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DIAGNOSING CONSTRAINTS TO ECONOMIC GROWTH IN SERBIA

Utvrđivanje prepreka za privredni rast u Srbiji

Abstract

This article examines the dominant patterns of economic growth in Serbia since 2001 in light of global circumstances, dominant domestic policies, and the spontaneous development of the private sector in such conditions. During this period, Serbia's economy grew at a rate of about 3%, reaching a per capita GDP level of about 50% of the EU average in 2024. This is often assessed as an insufficiently strong convergence ([38] or [50]). Without intending to evaluate quality or size of growth, we use the growth diagnostic approach, developed by Hausmann et al. [26] to identify the factors that have limited investments and therefore economic growth, to determine main obstacles to future growth and areas in which public policies should be sought to ensure that future growth is sustainable and developmental. We find that obstacles are related to (1) access to financing due to an underdeveloped capital market and limited bank financing of SMEs, (2) human capital due to negative demographic trends, the outflow of qualified labor, and inadequate education, and (3) poor institutional mechanisms that affect the quality of governance both in the domain of market mechanisms (coordination and competition) and state governance mechanisms (corruption, rule of law). These findings, consistent with other similar studies, suggest that to effectively address these obstacles, future policies should focus on promoting a more diverse and competitive financial sector, fostering a better coordination of companies, providing more generous and proactive government support to domestic SMEs, enhancing the quality of education and continuing anti-corruption activities.

Keywords: *growth diagnostic approach, private investment, constraints to growth in Serbia*

Sažetak

Ovaj rad proučava dominantne obrasce privrednog rasta Srbije od 2001. kao rezultat globalnih okolnosti, dominantnih domaćih politika i spontanog razvoja privatnog sektora u takvim okolnostima. Privreda Srbije je u ovom periodu rasla po stopi od oko 3%, dostigavši nivo per capita bruto domaćeg proizvoda od oko 50% proseka EU u 2024, što se često ocenjuje kao nedovoljno brza konvergencija ([38] ili [50]). Bez namere da ocenjujemo visinu i kvalitet rasta, uz pomoć pristupa za dijagnostiku faktora koji ograničavaju investicije, pa stoga i privredni rast, koji su razvili Hausmann et al [26], ispitujemo glavne prepreke budućem rastu i oblasti odgovarajućih javnih politika kako bi rast u budućnosti bio održiv i više doprinosio razvoju. Nalazimo da prepreke treba tražiti u (1) pristupu finansiranju zbog slabo razvijenog tržišta kapitala i ograničenog bankarskog finansiranja MSP, (2) ljudskom kapitalu usled negativnih demografskih procesa, odliva kvalifikovane radne snaga kao i neadekvatnog obrazovanja i (3) u lošim institucionalnim mehanizmima koji se odražavaju na kvalitet upravljanja kako u domenu tržišnih mehanizama (koordinacija i konkurencija), tako i državnih mehanizama upravljanja (korupcija, vladavina prava). Ovi nalazi, konzistentni sa drugim studijama koje su imale sličan cilj, sugerišu da bi buduće politike, kako bi efikasno rešile ove prepreke, trebalo da se fokusiraju na promociju raznovrsnijeg i konkurentnijeg finansijskog sektora, unapređenje koordinacije kompanija, pružanje velikodušnije i proaktivnije podrške vlade domaćim malim i srednjim preduzećima, poboljšanje kvaliteta obrazovanja i nastavak aktivnosti protiv korupcije.

Ključne reči: *dijagnostički pristup rastu, privatne investicije, prepreke za privredni rast u Srbiji*

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Introduction

Since the beginning of its transition in 2001, the Serbian economy has expanded from a relatively low starting point, by more than 90% in real terms, partially converging to its richer EU neighbors whose economy increased by 38% in real terms in the same period (2001 to 2023, source: Eurostat). Although impressive for many, economic growth in Serbia for many others could have been more dynamic to reach a more meaningful convergence towards the EU's average level of development, as proxied by GDP per capita [38][45][3]. To illustrate, Serbia, Romania and Bulgaria each started off with a GDP per capita, in purchasing power parity (PPP) terms, around 30% of the EU average in 2001. By 2023, however, Serbia's GDP per capita stood at nearly 50% of the EU average, while Romania and Bulgaria had reached approximately 80% and 65% respectively (both latter countries became members of EU in 2007). In the same period, North Macedonia's GDP per capita rose from app. 25% to 42%; while Albania moved from cca. 19% to somewhat below 35%.

Recent debates in local economic circles have made it increasingly clear that Serbia's suboptimal income convergence and growth can be largely attributed to relatively low levels of private investment, particularly by domestic businesses ([38, p. 218], or, [3, p. 52], among others). However, low domestic private investment is more a symptom of inadequate growth policies than a cause of suboptimal growth per se. Ascertaining the root cause of sluggish growth, as well as defining and implementing policies to improve future outcomes, is a challenging task given a multitude of interrelated factors, difficulty measuring their impact and navigating the complex environment in which many exogenous and unpredictable circumstances arise, including those on the international landscape.

In the period since the onset of transition in 2001, the Serbian economy was a "living laboratory" of economic development and growth, encompassing several different global economic and financial environments, a changing macroeconomic landscape, and an evolving domestic policy mix – the latter predominantly focused on choice of structural reforms and other goals, in large part inspired and supervised by international agents such as the IMF and EU. Within this complex environment, deciphering the root causes of, or constrains to, economic growth is a complex research question and mental exercise. One popular systematic framework is the growth diagnostic approach established by Hausmann, Rodrik and others [26] or [28]. This methodology seems to be a useful tool to pinpoint – or diagnose – the areas in which constraints to growth are most binding and should be prioritized as areas of policy intervention. The approach suggests that private investments and growth can be hindered either by a poorly performing financial sector, reflected in unavailable or expensive financing of investment, or by factors which diminish returns to investments, such as the quality of governance, market barriers, availability and quality of the workforce, accessibility of transport, digital and other infrastructure, and more (a more detailed explanation provided in the Section 2.

This methodology has been widely used in a variety of contexts, including different countries, subnational entities and even specific sectors of an economy. To the best of our knowledge, [41] made the first notable attempt to apply the methodology to the Serbian case, reporting that Serbia's growth in the early 2010s was predominantly constrained by micro-risks resulting from government failures, such as tax administration, labor market regulations and corruption. In addition, [48, p. 117] found that the constraints with the highest effect on growth stemmed from lack of fiscal sustainability, governance, business climate, labor market institutions, agricultural productivity and physical infrastructure.

This paper is structured as follows. The second section briefly presents the Growth diagnostic approach, outlining the conceptual framework as well as key limitations. The third section provides a discussion of the recent history of growth in Serbia, which tentatively distinguishes the key phases of growth and development in the period since the start of the transition in 2001. The fourth section examines potential causes of low investment and growth by applying the growth diagnostic approach. Finally, the fifth section concludes the study by discussing key insights and policy-making implications.

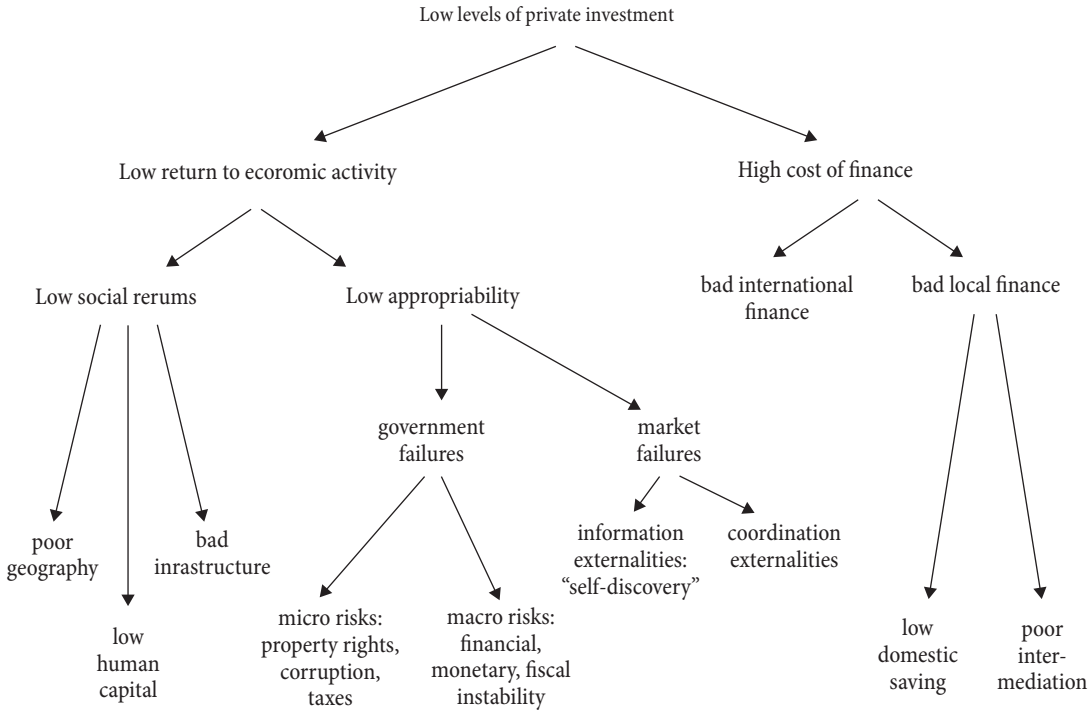
Growth diagnostic approach: the key elements

An economy which underperforms vis-à-vis its peers is usually one where market imperfections and distortions are most rampant [28, p. 3]. Such distortions may be the result of various factors, including market failures, inefficiencies in government, inadequate supply of liquidity or labor, and more. Such distortions may also inhibit the optimal use of the economy's resources [28, p. 3].

