productivity differences (Josifidis & Supic, 2019).

Kalotay & Hunya, 2006; Supic et al., 2025). Drahokoupil & Piasna, (2018) and Zulfiu Alili & Adnett (2018) show that foreign firms may increase wage inequality even when they raise average wages. The relevant question is therefore not only whether FDI creates jobs or pays higher wages, but also how its benefits are distributed across workers and sectors.

Sectoral allocation is central to this mechanism. In the early transition period, FDI in post-communist Europe was concentrated in manufacturing, banking, retail, energy, and privatised industrial assets (Kalotay & Hunya, 2006; Kinoshita & Campos, 2003). After EU accession, foreign capital increasingly shifted towards services, business activities, knowledge-intensive production, and high-value-added functions (Bijsterbosch & Kolasa, 2010; Rahman & Jirasavetakul, 2018). This shift altered the labour-market and distributional effects of FDI. Manufacturing FDI tends to be more employment intensive and may compress wage inequality through broad-based job creation. High-value-added services generate higher wages and productivity, but often employ fewer workers and display larger wage dispersion, especially in the short run (Asteriou et al., 2014; Drahokoupil & Piasna, 2018). Over a longer horizon, however, the expansion of modern services may support productivity growth, higher wages, and a more advanced employment structure.

Serbia differs from this post-communist EU trajectory in two respects. First, it entered transition and European integration later than the successful Central and Eastern European economies.

Second, its post-2000 development strategy relied heavily on attracting foreign capital through subsidies, discretionary incentives, and the adjustment of regulatory practices (Madžar, 2019; Ratkaj et al., 2021; Uvalić & Bartlett, 2021), treating FDI as a key source of growth, employment, competitiveness, and export expansion (Vukmirović et al., 2021). Several studies argue that this model generated high-FDI inflows but weaker qualitative effects, especially in terms of technology transfer, domestic linkages, and job quality (Arsić et al., 2019; Grujic & Kyrkilis, 2020; Pejić & Tomašević, 2025; Ratkaj et al., 2021; Vasa & Angeloska, 2020). This body of work, therefore, stresses the need to evaluate FDI qualitatively rather than solely by its volume or immediate employment effects.

The Serbian subsidy regime has attracted particular criticism. Although investment incentives are widely used in transition and post-transition economies (Bellak et al., 2008; Driffield et al., 2010; Pavel et al., 2021), several studies argue that in Serbia fiscal incentives have often compensated foreign investors for regulatory uncertainty, administrative inefficiency, and other nonmarket costs of doing business (Madžar, 2019; Tmušić & Rapaić, 2022). Bitzenis & Žugić (2016) show that foreign investors themselves identify institutional constraints as a major barrier to investment. Delevic (2020) examining subsidised FDI across Serbian municipalities, finds limited evidence that subsidies generated sustainable employment beyond jobs directly created in subsidised foreign firms. This suggests that Serbia's incentive-based model may have supported FDI attraction without generating sufficiently strong spillovers, domestic accumulation, or long-run employment upgrading.

A post-Keynesian perspective provides a useful framework for interpreting these findings. The dominant transition model was built around rapid liberalisation, privatisation, price deregulation, and the withdrawal of the state from direct economic coordination. Its underlying assumption was that markets would generate efficient institutions after the old socialist system had been dismantled. This sequencing has been criticised for reducing transition to the removal of state control rather than treating it as an institution-building process (Arestis, Philip & Paliginis, Eleni, 2001; Kregel & Matzner, 1992; Marangos, 2002, 2005). A functioning market economy requires legal enforcement, industrial policy, financial regulation, public investment, and labour-market institutions capable of supporting growth, employment, and distributional stability.

This distinction is crucial for the analysis of FDI. In the post-Keynesian view, foreign capital is not a neutral carrier of modernisation. Its developmental effect depends on the institutional structure in which it is embedded, the bargaining power of labour and the state, and the capacity of public policy to direct investment towards long-run productive upgrading. Institutions are not external constraints on markets; they shape investment decisions, employment relations, income distribution, and the sectoral path of development (Kregel & Matzner, 1992; Marangos, 2005). From this perspective, the problem of transition was not simply that reforms were too fast or too slow, but that institutional development did not adequately discipline capital, protect labour, or build domestic productive capabilities.

The post-Keynesian view also challenges the idea that foreign savings can substitute domestic development capacity. Investment depends on expected profitability and effective demand, not merely on the availability of savings (King, 2015). In economies with weak domestic accumulation, FDI may ease financing constraints and support employment, exports, fiscal revenue, and foreign-exchange inflows. However, these effects do not make FDI a self-sufficient basis for development. Jungmann's (2023) analysis of emerging capitalist economies supports this interpretation by treating FDI as one growth driver among several, rather than as an autonomous engine of structural transformation. Reliance on foreign capital may therefore weaken the state's bargaining position when policymakers treat FDI as a solution to multiple macroeconomic problems at once. Woodgate (2025) similarly argues that foreign-targeted state aid can support FDI-led growth only under restrictive conditions and is unlikely to provide an effective growth strategy when many countries simultaneously compete to attract multinational firms. In such circumstances, governments may prioritise capital inflows and employment numbers over technology transfer, domestic linkages, wage progression, and job quality (Bresser-Pereira, 2016, 2019)

This mechanism is particularly relevant for Serbia. Foreign capital is expected to contribute to employment and household consumption, fiscal revenue and public spending, technology transfer and diversification, and exchange-rate stability. These objectives may be complementary, but they may also involve trade-offs. When policymakers rely on FDI to address multiple macroeconomic and structural imbalances, job quality becomes a secondary criterion. This helps explain why Serbia has continued

to favour investment attraction and job creation even when the qualitative effects of FDI have remained limited.

