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A thorough examination of Serbia's economic development through the *Growth Diagnostics* methodology

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ABSTRACT

Serbia, known for its rich history, diverse culture, and natural appeal, is a landlocked country located in the central part of the Balkan region of eastern Europe, and is the largest country in the Balkan peninsula, whose uniqueness blends both eastern and western influences. However, its turbulent political and historic background has cascaded onto its present and quite underdeveloped socio-economic position. Using Hausman, Rodrik and Velasco's (2005) *Growth Diagnostics* methodology, and by means of its decision tree framework, we analyze and identify Serbia's binding constraints. This allows the proposal of policy recommendations to improve its economic development and get its on course. The analysis is carried out using a variety of indicators from different economic databases, each corresponding to different hypotheses that are tested throughout which relate to the different branches within the *Growth Diagnostics* decision tree. The first hypothesis establishes that Serbia suffers from bad international finance. The second hypothesis establishes that Serbia suffers from bad local finance. The third hypothesis establishes that Serbia suffers from low social returns. The last hypothesis establishes that Serbia suffers from low appropriability. Each hypothesis has subsequent hypotheses that test it. The findings demonstrate that Serbia suffers from a weak currency against the US$, an ongoing external deficit, high external debt, Negative net Foreign direct investment, Low domestic savings, poor geography, education discrepancies in the labor force, poor quality of infrastructure, weak fiscal sectors, high income disparity, high public sector corruption and unsophisticated exports; all of which contribute answer the research question of "*Why does Serbia suffer from low levels of private investment and entrepreneurship?*"

Many studies have been carried out regarding Serbia growth, however very few have used the *Growth Diagnostics* methodology, many are deemed outdated, and few have examined this country's economic situation in such an extensive manner.

RESUMEN

Serbia, conocida por su historia, su variada cultura y su encanto natural, es un país situado en la parte central de la región balcánica del este de Europa. Sin embargo, sus turbulentos antecedentes políticos e históricos han repercutido en su actual posición socioeconómica subdesarrollada. Utilizando la metodología *Growth Diagnostics* de Hausmann, Rodrik y Velasco (2005), y mediante su árbol de decisión, analizamos e identificamos los *binding constraints* de Serbia. Esto permite proponer recomendaciones políticas para mejorar su desarrollo económico. El análisis se lleva a cabo utilizando una serie de indicadores procedentes de distintas bases de datos, cada uno de los cuales corresponde a distintas hipótesis que se someten a prueba a lo largo de la investigación, relacionándose con las distintas ramas dentro del árbol. La primera hipótesis establece que Serbia sufre de altos costes de financiación internacional. La segunda hipótesis establece que Serbia sufre de altos costes de financiación local. La tercera hipótesis establece que Serbia tiene un bajo rendimiento social. La última hipótesis establece que Serbia sufre de baja apropiabilidad. Cada hipótesis tiene hipótesis subsiguientes que la ponen a prueba. Los resultados demuestran que Serbia tiene una moneda débil, un déficit exterior continuo, una deuda exterior elevada, una inversión extranjera directa neta negativa, un bajo ahorro interno, una geografía pobre, discrepancias en la educación, una mala calidad de infraestructura, sectores fiscales débiles, una disparidad de ingresos, una elevada corrupción en el sector público y unas exportaciones poco sofisticadas; todo ello contribuye a responder a la pregunta de investigación: "¿Por qué Serbia sufre de baja inversión privada y emprendimiento?".

Se han realizado muchos estudios sobre el crecimiento de Serbia, Sin embargo, muy pocos han utilizado la metodología de diagnóstico del crecimiento, muchos se consideran anticuados y pocos han examinado la situación económica de este país de forma tan extensa.

KEY WORDS

Economic growth, Development, *Growth Diagnostics*, Serbia

PALABRAS CLAVE

Crecimiento económico, Desarrollo, *Growth Diagnostics*, Serbia

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ABBREVIATIONS

GDP……..Gross domestic product

IMF……International Monetary Fund

WB…….....World Bank

WTO…….....World Trade Organization

FDI…….Foreign direct investment

NBS……National Bank of Serbia

NPL…….....Non-performing loans

EU…….....European Union

EODB…….Ease of doing business

CPI……..Corruption perception index

R&D……Research & development

LPI……...Logistics performance index

SCSRHB….Serbia, Croatia, Slovenia, Romania, Hungary, Bulgaria

RSD…….Real Serbian Dinar

OEC…….....Observatory of economic complexity

EU…...……European Union

ILO…...…....International Labor Organization

FX……....Foreign exchange market

ECI.....Economic complexity index

ACA.....Anti-corruption agency

I. INTRODUCTION

The republic of Serbia is a land locked country located in the southeastern region of the Balkan peninsula. Covering an area of 88,499 million km2, and having an estimated population of 6,8 million individuals, Serbia is the largest country within its region.

A complex interplay of political, social, and economic factors shapes Serbia's economic historical environment. The country's continuous path toward economic development and EU integration involves constant efforts to address challenges that promote sustainable growth and nurture a favorable business climate, presenting a captivating case study that deserves in-depth exploration.