The ambitious approach that seeks to unlock growth by simultaneously dealing with all distortions, that can be defined as the "wholesale approach", usually results in poor implementation and lackluster socioeconomic improvements. Indeed, the "wholesale approach" is almost unattainable, as it relies on the government's ability to be perfectly informed about the entirety of challenges faced and capable of tackling them – a near impossible task, given that governments operate with limited resources. Instead, [26] and [28] propose a comprehensive framework to identify binding constraints - a strategy aimed at identifying the most binding constraints on economic activity so that the resulting set of policies can target these exact constraints. This "prioritized" approach, focused on removing key "roadblocks" for growth might work better in practice.

This approach breaks down a very aggregate outcome – (low) level of private investment and economic growth – into its potential causes, and as such, is considered a top-down approach. To illustrate the potential causes of low levels of private investment [28, p. 27] present a decision tree (Figure 1), that describes two types of distortions: either those that diminish returns on investments, or those that are related to costs and availability of funding. The first case describes an economic environment lacking sufficient incentives for productive activities, leading to underutilized resources, stagnant growth, and low investment. This framework identifies two main contributing factors: structural socio-economic issues (e.g., low labor productivity, poor infrastructure) and factors diminishing returns due to government or market failures. The second case describes a situation where borrowing costs and access to funding are prohibitively expensive or limited, due to local or international market conditions, hindering individuals, firms, and governments from investing in productive activities and stifling economic growth.

Figure 1. Growth diagnostics decision tree



Source: Hausmann et al. (2005) [28, p. 27]

Since its inception in the mid-2000s, the growth diagnostic approach has been widely applied. Initially used to study low- and middle-income countries, it evolved to focus on specific sectors, including, for example, Namibia's agricultural sector [15] and Tanzania's manufacturing sector [30]. It has also been used to examine sub-national dynamics, such as Western Australia [27]. In addition, the approach has been integrated into the World Bank's Systemic Country Diagnostic and applied in South-Eastern and Central Europe, including Serbia [48], North Macedonia [42] or Bosnia and Herzegovina [49].

However, this methodology has been criticized for some of its limitations. Binding constraints can be ambiguous, as they vary in the intensity of their effects, impacting growth in different ways [28]. Identifying the most binding constraint often involves subjective judgment, necessitating robust methodologies and multiple data sources to mitigate biases. Constraints are often interconnected, requiring a comprehensive approach to account for their interactions [11]. Additionally, constraints are dynamic and change over time, necessitating continuous monitoring and adaptation. The approach may also neglect long-term structural challenges, such as demographic trends, which are crucial for sustainable development. Despite all these and other limitations [26, p. 22], the approach still represents a powerful conceptual and practical toolkit for a comprehensive and organized thinking exercise to support a policy discussion in a developing country, while also being useful for practical applications.

The Growth Story of Serbia: A recent history of economic growth in an international and domestic policy context

Consumption-led Growth, fueled by foreign investment and borrowing: From 2001 to the Spillover of the Global Crisis

Serbia's recent growth trajectory has been very uneven, alternating between more and less dynamic periods. Following the institutional and economic collapse of the 1990s, Serbia's economy reopened to international trade and investment with a Washington-Consensus-type set of transition reforms that included trade and capital liberalization and privatization. In parallel, a set of ambitious development related reforms were launched, including education reform, public administration reform, business environment related red tape cuts, and incentivization of science and research. However, these policies needed persistence to take effect, and in a turbulent political environment, some lost steam and were abandoned (education and public administration reforms, in particular). In terms of growth trajectory, this period was marked by an expected resurgence and speedup of economic growth: during a large part the 2000s, Serbia's economy expanded by an average of almost 6% annually. Economic growth in this period was fueled by household and government consumption, which contributed to more than a half of overall growth (Figure 4, Figure 8). Investments provided a positive contribution as well, but private investment was linked mostly to FDI projects – privatization in the financial and telecommunication sectors and the construction of shopping centers. Net exports negatively contributed to growth amid relatively poor external competitiveness of economy, burdened by inherited state of underinvested firms and obsolete technologies, after a decade of international sanctions and war economy during the 1990s. Moreover, nearly a decade (2001-2008) of strong financial inflows to Serbia that contributed to demand expansion, also weighed on external competitiveness of the private sector by inducing real appreciation of RSD against EUR [4, p. 57].

While the consumption-fueled growth was reaching its highs, macroeconomic stability was fragile, as the inflation rate remained stubbornly in the double digits, and the CAD reached as much as 20% of GDP in the wake of the 2008 global crisis (Figure 3). However, the fiscal position was relatively sound, with the fiscal deficit hovering around a relatively low level of approximately 2% of GDP in the years preceding the 2008 global crisis (1.4% of GDP in 2006, 1.7% in 2007 and 2.4% in 2008), largely relying on financing from strong privatization receipts (peaking at as much as 7.1% of GDP in 2006) and low public debt levels.

From 2010 to 2019: shift to export driven growth model, reviving manufacturing industry and expansion in IT

As the 2008-global crisis and the 2010-Eurozone debt crisis unfolded, foreign investments and debt related foreign

inflows from the (predominantly foreign owned) domestic banking sector in Serbia halted while both external and local demand collapsed. For example, net FDIs generated inflows of approx. 5-10% of GDP in the years prior to the 2008 crisis, only to drop to some 3-4% of GDP in the several years after the start of the 2008 crisis (Figure 4).

In these circumstances, the government embarked on a fiscal expansion campaign to prevent a sharper economic downturn and an expansion in unemployment. GDP contracted by an average of 0.5% annually between 2009 and 2012. At the same time, the fiscal position was becoming less balanced, even though its financing was still relatively easy (albeit expensive) given the low but mounting public debt level (30% of GDP in 2009, 67% of GDP in 2015). As the consumption led growth model was exhausted, aware that new drivers were needed, the government introduced a generous FDI subsidy policy aiming to incentivize foreign investment in tradable sectors, which were already attractive given cheap and available labor: the unemployment rate peaked at as much as 26% in 2012. This combination of policy and circumstances produced a notable shift to an export-led growth model. In such circumstances, net exports started to improve, supported by the partial recovery of external competitiveness, as the RSD sharply depreciated against the EUR (Figure 5) while wages contracted in real terms (Figure 6). However, the macroeconomic environment remained relatively unstable, with an inflation rate still around 10% for most of the period between 2008 and 2012, this time largely driven by a carry trade and financial withdrawal-induced depreciation of RSD, unlike the pre-2008 period, when inflation was seemingly fueled by consumption.

After 2012, external demand in the EU began gradually improving, and global monetary conditions turned increasingly expansionary – key central banks slashed interest rates to near zero levels, and the FED/ECB initiated large-scale quantitative easing programs. (Figure 7). In such an international environment, the Serbian economy became increasingly export-oriented, with labor deregulation and attraction of export-oriented manufacturing FDIs becoming policy priorities. At this stage, external competitiveness was still increasing because of stagnating wages and a depreciating RSD. Moreover, around 2014/5 a fiscal crisis loomed, prompting the government to embark on severe fiscal consolidation, driving the consolidated state fiscal gap down from 5.9% of GDP in 2014, to 3.3% in 2015, followed by 1.1% in 2016 and even a surplus of about 1% in 2017. In such an economic landscape, growth essentially stagnated between 2012 and 2015, with net exports providing the key positive contribution, against negative effects stemming from depressed household consumption. After fiscal consolidation, inflation returned to significantly lower levels (supported by still relatively depressed domestic demand, low credit activity and a stable exchange rate), while the external gap decreased to only 3.3% of GDP in 2015, a third of its 2012 level.

An improved macroeconomic situation, coupled with ultra-expansionary monetary policy in key central banks across the world, allowed for the intensification of growth in Serbia. In the years between 2015 and the start of the Covid-19 pandemic in 2020, the economy grew by an average of 3.8% annually, peaking in 2018 and 2019, when it expanded by nearly 5% in each year. Fixed investments became the key contributor of growth, as the construction sector entered a booming phase, with both private and public projects expanding at a very rapid pace (Figure 8). FIAT's trailblazer relocation to Kragujevac in the early 2010s attracted new plants by many smaller car-part producers, integrated in international value chains, especially those in Germany and other EU members. The relocation of such small, export-oriented manufacturers to Serbia seemingly entrenched an export-oriented growth model in the country. The emergence of the IT sector and the expansion of its revenues, exports and headcount around 2015 served to further entrench this model. By 2025, the IT sector has become one of Serbia's most important sectors, currently employing over 70,000 people and having EUR 3.9 billion in net exports in 2024 (one of Serbia's top export items).

However, in this period, some structural challenges started to emerge. Most notably, a lack of qualified workers started to become an issue across much of the economy, after a long period of rampant unemployment (Figure 9). Nevertheless, FDI attraction policy maintained a focus on

on subsidizing foreign companies per worker – leading FDIs in this period to focus on lower, labor-intensive manufacturing activities.

During this economic speedup between 2015 and 2020, the government paid special attention to several remaining structural reforms as part of a fiscal consolidation plan. These reforms included labor market liberalization with an increased support for FDI attraction (subsidies per worker) and improvements to the business environment (reduction of the administrative burden, speeding up of construction permit issuance almost 10-fold, from 240 days to approximately 28 days after the implementation of new procedures defined in the new Law on Planning and Construction, 2015). These reforms were matched with a general orientation to the global trend of digitalization, with 'e-government' replacing the old, paper-intensive way of administration [20, p. 63]. Transformation of science and innovation was pursued following the Science and Innovation Strategy [22]. Over this period, a policy focus on innovation and IT support (grant scheme through the Innovation fund and supportive tax regime for entrepreneurs) was particularly fertile given a strong heritage of engineering education and skills resulting from strong heavy industry base dating back to Yugoslavia era. This policy focus resulted in dynamic IT sector development and a thriving innovation startup ecosystem around the largest university cities of Belgrade, Novi Sad, Niš and Kragujevac.