Serbia also illustrates the institutional dimension of foreign-capital dependence (Minović et al., 2021; Radenković, 2016; Supic, 2024). Foreign investors have not only operated within Serbia's institutional framework, butalso influenced its evolution. The literature points to a long-standing adjustment of regulations and policy priorities to the needs of multinational companies, including labour-market flexibility, taxation, public procurement, customs, infrastructure, and environmental regulation. The adoption of a large share of the Foreign Investors Council's recommendations suggests that foreign capital has become an organised actor in the shaping of the regulatory environment (Foreign Investors Council, 2025). This does not imply that all such reforms are harmful, but it raises the question of whether institutional change is guided by a broad development strategy (Uvalic, 2025) or by the narrower requirements of investment attraction.

Taken together, the literature drives a shift from asking whether Serbia has attracted FDI to asking what kind of FDI it has attracted. Existing studies document the direct effects of foreign ownership, the conditional nature of spillovers, foreign-ownership wage premia, and the distributional consequences of sectoral reallocation, while research on Serbia emphasises large inflows, poor institutional quality, generous subsidies, and persistent concerns about job quality. Less attention has been paid to whether Serbia's FDI-led model has converged towards the high-value-added FDI structure observed in post-communist EU member states. This paper addresses that gap by focusing on the composition, rather than merely on the volume, of foreign-capital inflows. The central question is not whether FDI has supported employment in Serbia, but whether it has supported structural upgrading by shifting investment towards high-value-added sectors.

## III. Stylised facts

FDI is a central feature of Serbia's post-2000 growth model. Table 1 shows that Serbia moved quickly from being a moderate FDI recipient to one of the strongest performers relative to the post-communist EU comparison group. In 2002–2004, Serbia's FDI inflows amounted to 4.2 percent of GDP, below the comparison-group average of 5.3 percent but slightly above the group median of 3.9 percent. Thereafter, Serbia exceeded both the comparison-group mean and median in every period. This advantage became especially pronounced after the global financial crisis: Serbia ranked first among the 11 economies in each period from 2011–2013 through 2023–2025. In 2017–2019, for example, FDI inflows reached 7.3 percent of GDP in Serbia, compared with a comparison-group average of 3.3 percent and median of 3.0 percent. The inflow data therefore point to a persistent, rather than episodic, FDI-attraction advantage.

The sectoral distribution of FDI in the post-communist EU countries changed substantially over the last three decades, reflecting both economic transformation and integration into the European Union. The stock data in Table 2 show the cumulative effect of these inflows.

**Table 1– FDI Inflows as a Percentage of GDP: Serbia and the Post-communist EU Comparison Group.**

*Note*: The peer group excludes Serbia and consists of Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. Gaps are measured in percentage points. Serbia's rank is ordered from highest to lowest, with 1 indicating the highest value. Tables start in 2002–2004, the first complete three-year period available for Serbia. Source: Author's calculations.

| Period | Serbia | Peer group average | Peer group median | Gap vs. average | Gap vs. median | Serbia's rank |
|---|---|---|---|---|---|---|
| 2002-2004 | 4.18 | 5.29 | 3.92 | -1.11 | 0.27 | 5/11 |
| 2005-2007 | 8.66 | 7.67 | 5.88 | 0.99 | 2.78 | 3/11 |
| 2008-2010 | 5.79 | 3.50 | 2.30 | 2.29 | 3.48 | 3/11 |
| 2011-2013 | 5.53 | 2.57 | 2.30 | 2.95 | 3.22 | 1/11 |
| 2014-2016 | 5.11 | 2.30 | 2.48 | 2.81 | 2.62 | 1/11 |
| 2017-2019 | 7.31 | 3.34 | 2.95 | 3.97 | 4.36 | 1/11 |
| 2020-2022 | 6.67 | 3.78 | 4.06 | 2.89 | 2.61 | 1/11 |
| 2023-2025 | 5.41 | 2.76 | 2.47 | 2.65 | 2.95 | 1/11 |

In the early 2000s, Serbia was still an FDI laggard: inward FDI stock stood at only 9.1 percent of GDP in 2002–2004, compared with a peer-group average of 34.5 percent and median of 28 percent, placing Serbia last in the sample. This gap narrowed rapidly. By 2011–2013, Serbia's inward FDI stock had reached 56.0 percent of GDP, almost equal to the peer-group average of 56.9 percent and slightly above the peer median of 55.9 percent. From 2014–2016 onward, Serbia exceeded both the peer mean and median, ranking third in 2014–2016 and second in all subsequent periods. The stock peaked at 82.6 percent of GDP in 2020–2022, more than 23 percentage points above the peer-group average. Although it declined to 71.7 percent in 2023–2025, Serbia remained well above the peer benchmark and retained second place among the comparison economies.