From Covid-19 pandemic to date: Government investment and consumption led growth and buffering a slump in EU demand with investment from the East, predominantly in mining and metal processing

However, after the Covid-19 pandemic, the global political and economic environment began to deteriorate, sending shockwaves and unpredictability across the world. First, the ultra-expansionary global monetary and fiscal policies from the 2010s and early 2020s translated into very high inflationary pressures. In addition, mounting geopolitical uncertainties, including increasingly numerous military conflicts, in Ukraine, the Middle East and elsewhere, induced an energy-related supply-side shock and supply chain disruptions. In these circumstances, by 2022 and 2023, global inflation soared to levels unseen since the 1980s, prompting key central banks to introduce tightening measures. Although 2024 saw some relief in global inflation and a mild easing from most central banks, elevated political risks have kept energy prices at historically high levels and prevented more tangible monetary loosening. Moreover, economic growth in the EU has been very modest, even on the brink of recession in some of its key members – largely on long term competitiveness loss [54] – limiting the demand for Serbian goods and services exports.

In such circumstances, the structure of growth seems to be shifting again. Firstly, the economy is seemingly diversifying. There is an increasing focus on (relatively low value added) extraction and metal processing activities. To illustrate, the gross value added of the mining industry rose by 77% between 2019 (i.e. when Zijin started operations in Bor) and 2023, compared to 15% for the whole economy. Non-EU actors, most notably China, have an increasingly large role in both FDI (China's investments in Serbia almost quadrupled between 2019 and 2023) and imports of Serbian goods and services (the share of China in Serbia's exports tripled in the same period). This has coincided with significant inflow of mostly Russian citizens and their (very often IT related) businesses. This diversification has helped mitigate the effects of weakening demand in the EU – most notably Germany – which has been decreasing in 2024. Secondly, external competitiveness seems to be decreasing, as key cost factors have significantly deteriorated in recent years. Between 2020 and 2024, wages rose by nearly 25% in real terms, while RSD appreciated by approx. 15% against EUR also in real terms. Prices of electricity and natural gas for industrial users in Serbia have historically been significantly lower than in EU, but in 2023 and 2024 converged – electricity is about the same level, while natural gas remains 20-30% less expensive. Thirdly, policy is increasingly focused on public investments. Public capital expenditures averaged 7% of GDP between 2021 and 2024, against an average of about 3% between 2005 and 2020. To illustrate, the road network in Serbia has expanded by 1,500 km (4% increase) between 2019 and 2024. Similarly, the expansion of government consumption has produced a stimulative effect on growth in recent years. Government's current

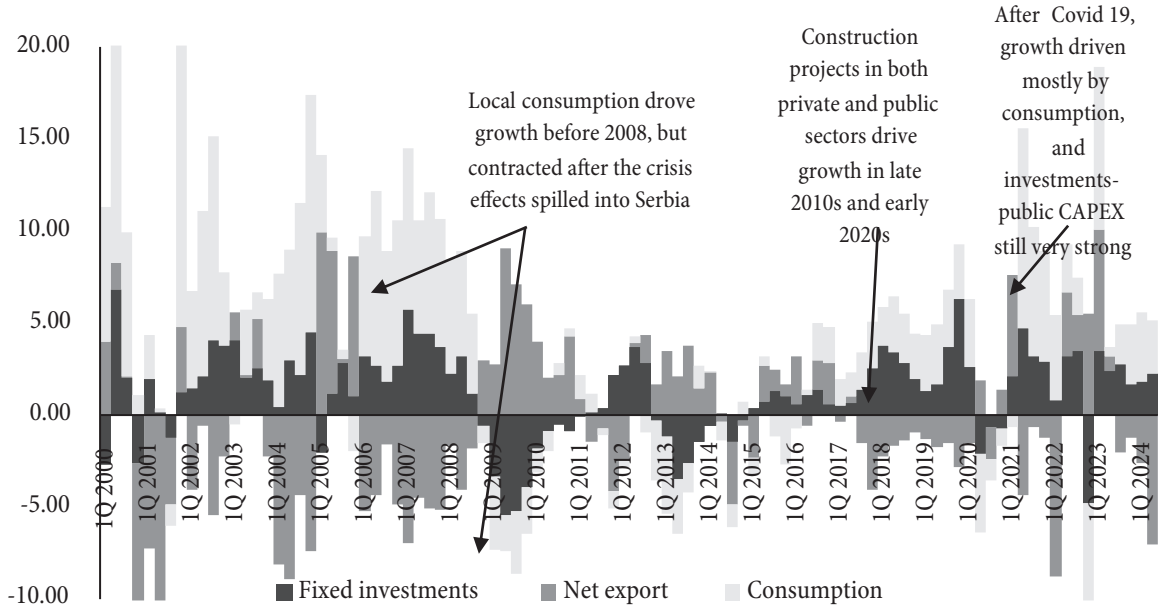
expenditures averaged 9% of GDP in the period between 2021 and 2024; almost two percentage points higher than in the period between 2005 and 2020.

Some elements of industrial policy during this time reflected an inertia of impulses from the previous period. During this time, innovation grant programs were expanded, and a science fund was developed. However, the previously adopted the EU framework-related smart specialization strategy defining four priority areas with strong basis in education, research and industry being food, IT, machines and creative industries, focused on the development of a knowledge-based economy; was eclipsed by new policy priorities with strong narrative and ambitious CAPEX plans rather than knowledge and people-related instruments in the policy mix. These novel priorities included a significant focus on biotechnology, the flagship policy being the construction of a new building and campus in Belgrade to be used for this purpose. At the same time, higher education that traditionally produced 70% of scientific output in Serbia were grossly neglected. Moreover, domestic SMEs, including those that had broken through to the EU market, received symbolic policy attention and were additionally burdened by a loss in competitiveness (due to high wages, appreciation of the exchange rate, high interest rates and energy prices).

To achieve more dynamic economic growth and convergence to EU income levels, Serbia would require higher levels of investment over a sustained period [56], especially from the private sector [38, p. 224]. For most of the period since the start of transition, the level of Serbia's investments has been lower than EU 27 and most of the comparable middle-income countries for CEE/SEE region (Figure 10). Although the recent surge in public investment brought the share of investment in GDP to the desirably high level of about 23% in both 2023 and 2024, domestic private investment has remained relatively low in comparative terms (Figure 11, also documented in [3], [38] or [29]).

Moreover, while rate of growth is important, its structural features and how they relate to development is of primary importance. For example, life expectancy in Serbia is lower than in several Western Balkan countries, the maternal mortality ratio is nearly double the EU average, and as much as 16% of the population perceive their health as 'bad' or 'very bad' in 2018, more than in nearly all countries in the Central and Eastern European countries, according to [50, p. 25]. The annual costs of health damages are particularly high, amounting to 18.9% of GDP, the highest in the world [50, p. 19]. Disparities related to gender, location, ethnicity, and income persist, while Serbia also suffers from considerable levels of

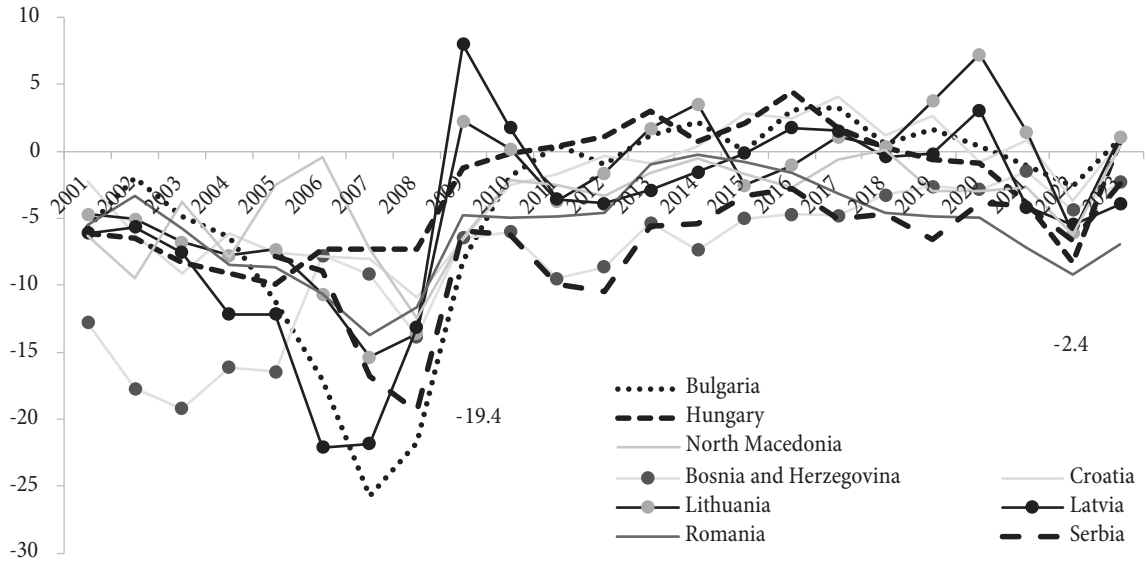
Figure 2. A deeper look at the growth drivers: the demand side (contribution to GDP growth by key aggregates, in pp)



Source: SORS; authors' calculations

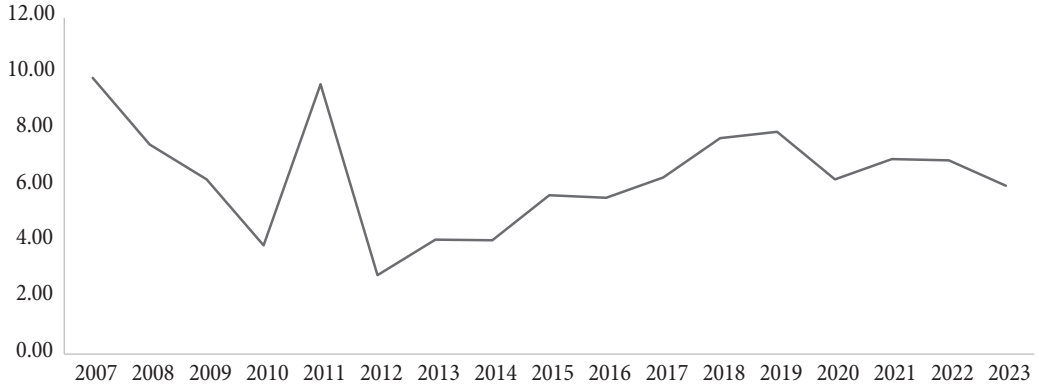
environmental pollution and an increasing frequency of extreme weather events [50, p. iv]. These trends may be related to the lack of an explicit development plan and long-term vision in the period since 2001, which could have helped pivot development policies away from a mere focus on growth and towards addressing concerns related

Figure 3. Current account balance (in % of GDP) in key economies in the SEE region



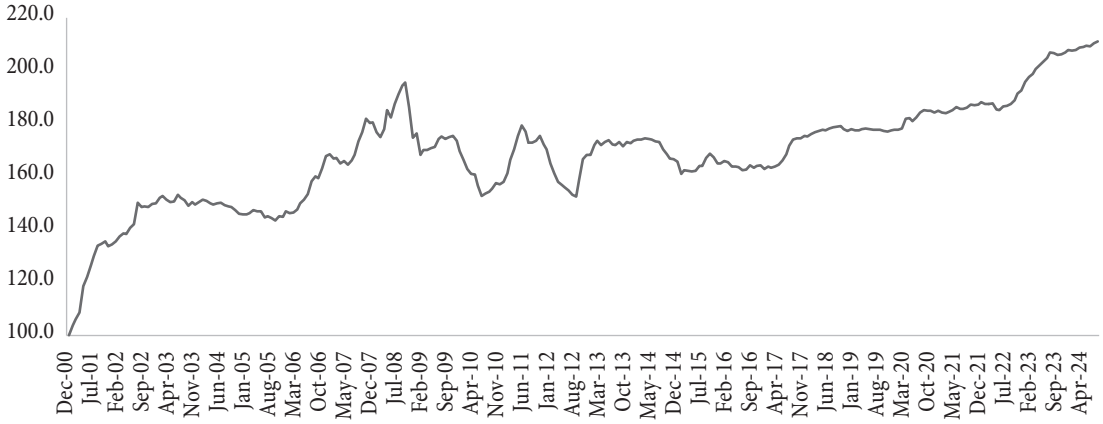
Source: World bank; authors' calculations

Figure 4. Net inflows of FDI to Serbia (in % of GDP)



Source: World bank

Figure 5. Real exchange rate index (December 2000=100)*



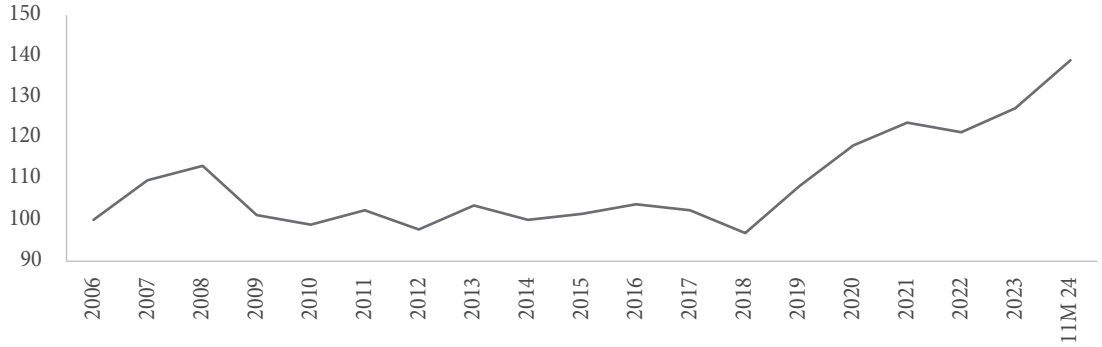
Source: NBS and authors' calculations

* Real exchange rate is obtained as nominal rate adjusted for inflation rate; and indexed as to take the December 2000 value as the basis for the index. Increasing value of index points to RSD strengthening against a basket of currencies, while a decreasing value represents RSD weakening against a basket of currencies

to demographic trends, the education system, protection and management of resources, and local level issues (such as potable water access, sewer network, landfills etc.).

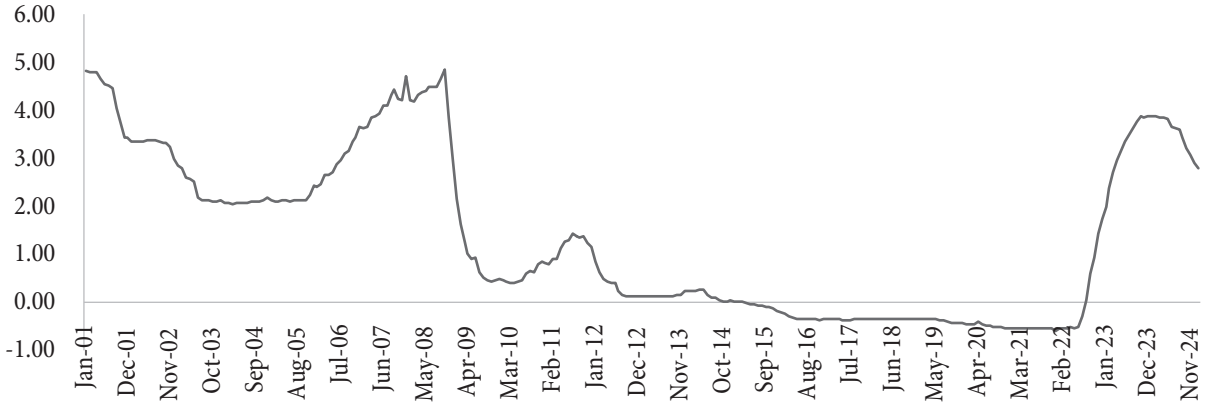
The main characteristics for the five most characteristic phases in terms of growth trajectory, are summarized in Table 1.

Figure 6. Real wage index (2006=100)



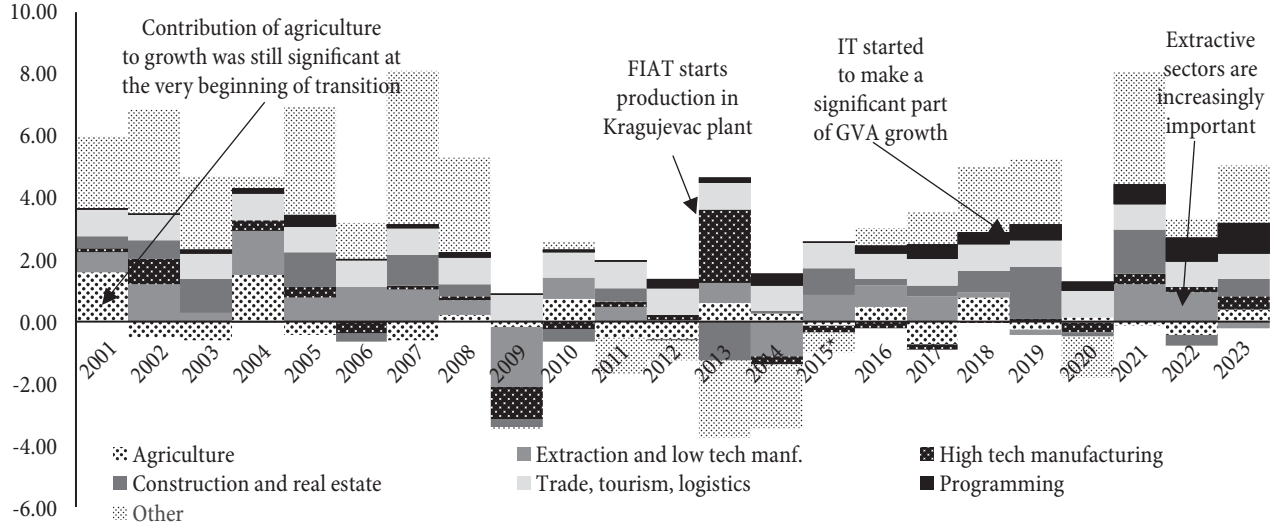
Source: Statistical Office of Republic of Serbia (SORS); authors' calculations

Figure 7. Market rates in the Eurozone: 1M EURIBOR



Source: ECB

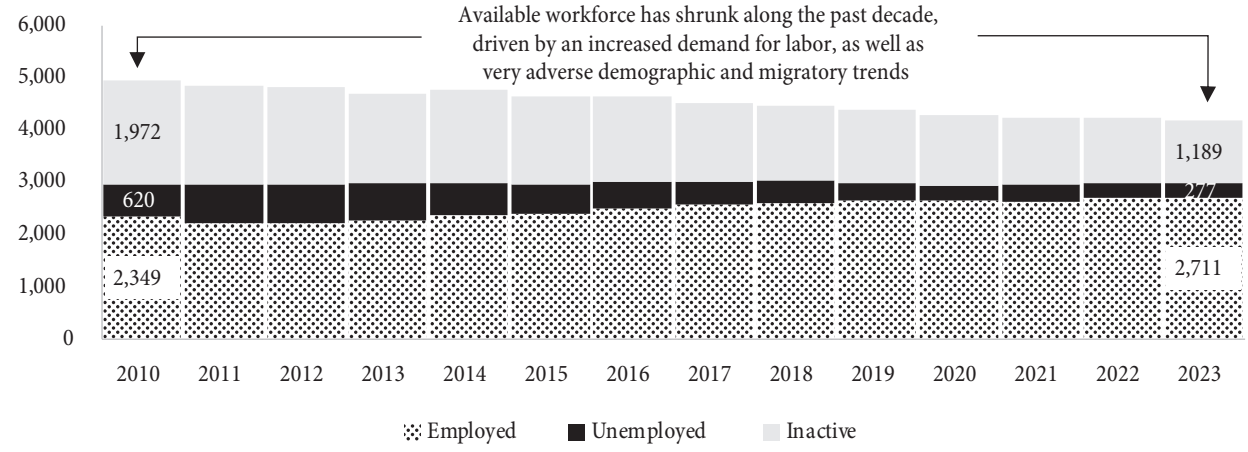
Figure 8. A deeper look at the growth drivers: the supply side (contribution to GVA growth by key sectors, in pp)