**Table 2– Inward FDI Stock as a Percentage of GDP: Serbia and the Post-communist EU Comparison Group.**

*Note*: The peer group excludes Serbia and consists of Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. Gaps are measured in percentage points. Serbia's rank is ordered from highest to lowest, with 1 indicating the highest value. Tables start in 2002–2004, the first complete three-year period available for Serbia. Source: Author's calculations.

| Period | Serbia | Peer group average | Peer group median | Gap vs. average | Gap vs. median | Serbia's rank |
|---|---|---|---|---|---|---|
| 2002-2004 | 9.08 | 34.45 | 27.96 | -25.37 | -18.88 | 11/11 |
| 2005-2007 | 25.62 | 48.07 | 50.62 | -22.45 | -25.01 | 10/11 |
| 2008-2010 | 43.72 | 52.42 | 54.20 | -8.70 | -10.48 | 7/11 |
| 2011-2013 | 56.02 | 56.86 | 55.87 | -0.84 | 0.15 | 6/11 |
| 2014-2016 | 71.01 | 58.11 | 57.48 | 12.90 | 13.53 | 3/11 |
| 2017-2019 | 78.96 | 57.16 | 57.36 | 21.80 | 21.60 | 2/11 |
| 2020-2022 | 82.64 | 59.29 | 60.07 | 23.35 | 22.57 | 2/11 |
| 2023-2025 | 71.72 | 55.81 | 52.53 | 15.91 | 19.19 | 2/11 |

During the 1990s, foreign capital was directed mainly towards industry, energy, and mining, driven by low labour costs, natural-resource availability, and opportunities to modernise industrial capacity. Privatisation of state-owned enterprises was the main channel through which foreign capital entered these economies. Enterprise

restructuring, together with a mismatch between the skills demanded by foreign firms and the qualifications of workers from former socialist enterprises, contributed to large employment losses. These adverse labour-market effects were partly offset by economic recovery from the mid-1990s onward and by the expansion of foreign-owned firms, which quickly became leading employers in several industries, especially automotive and electronics, as well as in retail and banking.

During the 2000s, foreign capital increasingly shifted towards services, particularly financial services, trade, and telecommunications. In addition to economic restructuring, market liberalisation and regulatory alignment with EU standards played an important role in changing the sectoral composition of FDI. Foreign firms also participated in major infrastructure projects, especially in transport, supporting growth and integration into the EU single market. These developments contributed to the reallocation of foreign capital towards higher-value-added activities. Although cross-country differences remained substantial, the broad pattern in the post-communist EU countries was that FDI supported employment, labour productivity, and export growth during this period. Over the last decade, the growth rate of FDI slowed relative to earlier decades, but inflows remained large in absolute terms. The defining feature of this period was a further shift towards high-value-added sectors, including high-technology industries, business services, and research and development, reinforcing the economic and technological integration of post-communist EU economies with Western Europe.

Serbia differs from this regional pattern. Table 3 shows that Serbia's allocation of FDI to high-value-added activities remained weak relative to peers. The main exception is 2005–2007, when Serbia's high-value-added FDI share reached 54.5 percent, close to the peer mean of 56.4 percent and above the peer median of 44.4 percent, placing Serbia third among nine economies. In most other periods, however, Serbia ranked in the lower part of the distribution. The divergence is particularly large after 2011. In 2020–2022, high-value-added activities accounted for only 8.4 percent of Serbia's FDI, compared with a peer-group mean of 67.9 percent and median of 53.1 percent. Even in 2023–2025, Serbia's share only recovered to 20.9 percent, still far below the peer mean of 62.1 percent and median of 44.0 percent. The resulting stylised fact is a quantity–quality divergence: Serbia attracted unusually large FDI inflows and accumulated a large inward FDI stock, but the sectoral structure of these investments remained less oriented towards high-value-added activities than in comparable post-communist EU economies.

The preceding evidence points to an important asymmetry in Serbia's FDI-led growth model. Serbia has been highly successful in attracting foreign capital, but the domestic labour-market effects of this model depend on where foreign firms are located in the sectoral structure. The key issue is therefore not simply the scale of foreign investment, but whether foreign capital has supported employment in sectors capable of generating productivity growth, wage upgrading, and structural transformation.

Foreign-owned firms hold a disproportionately large position in Serbia's labour market relative to their number. Although they account for only a small fraction of business entities, they employ a substantial share of workers in the sectors in which they operate. In 2024, firms with majority foreign ownership employed more than 380,000 workers, equivalent to more than 21 percent of total employment. Within the private

enterprise sector, this implies that roughly one in three workers was employed by a foreign-owned company (Republički zavod za statistiku, 2026).

**Table 3 – High-Value-Added FDI Allocation: Serbia and the Post-communist EU Comparison Group.**

*Notes*: Values are percentages. The peer group excludes Serbia and consists of Bulgaria, Czechia, Estonia, Croatia, Hungary, Lithuania, Latvia, Poland, Slovakia, and Slovenia for which data are available. Gaps are calculated as Serbia minus the peer-group statistic. Rank orders countries from the highest to the lowest high-value-added FDI share, so a lower rank number indicates a larger share. Source: Author's calculations.

| Period | Serbia | Peer group average | Peer group median | Gap vs. average | Gap vs. median | Serbia's rank |
|---|---|---|---|---|---|---|
| 2002–2004 | 8.52 | 52.61 | 32.76 | -44.09 | -24.24 | 8 / 9 |
| 2005–2007 | 54.51 | 56.35 | 44.39 | -1.84 | 10.13 | 3 / 9 |
| 2008–2010 | 36.23 | 71.05 | 68.45 | -34.82 | -32.23 | 9 / 11 |
| 2011–2013 | 4.13 | 46.74 | 40.35 | -42.61 | -36.22 | 10 / 11 |
| 2014–2016 | 31.70 | 54.18 | 66.66 | -22.48 | -34.96 | 7 / 11 |
| 2017–2019 | 14.61 | 54.39 | 27.81 | -39.78 | -13.20 | 8 / 11 |
| 2020–2022 | 8.41 | 67.90 | 53.12 | -59.48 | -44.70 | 9 / 11 |
| 2023–2025 | 20.87 | 62.06 | 44.03 | -41.19 | -23.16 | 8 / 11 |

The employment role of foreign capital is concentrated mainly in manufacturing and trade. In manufacturing, foreign firms account for about 51 percent of sectoral employment, while in trade their share is around 18 percent (Republički zavod za statistiku, 2026). Since both sectors are major employers in the Serbian economy, foreign capital has become closely linked to the country's overall employment performance. This outcome reflects not only the sectoral composition of FDI but also the institutional design of Serbia's investment policy, in which employment creation has been a central criterion for granting subsidies to foreign investors.