Source: SORS; authors' calculations

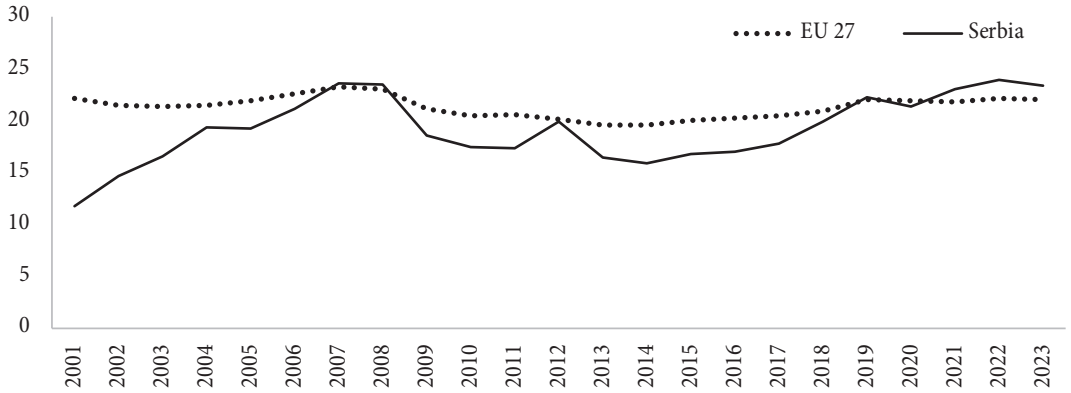
* Note: Extraction and low-tech manufacturing includes the following sectors: mining and quarrying, manufacturing of food, beverages, wood, paper, coke, petroleum products, pharmaceuticals, rubber and plastics, basic metals, fabricated metal products, electricity production. High tech manufacturing includes all manufacturing sectors not included in the previous category.

Figure 9. Structure of working age population between ages 15 and 64



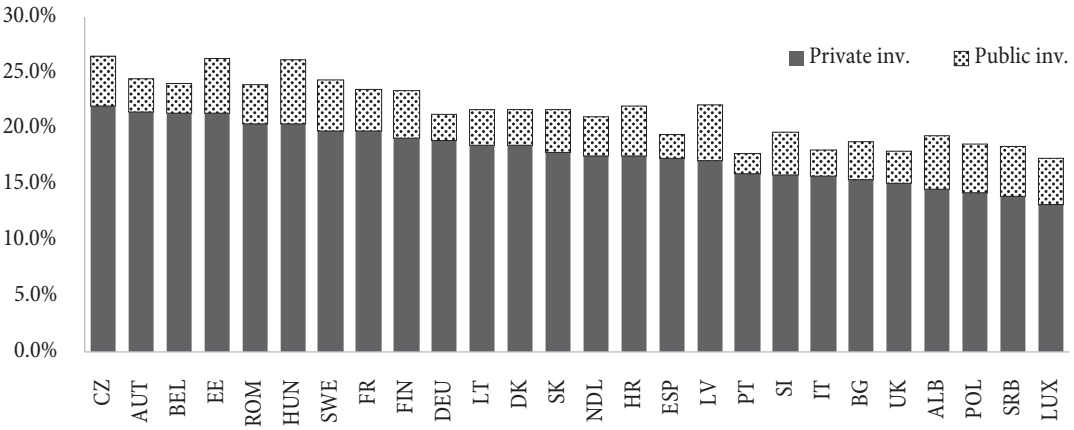
Source: Eurostat

Figure 10. Fixed investments in % of GDP



Source: Eurostat

Figure 11. Private and public fixed investments in European countries (in % of GDP, as of 2019)



Source : IMF [29]

Table 1. Key statistics in recent periods in terms of growth trajectories in Serbia

	Period I	Period IIa	Period IIb	Period IIc	Period III
	2001-2008	2009-2012	2013-2015	2016-2020	2021 - Present
Average Growth*	5.9%	-0.5%	0.0%	3.8%	3.7%
Average CAD**	-13.2%	-8.1%	-4.7%	-4.6%	-4.4%
Average Inflation Rate***	24.1%	8.2%	3.8%	1.9%	8.3%
Average fiscal gap (% GDP)**	-1.1%	-4.7%	-4.7%	-1.5%	-3.0%
Average level of NBS key rate****	13.3%	11.0%	8.6%	3.1%	4.0%
Fiscal Policy	Moderate	Expansionary	Restrictive - fiscal consolidation	Restrictive until Covid-19, expansionary afterwards	Expansionary, focus on increasing public sector wages and CAPEX
Monetary Policy	Moderate, remonetiziation of the economy	Restrictive	Restrictive	Expansionary	Restrictive; some easing started in mid-2024
Industrial Policy/ Sectoral Policy Focus	Privatization	FDI attraction	Labour market liberalization, FDI attraction	Business Environment, Digitalization, FDI attraction	Digitalization, Public investment
Global Circumstances	Strong Growth, Political Stability	Decreased demand and recession in EU, loose monetary and tight fiscal policies	Start of recovery in EU, increasingly expansive monetary policy	Relatively strong growth in EU, very expansive monetary policy	Geopolitical tensions, energy crisis, high inflation and monetary tightening

Source : SORS; Eurostat; NBS ; authors' calculations
* For the Phase IIc, represents the average for the period between January 2016 and March 2020, as to remove the effect of Covid-19 for a clearer picture of a wider period. Related to this, we also exclude the three last quarters of 2021 from the average of the Phase III
** Average for Phase III includes the period between 2021 and 2023, as full 2024 data was unavailable during preparation of this paper
*** Average for Phase I spans the period between January 2007 and end 2008. Prior to 2007, price statistics were compiled by using a different methodology
**** Average for Phase I spans the period starting from September 2006

Analysis of potential causes of low investment and growth in Serbia: applying the growth diagnostic approach

a. Binding finance

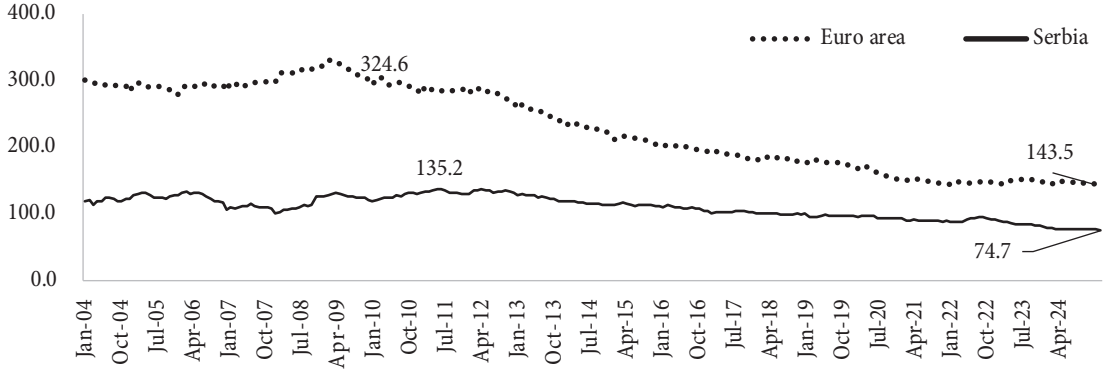
Finance becomes a binding constraint on investment and growth if the supply of funding (i.e. domestic and international savings) is inadequate, if the price of the funding is prohibitively high, or in a combination of these [41] [28] [26].

In Serbia's case, it is likely that it is constrained by a lack of domestic private investment, especially for smaller firms. The evidenced perception of lack of access to finance by firms amid abundant liquidity in the banking sector points to the weakness of the entire financial system in responding to private sector needs and catalyzing growth by matching domestic and foreign savings to the most productive investments.

Following the banking market liberalization period shortly after 2001, during which foreign groups acquired a majority share of the Serbian Banking Sector, foreign capital and household savings became an ample source of liquidity. During most of the 2000s, the unleashed domestic demand for credit was funded by "imports" of foreign savings. Domestically present foreign banks would bring capital and borrow abroad, so the loan-to-deposit ratio peaked at 135% in June 2011 (i.e. almost 40% more loans than locally acquired deposits). Today the picture is inverted. In 2024, domestic deposits were larger than loan stock, so the loan-to-deposit ratio fell to 75% as of the end of 2024 (Figure 12).

At the same time, a large share of bank assets was placed in government bonds, T-bills and REPO contracts, with the central bank offering low risk and relatively high returns. This indicates that some crowding out of the private sector might be taking place, contributing, as an other side of the coin, to insufficient private investment. Another perspective on the same symptoms - Serbia's credit-to-GDP ratio stood at 40%-45% over the past decade, compared to 84% in the EU (Figure *13*) and access to financing outside of the banking sector has been limited, meaning that Serbia's private sector has been underserved with respect to

Figure 12. Loan to deposit ratio in Serbia and the Euro area

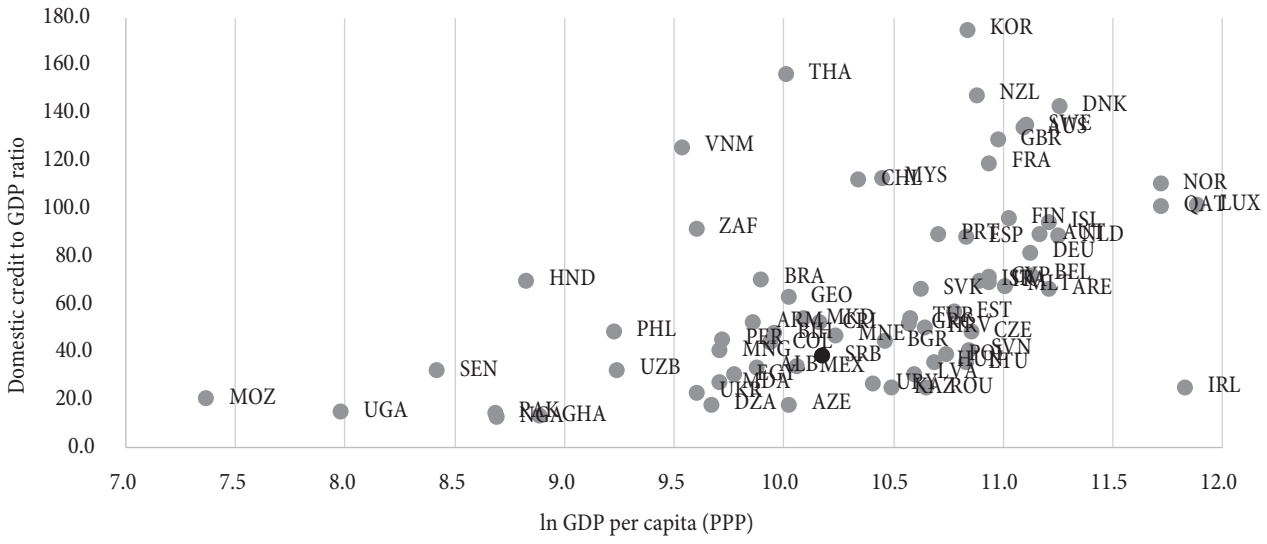


Source: ECB; NBS; authors' calculations

credit, in particular long-term loans for investment. Non-traditional banking institutions, such as microfinancing, venture financing or cooperative banking are not present and the leasing, factoring and insurance sectors, as well as pension and mutual funds, are not present, with only 9% of the overall financial sector assets. As of the end of 2024, the assets of banking sector (nearly EUR 60 b) dwarfed those of other segments of the financial sector. In comparison, leasing companies manage less than EUR 2 b, and factoring companies around EUR 200 m. The local stock exchange seldom features IPOs or issuance of corporate bonds, while its market capitalization reaches a mere EUR 4 b (approximately 5% of GDP), incomparably lower than more developed economies in the SEE/CEE region, such as Poland (22%), Hungary (14%) or Czechia and Romania (around 10% respectively).

Furthermore, another sign of the structural weakness in banking sector is the relatively high spread between deposit and lending interest rates. Serbia's banking sector's net interest margin of approximately 4.1% in first half of 2024 (3.8% in 2023), is significantly higher than the 1.7% attained in the Euro area, according to ECB statistics. Since there is no a tangible difference between the percent of non-performing loans in Serbia's and the EU's banks – in both areas reaching as low as 2-3% at the end of 2024 - this discrepancy in interest margins may point to issues related to inefficiencies and competition, consistent with a high concentration in the Serbian banking sector (the five largest banks in Serbia manage about 63% of total banking sector assets, as of the end of 2024), and virtual inexistence of non-banking financial institutions presently in the Serbian market.

Figure 13. Domestic credit to GDP vs level of development (2022)



Source: World bank; authors' calculations

That said, there is evidence that access to credit is not an issue for large companies, while SMEs are increasingly hesitant to enter credit relations, according to several recent surveys. As many as 50% of surveyed SMEs do not rely on bank financing at all, while another 28% report difficulties while accessing bank financing, as shown in a recent survey [10]. Access to financing was perceived as the key challenge for 18% of a survey of one local business association [2, p. 14] – whose members tend to be larger companies. The same report documents that smaller companies usually have more difficulty with access to financing - some 22% of surveyed SMEs claimed that this is the most pressing challenge. The most recent BEEPS survey, performed in the for the period from 2018 to 2020, shows that as many as 6.6% of the 360 surveyed firms claim that access to finance is their most pressing issue, among the highest rates in CEE/SEE region. Moreover, government programs have not been particularly helpful in assisting SMEs to finance long-term investments in equipment – these programs are not targeted, and are quite small, amounting to EUR 20 million annually for some 1000 companies. These programs did not usually improve a firm's ability to use inputs, and as such did not ultimately change a firm's performance [50, p. 10].

b. Social and infrastructure related returns

High-quality and sufficiently large quantities of human capital and physical infrastructure are necessary elements for the long-term development of an economy, as documented by a vast amount of literature [41, p. 10]. Indeed, within the standard aggregate production function, human and physical capital are key elements, their abundance and quality playing a significant role in determining the level and structure of an economy's output.

Unlike in the previous study of growth obstacles for Serbia focusing on 2010 [41], in which human capital was not found to be a binding constraint, from today's perspective, there is evidence suggesting that human capital has become a binding constraint to growth, largely due to adverse demographic trends, specifically, the outmigration of qualified labor and inadequate modernization of education. International comparisons in physical infrastructure – especially in transport – does not indicate it as a constraint to private investment. Over the last few years, there has been significant investment in public infrastructure, with the government committing to additional ambitious projects in the near future, aimed at making significant improvements in road, railway, digital, energy and communal infrastructure.

Since 2001, Serbia has lost nearly 12% of its population, surpassed by only a handful of economies in Europe, such as Moldova (-32%) and Latvia (-20%), while EU 27 population increased by 4.4%. As noted in [50, p. 28] Serbia's population is declining and aging due to low birth rates and outmigration. With over 21% of its citizens being over 65 in 2020, Serbia has one of the highest proportions of elderly people globally. It also faces a declining school-age population - the youth population, aged between 15 and 24, has declined by about 15% since 2011, and the younger age group, aged between 0 and 14, has declined by 5%. Consequently, the size of the available workforce has shrunk significantly over the last decade: from nearly 5 million in 2010 to 4.1 million in 2023. According to the World bank [50, p. 28], it is expected to decline by a further 20% by 2050.

At the same time, the growth of labor costs has intensified over the past several years. Between 2018 and 2023, Serbian wages rose by 84%, significantly above EU 27 average of 31%, and by around the same rate as many of the CEE/SEE economies, including Poland (+85%) and Slovakia (+73%). This intensified increase in wages, coupled with real appreciation of domestic currency have seemingly reduced external competitiveness of export-oriented industries (especially since the stronger wage growth happened in the private sector).

On top of being increasingly scarce and costly, Serbia's workforce remains relatively mediocre when it comes to skills and quality, reflecting the neglected prioritization of education reforms in the policy mix over the previous decades. On the OECD's latest Program for International Students Assessment (PISA), performed in 2022, Serbia ranks better than most other economies from South-eastern Europe, except for Croatia, but still behind most OECD countries and all Central European countries, such as Poland or Czechia, across all three elements of the score

(Figure 14). Learning assessment results show that the average performance in mathematics (Figure 14), science, and reading is above the international average. In 2021, Serbia's average performance in the Progress in International Reading and Literacy Study was 514, comparable to the ECA average of 517 and above the global average of 503. Despite this encouraging data, many students fall behind quickly: 27% of Serbian primary school students fail to exceed the lowest international benchmark for reading, and 32% for mathematics.

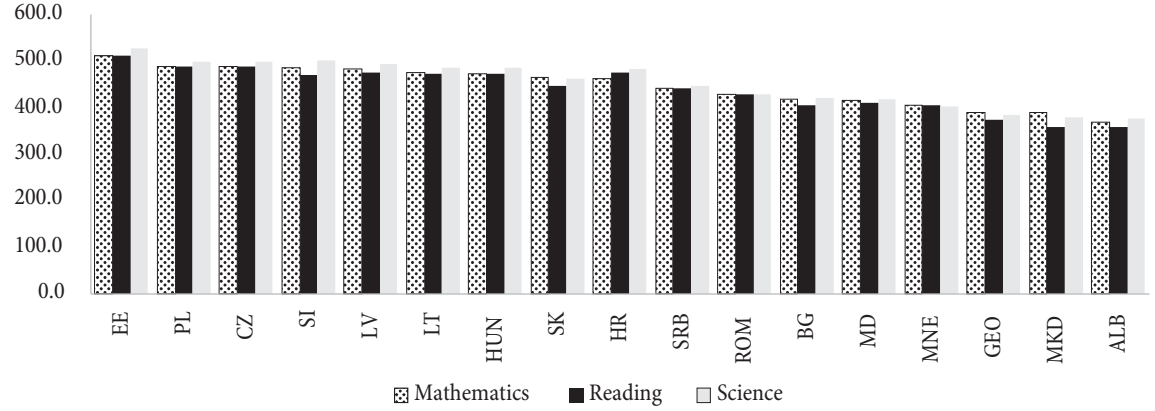
Inequity in early learning opportunities persists as a key challenge, with access to early childhood education and care (ECEC) increasing from 50% to 68% between 2014 and 2022, still well below the EU 2030 goal of 96% [50, p. 28]. Public funding for education declined from a high of 4.5% of GDP in 2009 to 3.9% in 2019, the latest year with available comparable data. This is relatively low in comparison to other SEE/CEE economies and below the EU average of 4.6% of GDP. Primary education expenditure per child in Serbia amounts to USD 6,363 (PPP), 27% below the average for the ECA region [50]. In addition, insufficient funding and lack of reliable statistics to monitor and evaluate improvements in quality of education, especially for higher levels of education ([19], [22]), reflect another problem in implementing education reforms since 2001.

Even though several positive and ambitious education reforms have been introduced since the early 2000s, constant political turnover has disrupted some of these reforms and diluted the effects to either partial or postponed achievements. For example, a modern approach to setting educational achievement standards (educational outcomes, subject competencies, tasks) was initiated in 2001 for primary and secondary education, but was only adopted during the 2009 primary cycle and the 2011 general secondary education cycle [88]. Even when it was finally formalized, the implementation of this framework faced significant challenges, including differences in understanding of a novel concept, inadequate staff capacity and lack of other resources. Indeed, one of the major issues preventing the modernization of education lies in a legacy of acquisition and evaluation based on memorization of facts rather that an insistence on developing core competencies needed for the implementation of knowledge/skills and on lifelong learning, the latter having become a priority in EU education systems long ago [14].

Challenges related to the labor force – its quality, availability and cost, are well documented in recent surveys and reports on the business environment. While the quality of the workforce seems to be at an adequate level, a lack of workers is reported as one of the most pressing challenges, with 7% of companies surveyed by CEVES [10] claiming it to be one of the two key challenges, the other being related to governance. Availability of workforce has also been named as the top issue for 59% of companies surveyed by a local business association [2], more than any other issue. The latest BEEPS survey also identifies these issues as salient, with labor related regulations being named by 9% of respondents as the key issue.