This model has generated employment, but it has also increased exposure to sector-specific risks. A development strategy that relies heavily on a limited number of large foreign employers in traditional sectors may become vulnerable to external shocks. This vulnerability is reinforced by the fact that multinational performance is sensitive to geoeconomic risk and the stability of the external environment (Coutinho dos Santos et al., 2024). Manufacturing activities are particularly sensitive to disruptions in global supply chains, changes in energy prices, trade restrictions, and cyclical downturns. In Serbia, these risks are amplified by the fact that the competitiveness of some foreign investors has depended on public incentives or on access to natural resources, rather than on deeper technological upgrading.

The wage structure reinforces this interpretation. Foreign capital in Serbia remains concentrated in sectors with relatively modest average wages. Manufacturing is the clearest example. Although it is the main destination of foreign investment and employs more than half of all workers in foreign-owned firms, average wages in the sector remain below the national average. In 2026, manufacturing wages were approximately 11 percent lower than the national average, placing the sector in the lower-middle part of the wage distribution across activities (Republički zavod za statistiku, 2026). By contrast, the highest wages are found in high-value-added service sectors, where

Serbia's FDI presence is comparatively weaker and has not followed the upgrading pattern observed in many post-communist EU member states.

These patterns suggest that Serbia's FDI-led model remains anchored in an earlier stage of structural transformation. Foreign capital continues to be concentrated in manufacturing, trade, and other employment-intensive activities, resembling the role played by FDI in many post-communist EU economies during the 1990s and early 2000s. In contrast, several post-communist EU member states have moved towards a later stage in which foreign investment is increasingly directed towards high-value-added services, research-intensive activities, and technologically more sophisticated production. Serbia's main weakness is therefore not its ability to attract FDI, but the limited capacity of its FDI structure to generate sustained sectoral upgrading, higher-wage employment, and convergence towards the more advanced investment patterns observed in the post-communist EU comparison group.

## IV. Model

The stylised facts presented above suggest that Serbia's delayed and institutionally uneven transition may have produced an FDI-led development model that differs from the trajectory observed in post-communist EU member states. To test this argument, we examine whether Serbia experienced a weaker shift of FDI towards high-value-added sectors than the comparison group. The baseline specification is:

$$HVAFDI_{it} = \alpha_i + \lambda_t + \beta SerbiaTrend_{it} + \gamma X_{i,t-1} + \varepsilon_{it} \qquad (1)$$

The dependent variable, $HVAFDI_{it}$, is the share of total FDI inflows directed to high-value-added sectors[2] in country $i$ and period $t$. The term $\alpha_i$ denotes country fixed effects, which absorb time-invariant differences across countries, including geography, inherited industrial structure, historical institutional characteristics, and persistent differences in investment regimes. The term $\lambda_t$ denotes period fixed effects, which absorb shocks common to all countries in a given period. The vector $X_{i,t-1}$ includes lagged economic and institutional controls: GDP per capita, wages, unemployment, human capital, institutional quality, trade openness, and the corporate tax rate. The error term is denoted by $\varepsilon_{it}$. Standard errors are clustered at the country level.[3]

The coefficient of primary interest is $\beta$, attached to $SerbiaTrend_{it}$. This variable is defined as the interaction between a Serbia dummy and a linear time trend:

$$SerbiaTrend_{it} = Serbia_i \times Trend_t \qquad (2)$$

[2] As sectoral FDI data are based on net inflows, the HVA-FDI ratio can take values below zero or above 100 when total net FDI is small or when disinvestment occurs in some sectors. The variable should therefore be interpreted as a net allocation measure rather than as a bounded expenditure share. To reduce the influence of extreme observations, the variable is winsorised at the 5th and 95th percentiles.

[3] Romania is excluded from the comparison group because the wiiw FDI Database does not report FDI inflow data by industry for Romania.

Specified in this way, $SerbiaTrend_{it}$ captures Serbia's differential trend in the high-value-added share of FDI relative to the post-communist EU comparison group. As the model includes country fixed effects, the Serbia dummy itself is absorbed by $\alpha_i$. Similarly, as the model includes period fixed effects, common time shocks and general regional trends are absorbed by $\lambda_t$. The coefficient $\beta$ therefore does not identify permanent differences between Serbia and the comparison countries, nor does it capture trends common to all countries in the sample. Instead, it measures whether Serbia's FDI composition followed a different time path after accounting for country-specific fixed characteristics, common period shocks, and lagged economic and institutional fundamentals.

A negative estimate of $\beta$ indicates that Serbia's FDI inflows became less concentrated in high-value-added sectors relative to the comparison group over time. A positive estimate would indicate that Serbia's FDI inflows became increasingly concentrated in high-value-added sectors relative to the comparison group. Thus, $\beta$ is interpreted as evidence of Serbia's conditional differential trajectory in the sectoral composition of FDI.