Physical infrastructure also matters for growth. An adequate quantity of high-quality infrastructure acts as a positive externality, and reduces costs and time associated

Figure 14. PISA scores in Serbia and CEE/SEE region (2022)



Source: OECD

with distribution and production for businesses that have access to it, resulting in higher productivity [16]. Better transport infrastructure and utilities improve the quality of life of the workforce, further contributing to an increase in productivity. Finally, the actual construction of the physical infrastructure itself has additional positive effects on the rest of the economy.

In this respect, Serbia's position has improved over the past decade and is on its way to additionally reduce the gap in the next period through ambitious plans of the government. Specifically, large investments, especially in the highway network, have been a centerpiece of the government's economic policy over the last couple of years and remain a top priority in ambitious public investment plans for the coming period, as there is still an important gap to reach EU average in terms of road and (especially) railway density. Serbia's kilometers of highway per square kilometer reached 55% of EU average in 2022, up from 39% in 2013 (still far behind 138% of EU average in Slovenia and 108% in Croatia). Density of the railway network is at 60% of EU average compared to Slovenia's 108% in 2022. By the end 2027, there could be another 487 km of highways (for a total of 955 km) with capital budget is planned at 7-7.5% of GDP by 2027 ([21]), [23, p. 42]). In terms of digital infrastructure, Serbia is relatively well developed: although it is behind the EU 27 average by some 20-30% in terms of number of broadband users, it is ahead of most other CEE/SEE economies.

Available evidence from business surveys supports the argument that the gap in physical infrastructure does not represent a binding constraint to growth. For example, the 2018 – 2020 BEEPS survey shows that only 5% of respondents consider transport as a key challenge, less than any other issue discussed in this report, and less than the same statistics registered for most other CEE/SEE economies.

c. Governance and appropriability

Government efficiency may affect appropriability of investments, and thus support or stifle growth to a very significant degree, as reported by a large body of literature. Efficient governments can enhance growth by reducing red tape and improving the quality of public service delivery. High quality institutions, characterized by strong property rights, effective law enforcement, and transparent regulations, create a stable environment conducive to economic activities [1]. Moreover, good governance reduces uncertainty and risk associated with investment, attracting both domestic and foreign investors, leading to increased capital inflows and economic expansion. Finally, efficient governance ensures optimal allocation and utilization of public resources, reducing waste and improving public service delivery.

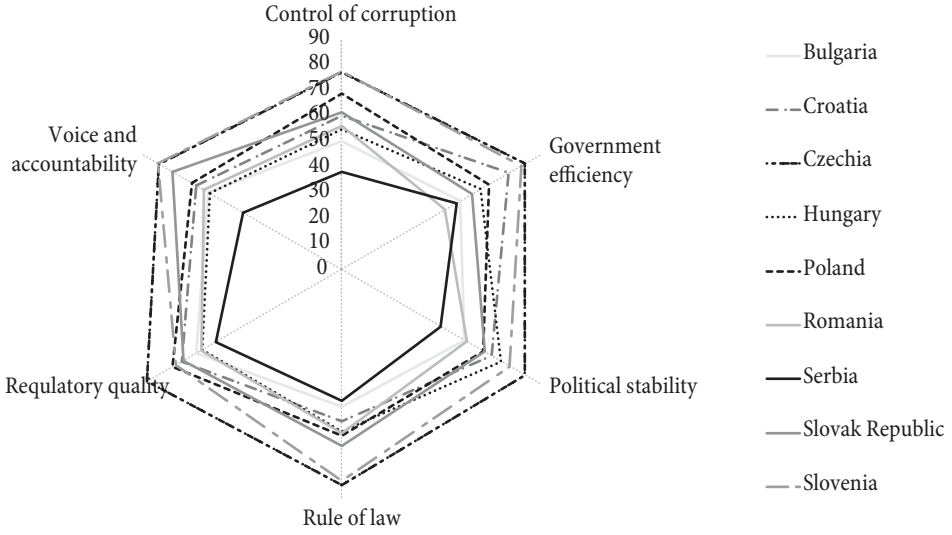
In the context of the Growth Diagnostics Approach, the literature often distinguishes between ex-ante and ex-post government failures [26, p. 80]. The former relates to the poor design and planning of policies addressing taxes or labor regulations, or to underlying factors, such as political instability, while the latter is related to the outcomes of policy implementation, such as tax rate, monopoly power, corruption, etc.

Of all ex-ante factors, political instability seems to be the among the most prevalent constraints for businesses in Serbia. The period since 2001 featured frequent elections and changes in composition of government, as well as geopolitical tensions and even territorial disputes. According to [48, p. 43] this implies an instability in regulation and policy. Indeed, the political instability experienced in Serbia is often cited as one of the key detriments to business performance and investment across many business surveys, international governance indices, etc. For example, the Worldwide Governance indicators from 2023 estimate that Serbia's political stability is lower than any other CEE/SEE economy (Figure 15). Efficiency of public administration and predictability of changes in regulations are named as top priorities 42% and 39% companies surveyed by AMCHAM in 2024, respectively [2]. In the latest BEEPS, political instability was also perceived as the most pressing challenge by almost 10% of the surveyed companies (Figure 16), more than in any other country of CEE/SEE. Similarly, a 2015 report [48, p. 47] found that political instability was a binding constraint, affecting smaller or export-oriented firms significantly more than larger companies.

Some ex-ante factors, however, appear to be less pronounced factors affecting the businesses environment. For example, the Tax Administration has been improving efficiency over the past several years, introducing far-reaching reforms such as the implementation of the Tax Authority Transformation Program [21] or the implementation of electronic fiscalization [35] and electronic invoicing systems [36], which may have helped in this respect.

However, government-related failures are also reflected in several ex-post factors which could be severely constraining business activity. Firstly, corruption is perceived as a binding constraint to companies. In 2024, Serbia ranked 105th out of 180 countries in the perception of corruption, according to the Transparency international [44] – below all other CEE/SEE countries except Bosnia and Herzegovina. Moreover, it seems that corruption has been intensifying over the past several years, as Serbia has dropped from the 72nd position out of 176 countries reported in 2016. Other surveys and research point to the same conclusion. For example, corruption was the most

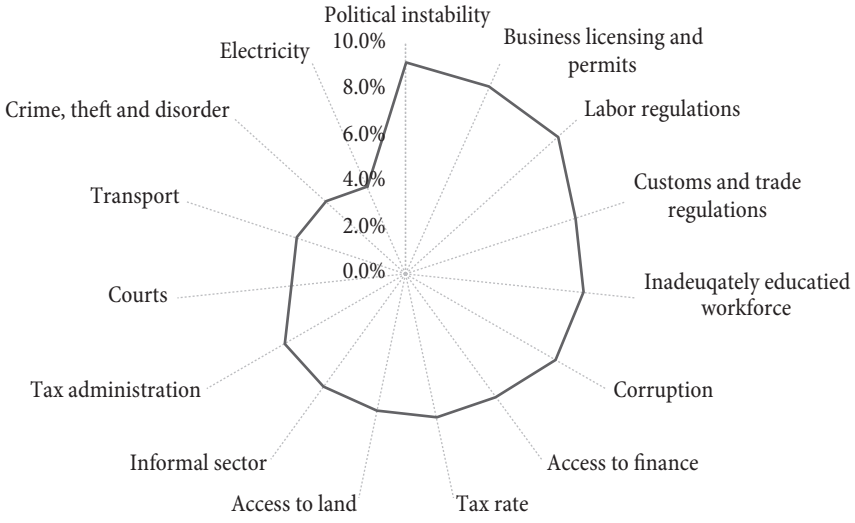
Figure 15. Worldwide governance indicators – percentile ranks* (2023)



Source: World bank

* Percentile Rank (0-100) indicates rank of country among all countries in the world. 0 corresponds to lowest rank and 100 corresponds to highest rank.

Figure 16. Key concerns of Serbia's businesses: Business Environment and Enterprise Performance Survey (BEEPS) performed in the period between 2018 and 2020*



Source: EBRD

* Refers to results of a survey performed with a sample of 360 Serbian firms in the period between 2018 and 2020. The data in the figure refer to % of companies perceiving an issue as the most important one for each of the category of challenges. In Serbia's case, the most important one is Political instability (9.1% of respondents reporting this as the most important issue), while the least significant one is Electricity (4% of respondents reporting this as the most important issue).

pressing issue for 7.5% of the surveyed Serbian companies in the most recent BEEPS (Figure 16). The [41, p. 16] also reported that corruption was probably a binding constraint in the early 2010s as well.

Also related to governance, monopoly power and barriers to entry are likely to be important and possibly binding constraints to investment and growth in Serbia. On one of the pillars of the Fraser Institute's Economic Freedom Index (with data for 2022) - Freedom to Enter Markets and Compete - Serbia ranks below all CEE/SEE economies, except Albania. This pillar consists of three subcomponents: market openness, distortion of business environment and allocation of business permits – with Serbia occupying the lowest rank among CEE/SEE countries in all areas except allocation of business permits, in which Serbia relatively efficient.