The lagged controls are included to account for the main channels through which economic theory predicts the sectoral composition of FDI should vary. *GDP per capita* proxies for market development, productivity, and domestic demand; *wages* capture labour-cost conditions; *unemployment* captures labour-market slack; human capital captures absorptive capacity and the availability of skilled labour; *institutional quality* proxies for contract enforcement, regulatory credibility, and policy stability; *trade openness* captures integration into international production networks; and the *corporate tax rate* captures fiscal incentives affecting investment location decisions. Descriptive statistics for the estimation sample, including variable definitions, data sources, sample sizes, and distributional properties, are reported in Appendix Table 1.

All time-varying control variables are introduced with a one-period lag to mitigate concerns of simultaneity, reverse causality, and dynamic endogeneity (Arellano & Bond, 1991; Wooldridge, 2010). From an econometric perspective, contemporaneous macroeconomic and institutional variables may be jointly determined with the composition of FDI, violating the strict exogeneity condition required for consistent estimation in fixed-effects models. For example, a higher share of FDI directed towards high-value-added sectors may itself increase GDP per capita through productivity spillovers, raise wages through labour-demand effects, improve institutional quality via reform incentives, or affect labour market outcomes and trade integration. Using contemporaneous regressors would therefore risk introducing feedback effects and generating biased and inconsistent estimates due to correlation between explanatory variables and the error term. Lagging the regressors helps impose a temporal ordering whereby current FDI allocation decisions are modelled as responding to pre-determined economic conditions rather than contemporaneous outcomes. Moreover, investment decisions, especially in high-value-added sectors, are typically based on information about previously observed macroeconomic fundamentals rather than current-period

realisations, implying that lagged values are economically more plausible determinants of investment allocation.[4]

**Table 4 – Expected Effects of Economic and Institutional Determinants on the HVA-FDI Share.**

| Variable | Expected effect | Key mechanism |
|---|---|---|
| Serbia trend | – – | Captures Serbia's differential trajectory relative to post-communist EU member states; a negative sign reflects weaker structural upgrading and a lower HVA orientation of FDI. |
| GDP per capita | ++ | Higher income proxies for market development, productivity, infrastructure, and domestic absorptive capacity, increasing the attractiveness of complex FDI activities. |
| Wages | – | Higher wages raise labour costs and may discourage cost-sensitive foreign investment, although this channel may be weaker for skill-intensive HVA activities. |
| Unemployment | + | Higher unemployment may indicate available labour supply and fewer recruitment constraints, increasing the attractiveness of a location for foreign investors. |
| Human capital | ++ | A more skilled workforce increases absorptive capacity and supports knowledge-intensive and higher-value-added activities. |
| Institutional quality | ++ | Stronger institutions reduce transaction costs, policy uncertainty, and contracting risks, making complex and long-horizon investments more attractive. |
| Trade openness | + | Greater openness reflects integration into international production networks and improves the attractiveness of the economy as an export-platform location. |
| Corporate tax rate | – | Higher statutory corporate tax rates reduce after-tax returns and may discourage foreign investment, although incentives and non-tax fundamentals may moderate this effect. |

The expected signs reported in Table 4 summarise the theoretical channels linking the main explanatory variables to the share of total FDI inflows directed to high-value-added sectors. A positive sign indicates that the variable is expected to increase the HVA-FDI share, whereas a negative sign indicates that it is expected to reduce it. Double signs indicate stronger theoretical predictions, while single signs indicate weaker or more ambiguous effects. The expected relationships are grounded in standard theories of FDI location, absorptive capacity, institutional quality, and participation in international production networks. In particular, higher GDP per capita, stronger human capital, better institutional quality, and greater trade openness are expected to increase the HVA orientation of FDI inflows, while higher wages and corporate tax rates are expected to reduce it. The Serbia-specific trend is expected to be negative, reflecting the hypothesis

[4] Although lagging, the control variable reduces concerns about simultaneity and reverse causality, it does not eliminate all sources of endogeneity. Time-varying omitted factors, such as changes in industrial policy, geopolitical risk, EU accession expectations, infrastructure investment, or sector-specific subsidy regimes, may still affect both Serbia's institutional-development path and the composition of FDI inflows. Therefore, the coefficient on SerbiaTrend should be interpreted as evidence of a conditional differential trajectory rather than as a fully causal estimate.

that Serbia's FDI composition evolved less favourably than that of the post-communist EU benchmark group.

To assess the robustness of the baseline results, we estimate several alternative specifications. First, we estimate a parsimonious version of the model that retains the variables that are statistically significant in the baseline regression, while excluding controls that are not statistically significant. This reduced specification tests whether the estimated Serbia-specific trend remains robust when the model is simplified by removing covariates that do not contribute statistically to the baseline specification. Second, we exclude crisis periods, the global financial crisis and the COVID-19 period, to ensure that the results are not driven by exceptional shocks to regional FDI flows. Third, we report models with alternative standard-error corrections. Fourth, we estimate specifications excluding one country at a time to check whether the results are driven by a particular comparator. Finally, we test alternative comparison groups including only post-communist EU countries with similar initial income levels.

## V. Empirical findings

The results, presented in Table 5, indicate a systematic divergence between Serbia and the post-communist EU benchmark group in the sectoral composition of inward FDI. Overall, the coefficient estimates broadly correspond to our predictions, both in terms of their signs and statistical significance.

The baseline specification shows a negative and statistically significant Serbia-specific trend. This indicates that, conditional on country fixed effects, period fixed effects, and control variables, Serbia's share of FDI directed towards high-value-added sectors declined relative to the post-communist EU comparison group. This finding supports the central hypothesis of the paper that Serbia followed a weaker trajectory of structural upgrading in the composition of inward FDI.

The negative Serbia-specific trend should therefore be interpreted not as evidence of weak FDI attraction, but as evidence of the limits of Serbia's FDI-led development model. Tables 1 and 2 show that Serbia has been highly successful in attracting and accumulating foreign capital. After an initial period of underperformance relative to the peer group, Serbia moved towards the top of the distribution in both FDI inflows and inward FDI stock. However, Table 3 shows that this quantitative success was not matched by an equivalent upgrading in the composition of FDI in Serbia. The negative Serbia trend coefficient is therefore consistent with a composition-based interpretation: relative to post-communist EU member states, Serbia's FDI inflows became less oriented towards high-value-added activities over time, even as the overall volume of foreign capital remained large.

The control variables generally have the expected signs. Lagged GDP per capita is positive and statistically significant, suggesting that more developed economies tend to attract a larger share of FDI into high-value-added sectors. This is consistent with the view that higher income levels proxy for stronger domestic demand, better infrastructure, higher productivity, and greater absorptive capacity.

**Table 5 – Fixed-Effects Estimates for the HVA-FDI Share.**

*Notes:* The dependent variable is the share of total FDI inflows directed to high-value-added sectors, winsorised at the 5th and 95th percentiles. All specifications are estimated by country fixed effects and include period fixed effects. Robust standard errors clustered by country are reported in parentheses. Column (2) reports a parsimonious robustness specification that excludes lagged wages and the corporate tax rate. Column (3) excludes crisis-year observations for 2008, 2009, and 2020. Significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$. *Source*: Author's calculations.

| | (1) Baseline | (2) Parsimonious | (3) Excluding crisis years | (4) Robust SE |
|---|---|---|---|---|
| Serbia trend | -12.605*** | -9.115*** | -13.329*** | -12.605*** |
| | (2.655) | (2.469) | (2.514) | (2.655) |
| Log GDP per capita, lagged | 181.543*** | 109.400** | 176.546*** | 181.543*** |
| | (41.532) | (45.906) | (46.327) | (41.532) |
| Log wages, lagged | -58.797 | | -58.553* | -58.797 |
| | (34.274) | | (32.260) | (34.274) |
| Unemployment rate, lagged | 3.964*** | 3.256*** | 4.318*** | 3.964*** |
| | (1.159) | (0.745) | (1.371) | (1.159) |
| Human capital index, lagged | 79.653*** | 52.427* | 81.268*** | 79.653*** |
| | (21.741) | (27.825) | (21.307) | (21.741) |
| Institutional quality, lagged | 7.004* | 9.252** | 8.190** | 7.004* |
| | (3.599) | (3.582) | (3.237) | (3.599) |
| Trade openness, lagged | 0.624* | 0.779** | 0.774* | 0.624* |
| | (0.338) | (0.332) | (0.393) | (0.338) |
| Corporate tax rate, lagged | -0.604 | | -0.768 | -0.604 |
| | (1.912) | | (1.967) | (1.912) |
| Observations | 84 | 84 | 73 | 84 |
| Countries | 11 | 11 | 11 | 11 |
| Within R-squared | 0.357 | 0.328 | 0.377 | 0.357 |
| Country fixed effects | Yes | Yes | Yes | Yes |
| Period fixed effects | Yes | Yes | Yes | Yes |
| Clustered standard errors | Country | Country | Country | Robust |
| Crisis years excluded | No | No | 2008, 2009, 2020 | No |

Lagged human capital is also positive and statistically significant. This result suggests that countries with stronger human-capital endowments are better positioned to attract high-value-added FDI. The finding is economically intuitive, since knowledge-intensive and technologically more complex investment projects require a skilled labour force and are therefore more likely to be located in economies with stronger human-capital foundations.

Institutional quality is positive and statistically significant, indicating that stronger institutional conditions are associated with a higher subsequent share of FDI directed towards high-value-added sectors. The institutional-quality measure is constructed from the World Bank's Worldwide Governance Indicators (WGI) as the average of six perception-based composite indicators: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. The result suggests that institutional quality matters not only for attracting FDI, but also for shaping its sectoral composition. More predictable regulation, stronger rule of law, and better corruption control may be especially important for complex, long-horizon investment projects.

Table 6 translates Serbia's changes in the WGI-based institutional-quality index into model-implied effects on the subsequent HVA-FDI share. The results show that the largest implied gains follow the greatest institutional improvements. For example, the improvement in 2002–2004 implies a 30.71 percentage-point increase in the next period's HVA-FDI share, while the improvement in 2005–2007 implies a 12.84 percentage-point increase. By contrast, the negative implied effects after 2017 reflect institutional deterioration, with implied reductions of 5.53, 5.81, and 4.64 percentage points in the subsequent HVA-FDI share. These magnitudes suggest that institutional upgrading is a channel through which Serbia could attract more high-value-added FDI, while weaker institutional conditions reinforce dependence on lower-value-added investment.