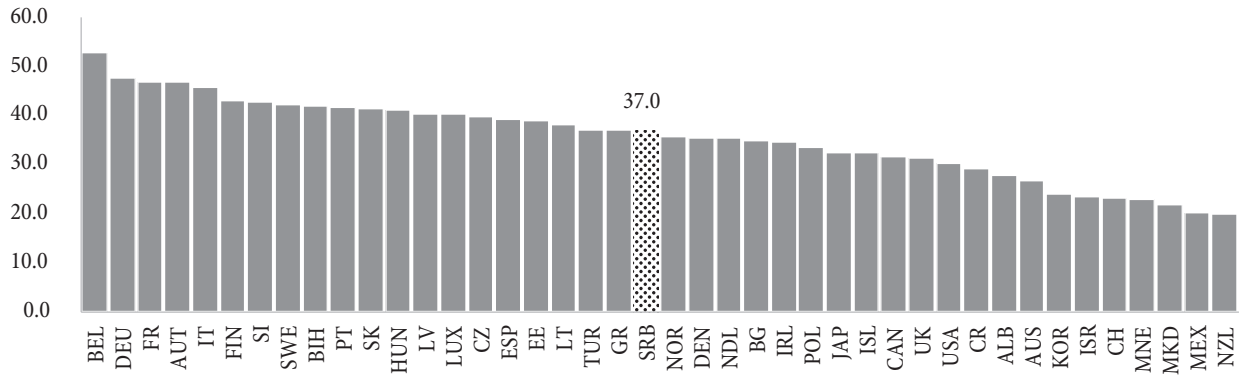
However, other aspects of governance do not seem to bindingly constrain growth and investments. The tax rate seems to be relatively favorable, with Serbia's tax wedge being around the middle of an international comparison group (Figure 17). The informal economy seems to be a decreasingly pressing challenge. Recent studies ([17, p. 27], [33, p. 8]) report a reduction in the size of the shadow economy between 2013 and 2021, and stagnation thereafter. This is also documented in reports of business associations – for example, 65% of members of AMCHAM named the informal as a reform priority in 2016 but only 37% said the same in 2024 [2]. The most recent BEEPS also shows that the informal economy is among the least pressing challenges for the surveyed firms in Serbia (Figure 16).

In terms of labor market, firms remain somewhat flexible in determining wages. According to [52], when firms were asked how they determine wages (where 1=centralized bargaining process, 7=individual decision by each firm), Serbia scored 5.07 – which is about the average for CEE/SEE countries. In this respect, there has been little change during the last decade, as shown in [41].

d. Economic complexity, coordination and market failures

Economic complexity is based on the realization that the development of products and services not only requires raw materials, labor and machinery, but also tacit knowledge (or "knowhow") of how to combine inputs in production and run business operations [27, p. 2]. Knowhow tends to be the bottleneck for the diversification of economic activities, because it is the most difficult component of production to transfer, as it is acquired through experience and exchange. Modern production is increasingly technology-intensive and thus requires far more knowhow than any single individual or even a firm can acquire. As such, tacit knowledge is necessarily spread across many individuals who coordinate across teams and organizations [27, p. 2]. Thus, coordination problems and information asymmetries – that arise because of the described difficulties - can lead to inefficiencies and missed opportunities for growth [27]. A typical example of coordination failures can occur when multiple firms or sectors need to invest simultaneously to achieve higher productivity, but no single entity is

Figure 17. Tax wedge (2022) *



Source: OECD; World bank

* Tax wedge is defined as the ratio between the amount of taxes paid by an average single worker (a single person at 100% of average earnings) without children and the corresponding total labor cost for the employer. Data for Western Balkans economies retrieved from [47], OECD members from OECD' database [34]

willing to take the first step due to the risks involved. Poor coordination often results in difficulties organizing complex economic activities, as higher complexity requires an intangible and dense network of skills, knowledge and technology [55].

A useful way of getting a sense of size and importance of such market failures is the country's export structure, [26]. In [25, p. 2], for example, have shown that countries whose output and export structure is characterized by relatively higher productivity goods also tend to perform better. Authors of [25] propose a novel index – the "EXPY" - which captures GDP per capita of its competitors on a product by-product basis. The index calculates the weighted average of the GDP per capita of a product's exporters and then averages it for the export basket of a country. In calculating this index, the authors demonstrate that a country's GDP per capita tends to converge towards its EXPY, and that an economy with a low EXPY for its level of income tend to grow more slowly [26, p. 77].

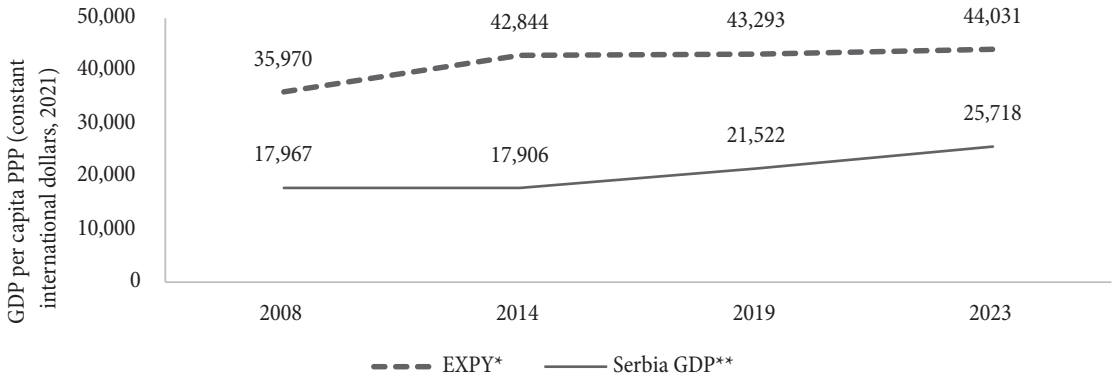
We examined the "complexity" of Serbia's export basket through a shortened version of EXPY calculated for the period over the past 15 years and covering a basket of approximately a quarter of overall Serbian merchandise export. We observed the structure of exports of the key exported items[1] over four distinct periods: 2008, 2014, 2019, and 2023 (Figure 18). Relatively low-complexity products - steel, cereals and clothing, i.e. items with small number of relatively simple inputs, well established and widely known production techniques – dominated Serbia's exports in 2008. As manufacturing FDIs started expanding into Serbia, the export basket started becoming more complex, and by 2014 the three key items were cars, electrical machinery and, still, cereals – demonstrated by an increase in the EXPY. However, the rate of increase of the EXPY slowed between 2014 and 2019 and has stagnated since. Exports in 2019 consisted largely of higher complexity goods, including electrical machinery, cars, as well as engines and other car parts. Since 2019, owing in large part to significant investments in mining in the meantime, the complexity of exports seems to have stagnated, with relatively simple items such as metal ores and non-ferrous metals making their way into the top three exporting items. This means, among other things, that Serbia's EXPY – or the "target" GDP per capita to which Serbia converges – has been rising over time.

Concluding remarks and implications for policy

The overview of the growth path of Serbian economy since the onset of the transition in 2001 indicates that the speed of growth should be taken and evaluated in parallel with the underlying growth model and its long-term development impact. This analysis shows that sequences of growth were interrupted by negative developments on international markets (Global crisis, Eurozone crisis, Covid-19). It also shows that the macroeconomic policies were of relatively

1 Which accounted for at least 20-25% of total exports in each of the observed periods.

Figure 18. Serbia's export sophistication (EXPY)



Source: World bank; UN COMTRADE; authors' calculation

* Measured as the weighted average of GDP (in international USD, constant prices as of 2021) of the most important exporters (making up at least 80% of value of global exports) of items which were one of Serbia's top three export products. For example, in 2008, Serbia's 2nd most important export item was clothing – at that time low-income level economies such as China or Bangladesh, made up more than a half of global exports in such item, while in 2012, Serbia's largest exporting item were cars – which are primarily exported by industrialized developed economies with a higher GDP per capita, explaining the surge between 2008 and 2014.

** In terms EXPY and this figure, GDP relates to international 2021 USD

limited room for pro-growth policies as the open economy contexts put constraints to both monetary (transmission of foreign exchange depreciation to inflation and carry trade) and fiscal policy (debt financing and its price).

To organize and contextualize our analysis and the arguments to follow, especially those related to policy recommendations, we first presented an overview of Serbia's growth path since 2001. Our discussion includes an analysis of the main drivers of growth, the macroeconomic trends and environment resulting from the global context and associated domestic policy responses, and the most prominent sectoral policies. We identified three main periods in terms of pattern or model of growth: 1) consumption-led growth fueled by foreign investment and savings, from 2001 to 2008; 2) export-driven growth model, reviving manufacturing and expansion into IT, from 2009 to 2020; and 3) government investment and consumption-led growth, from Covid-19 onwards.

In applying the growth diagnostic approach, we found evidence to support the argument that the main binding constraints to investment by the private sector have changed during the past decade. Specifically, private investments and growth now seem to be bindingly constrained by suboptimal access to finance, likely resulting from structural weaknesses in the financial system, in particular affecting smaller companies in financing long term investment. In addition, we find evidence that human capital is another binding constraint to economic growth, contrary to the conclusions of a similar study from the early 2010s [41, p. 3]. Specifically, demographic trends and the inadequacy of education could be factors behind an increasingly scarce workforce. This becomes particularly evident through an examination of recent business surveys in Sebia and the Western Balkan region, for example by [10], or [2], both performed as surveys in 2024, or by a survey performed from 2018 and 2020 [13].

We also found several factors limiting returns on investment that have remained important binding constraints, consistent with [41, p. 3]. These stem either from government-related failures – such as continually pervasive political risks, perceived corruption and the weak rule of law – or market failures, such as widespread monopolies. Given the legacy of weak institutions dating back to the 1990s, the persistence of market and government coordination failures as constraints to economic growth may be a reflection of the complexity and depth of the underlying challenges faced in a locally intricate political environment [46, p. 67].

To address these constraints, future policies should focus on promoting a more diverse and competitive financial sector, fostering a better coordination of companies, providing more generous and proactive government support to domestic SMEs, enhancing the quality of education and continuing anti-corruption activities, each of which could help spur private investments and growth.

We can learn from the overview of growth trajectory from the past two decades that each committed policy effort to promote private sector growth and development in form of targeted industrial policies and reforms such as those enabling more investment promoting business environment, attracting FDI or promoting science and innovation and IT industry brought tangible results. However, we can also notice that over the whole observed period, domestic private sector, especially that part which decided to compete internationally, developed rather spontaneously flying under the radar of policymakers or with only minor support.

By running the growth diagnostics approach [28], our analysis of potential major constraint to growth shows that the binding constraint for future growth in Serbia as well as growth promoting policies should be looked for in more effective financial sector, human capital development and correcting for government and market failures through a better governance system enabling more efficient coordination, reducing corruption, improving the rule of law and competition. In absence of long-term vision and targeted industrial policy to support domestic business development which is coordinated with the efforts to transform the education system in a way to enable long term sustainable development.

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