**Table 6 – Institutional Quality Improvement in Serbia and Model-Implied Effects on the HVA-FDI Share**

*Notes*: The institutional improvement column equals the change in Serbia's institutional quality average relative to the previous 3-year period. The standardised improvement is the z-score variable used in the regression. The model-implied effect equals the regression coefficient on lagged standardised institutional quality improvement (7.004) multiplied by the standardised improvement. As the variable enters the model with one lag, the implied effect applies to the following 3-year period's HVA-sector FDI share, measured in percentage points of total FDI. *Source*: Author's calculations.

| Period | Institutional quality avg. | Institutional improvement | Standardised improvement | Model-implied effect on next period HVA-FDI share |
|---|---|---|---|---|
| 1996–1998 | 33.26 | — | — | — |
| 1999–2001 | 33.73 | 0.47 | -0.087 | -0.61 |
| 2002–2004 | 44.12 | 10.39 | 4.385 | 30.71 |
| 2005–2007 | 48.85 | 4.73 | 1.833 | 12.84 |
| 2008–2010 | 51.76 | 2.91 | 1.013 | 7.10 |
| 2011–2013 | 52.35 | 0.59 | -0.036 | -0.25 |
| 2014–2016 | 55.56 | 3.21 | 1.146 | 8.03 |
| 2017–2019 | 54.47 | -1.09 | -0.790 | -5.53 |
| 2020–2022 | 53.30 | -1.17 | -0.830 | -5.81 |
| 2023–2025 | 52.49 | -0.81 | -0.663 | -4.64 |

Trade openness is also positive and statistically significant. This supports the interpretation that economies more integrated into international production networks are better positioned to attract export-oriented and higher-value-added foreign investment.

The unemployment rate is positive and significant. This suggests that, conditional on other fundamentals, labour-market slack may make a country more attractive to foreign investors by easing recruitment constraints and increasing the availability of labour. However, this result should be interpreted cautiously, since unemployment may also capture broader labour-market and macroeconomic adjustment processes.

Lagged wages have the expected negative sign, suggesting that higher labour costs may reduce the attractiveness of a location for some types of FDI. However, the estimate is not consistently statistically significant, indicating that the wage channel is weaker once country fixed effects, period fixed effects, and other fundamentals are included. The corporate tax rate also has the expected negative sign, but it is not statistically significant, suggesting that statutory tax rates alone do not appear to be a decisive predictor of the HVA-FDI share in this sample.

The robustness specifications reinforce the main finding. The Serbia specific trend remains negative and statistically significant in the parsimonious specification (column 2), when crisis-year observations are excluded (column 3), and when alternative standard-error corrections are used (column 4). Additional robustness checks provide the same conclusion: the result is not driven by any single comparator country, as shown by leave-one-country-out specifications, and it also holds when the comparison group is restricted to post-communist EU countries with similar initial income levels.[5] This stability across specifications suggests that the estimated divergence in Serbia's HVA-FDI trajectory is not driven by the inclusion of statistically weaker controls, exceptional crisis-period shocks, the treatment of standard errors, the influence of a particular comparator country, or the choice of benchmark group.

## VI. Discussion

The preceding results should be read as evidence of a composition problem in Serbia's FDI-led development model. The issue is not whether Serbia has attracted foreign capital, nor whether foreign-owned firms have contributed to employment. The evidence presented earlier shows that both are true. The more important question is whether foreign capital has changed the structure of the economy in a way that supports higher productivity, stronger domestic capabilities, better jobs, and long-run convergence with the new EU member states. The findings suggest that this transformation has remained limited.

This interpretation is consistent with the post-Keynesian framework briefly introduced in the literature review section. From this perspective, FDI is not inherently developmental. Its effects depend on the institutional setting in which it operates and on the capacity of the state to shape investment towards broader economic and social objectives. Foreign capital can relax financing constraints, raise employment, and support exports, but it can also reproduce dependence if it is attracted primarily through subsidies, labour-cost advantages, and the adjustment of regulatory practices. The Serbian case illustrates this ambiguity. FDI has helped sustain employment and external financing, but it has not produced a sufficiently strong shift towards high-value-added activities.

The econometric results point to the limits of a strategy that treats FDI inflows as a substitute for domestic development policy. In a demand-constrained economy with limited domestic accumulation, foreign investment performs several macroeconomic functions at once: it supports household income, fiscal revenue, exports, foreign-exchange inflows, and exchange-rate stability. These functions make FDI politically attractive. However, they weaken the state's bargaining position. When policymakers rely on foreign investors to solve several macroeconomic and structural problems simultaneously, they have stronger incentives to prioritise the volume of investment and

[5] Results from the leave-one-country-out specifications and alternative comparison-group tests are available from the author upon request.

the number of jobs created over the quality of investment and the trajectory of structural upgrading.

This helps explain why Serbia's subsidy regime is central to the interpretation. Public incentives are not problematic simply because they support foreign investors. They are problematic when they compensate for institutional disorder rather than help direct investment towards developmental objectives. If subsidies are used mainly to offset regulatory uncertainty, administrative inefficiency, infrastructure gaps, or other nonmarket costs of doing business, they may attract capital without changing the conditions that determine the quality of that capital. In that setting, subsidies can preserve a model based on employment-intensive and lower-value-added investment rather than accelerate the shift towards more complex activities.

The institutional dimension is therefore crucial. The post-Keynesian argument is not that the state should withdraw from the economy, but that state intervention should be developmental rather than merely compensatory. Serbia's institutional framework has been effective enough to attract foreign capital, but less effective in disciplining it, embedding it in domestic production networks, and linking it to wage upgrading, technology transfer, and domestic firm development. This distinction matters because high-value-added investment depends on predictable regulation, credible institutions, skilled labour, and the expectation that complex production can be sustained over a longer horizon.

The comparison with post-communist EU member states clarifies what is at stake. In those economies, FDI was initially associated with privatisation, industrial restructuring, and cost-based integration into European production networks. Over time, however, EU integration, stronger institutions, human-capital accumulation, and deeper participation in cross-border value chains supported a shift towards more sophisticated activities. Serbia has not replicated this trajectory to the same extent. Its development model remains closer to an earlier stage of FDI-led transition, in which foreign capital generates employment and export capacity but does not sufficiently transform the domestic productive structure.

The labour-market implication follows directly. The relevant distinction is not between foreign and domestic firms in isolation, but between jobs that raise earnings within existing sectors and investment that changes the sectoral structure of employment. Foreign-owned firms may pay higher wages than domestic firms in the same activity, but this premium has limited developmental meaning if foreign capital remains concentrated in sectors with modest wage potential. Employment creation is therefore a necessary but insufficient criterion for evaluating Serbia's FDI model. The key issue is whether FDI supports the shift from job creation to job upgrading.

Taken together, the findings support a post-Keynesian critique of Serbia's FDI-led development strategy. Serbia's problem is not insufficient openness to foreign capital. It is the form of openness: a policy regime built around subsidies, short-term employment targets, and accommodating investors, rather than around institutional upgrading, domestic accumulation, and structural transformation. FDI has been macroeconomically useful, but developmentally incomplete. A more effective strategy would use public support selectively, conditioning it to domestic linkages, technology

transfer, training of the workforce, wage progression, and a shift towards higher-value-added activities.

## VII. Conclusion and Policy Recommendation

Serbia's experience shows that a high-FDI strategy can successfully attract capital while delivering more limited developmental gains. The country has drawn large foreign inflows and built a substantial foreign-capital presence in employment and exports. Yet the evidence presented in this paper indicates that these inflows have not been accompanied by a comparable shift towards high-value-added activities. The central weakness of Serbia's model is therefore not insufficient access to foreign capital, but the limited transformation generated by the capital it has attracted.

This conclusion matters for how FDI-led development is evaluated. Standard measures of success, such as inflows, inward stock, employment creation, or export performance, capture only part of the story. They say little about whether foreign investment strengthens domestic capabilities, raises the technological content of production, improves job quality, or drives the economy towards more complex activities. In Serbia, the gap between large inflows and weak high-value-added orientation suggests that FDI has functioned more as a stabilising instrument than as a driver of structural convergence.

The post-Keynesian interpretation helps clarify this outcome. Foreign capital entered an economy with limited domestic accumulation, persistent external constraints, and strong demand for employment creation. Under these conditions, policymakers had incentives to use subsidies and adjust institutional practices to quickly secure investment and jobs. This strategy helped maintain growth and employment, but it also reduced the pressure to build a development regime based on domestic accumulation, stronger institutions, and industrial upgrading.

The policy implication is not to reduce openness to foreign investment. Rather, Serbia needs to change the terms on which foreign investment is incorporated into its development strategy. Public support should be justified less by the number of jobs announced and more by verifiable contributions to domestic supplier networks, worker training, technology transfer, wage progression, and movement into higher-value-added activities. Without such conditions, subsidies risk preserving the existing structure rather than changing it.

The broader lesson is that FDI-led development requires state capacity, not merely investment promotion. Foreign capital can contribute to development only when institutions shape its direction and distributional effects. Serbia's future challenge is therefore to move from attracting investors to governing investment: from employment numbers to employment quality, from inflow maximisation to productive upgrading, and from dependence on foreign capital to a development strategy in which foreign firms strengthen, rather than substitute, domestic capabilities.

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# APPENDIX A

**Table A1– Descriptive Statistics for the HVA-FDI Regression Sample.**

*Notes:* The table reports descriptive statistics for the estimation sample used in the baseline regression. HVA-FDI share is defined as FDI inflows into high-value-added sectors divided by total FDI inflows and is winsorized at the 5th and 95th percentiles. GDP per capita and wages enter in logs. Human capital and institutional quality are standardised variables. Trade openness and the corporate tax rate are measured in percentage points. All control variables are lagged one period in the regression. Source: Author's calculations.

| Variable | Description | Data Source | *N* | Mean | *SD* | *Min* | *Max* |
|---|---|---|---|---|---|---|---|
| HVA-FDI share | FDI inflows into high-value-added sectors divided by total FDI inflows; winsorised at the 5th and 95th percentiles. | wiiw Annual Database, FDI Database | 84 | 54.93 | 48.75 | -8.75 | 209.78 |
| Serbia trend | Serbia-specific trend variable | Author's construction | 84 | 0.62 | 2.05 | 0.00 | 10.00 |
| Log GDP per capita, lagged | Natural logarithm of GDP per capita, lagged one period. | World Bank, World Development Indicators | 84 | 9.32 | 0.64 | 7.43 | 10.23 |
| Log wages, lagged | Natural logarithm of average wages, lagged one period. | wiiw Annual Database | 84 | 6.53 | 0.59 | 4.73 | 7.57 |
| Unemployment rate, lagged | Labour-force-survey unemployment rate, lagged one period. | World Bank, World Development Indicators | 84 | 9.88 | 4.37 | 2.37 | 23.00 |
| Human capital index, lagged | Standardised human-capital index, lagged one period. | Penn World Table | 84 | 0.20 | 0.90 | -1.47 | 2.08 |
| Institutional quality, lagged | Standardised institutional quality improvement measure, lagged one period. | World Bank, Worldwide Governance Indicators | 84 | -0.01 | 0.73 | -1.14 | 1.15 |
| Trade openness, lagged | Trade in goods and services as a share of GDP, lagged one period | World Bank, World Development Indicators | 84 | 119.50 | 29.83 | 73.44 | 160.09 |
| Corporate tax rate, lagged | Statutory corporate income tax rate, lagged one period. | Tax Foundation, Worldwide Corporate Tax Rates | 84 | 18.68 | 4.99 | 9.00 | 32.33 |