Serbia has found itself undergoing significant changes throughout its history. It is these vary changes in Serbia's history that make it a country with abundant although underutilized potential. The turbulent period of the 1990s followed by the disintegration of Yugoslavia, the NATO air strikes in 1999, as well as the ongoing Kosovo conflict, have negatively impacted Serbia's economy. After the fall of Milosevic's regime in the early 2000s, Serbia began to take active political and economic reforms aimed at liberalizing its economy and forming international ties, marking a turning point for the nation. Nevertheless, the country has struggled to improve its economic situation and has been constrained from sustained development.

Serbia holds great value to me, so it comes as no surprise that I have chosen this country to analyze through the *Growth Diagnostics* methodology. There is a very personal and deep-rooted connection as I am Serbian. I have never lived there personally, however, most of my family resides there. The experience of my family and the difficult challenges they endured living in the country, from the wars to the changing political regimes, to the 1999 bombing, has shaped the motivation behind this dissertation.

Through the *Growth Diagnostics* methodology, the objective of this dissertation is to answer the research question of *"*Why does *Serbia suffer from low levels of private investment and entrepreneurship?"*. This is done by finding the underlying binding constraints that lead to Serbia's stagnant economic development, through the series of established hypotheses **H1, H2**,

H3, and **H4**. Consequently, the analysis leads to the proposal of multiple reform strategies based on the most binding constraints, that aim to improve Serbia's situation.

Growth Diagnostics is an effective tool that helps identify the underlying reasons for Serbia's growth and development challenges. Most of all, this methodology forms a diagnosis with its constituent symptoms such as Serbia's weak competitiveness in exports or its high public sector corruption. Consequently, policy recommendations are proposed such as increasing government revenue through taxation and strengthening the currency.

II. LITERATURE REVIEW

The purpose of this literature review is to examine and synthesize the current knowledge on Serbia's growth analysis to get a well-rounded consensus of why this topic is in fact relevant and why it has become a significant area of research throughout the years. There have been various studies carried out on Serbia specifically, some of which also utilize the growth diagnostic framework. However, despite the growing interest in this area of study, there is still room for debate and uncertainty surrounding not only the framework itself, but Serbia's underlying causes of stagnant growth also known as biding constrains.

To establish a basis of theory, the concept of economic growth and development must be unfolded. Therefore, we need to be able to distinguish what differentiates a developed country from an underdeveloped, or stagnant one. Following this is an analysis of the key findings and debates carried out by others with regards to Serbia's growth, as well as other studies carried out for other countries, more specifically, those that utilize the *Growth Diagnostics* methodology. Furthermore, by looking into this literature, we can extrapolate different hypotheses, that through this paper are either rejected or validated. The conducted literature review aims to provide a complete and critical examination of the present state of knowledge in this domain by combining existing research on Serbia, as well as insights and suggestions from other country analyses.

II.I Economic growth & Development

The entire basis of this paper relays upon the analysis and identification of the economic development of countries, to be specific, the underlying reasons behind the stagnation in their development. Therefore, a certain contextualization of what deems a country developed or underdeveloped is necessary.

There are a common set of characteristics that developing countries share amongst themselves which include high instances of poverty, lack of a sizeable middle class, low literacy rates, and weak governments/institutions (Balaam & Dillman, 2019). However, Stroper & Venables (2004), go further by looking into human capital as well as the degree of industrialization, transport, education, and technological advancements (Stroper & Venables, 2004). Developed countries on

the other hand, do not have glitches in these factors and enjoy high income, which is one of, if not the main distinction between the two. Nevertheless, it is not so black or white as there is a larger scope of categories including middle-income countries (higher and lower). The scholars also note that countries can move between these categories over time due to changes in their economic conditions.

There is a well-rounded definition of economic growth, it being a sustained increase in economic activity which can be measured by indicators such as GDP, and per capita income (Stroper & Venables, 2004). There are also differing views of economic growth and its desirability by economists.

Solow, Romer, and Sachs all of which are very prominent economists of our time, have a pro-growth view and are firm believers that economic growth is essential to improve living standards, reduce poverty, amongst other contributions. Pro-growth economists advocate for policies and strategies that aim at promoting economic growth. Solow (1956), pioneer of the neo-classical theory, has always argued in favor of economic growth; in the long run to be specific. His paper *Contribution to the theory of economic growth* assumes that neoclassical conditions of Labor & capital as well as the contribution of innovation & technology, drive economic growth (Solow, 1956). Romer (1990) is also a devotee of economic growth. Much like Solow, His belief lies upon technology as a driver for economic growth. The main premise of his contribution is that a combination of capital accumulation and endogenous technological change that arises from intentional investments by economic agents who respond to market incentives, provide a larger output (Romer, 1990). Sachs (2005) has worked years on end to eradicate poverty across the globe. He believes in that of economic growth being able to achieve sustainable development and thereby, end poverty in our time (Sachs, 2005). Although blindly optimistic, Sachs believes that countries like India or Kenya can join in an age of unprecedented prosperity. Therefore, it is the task of developed economies to help the less developed ones onto the ladder of economic growth (Sachs, 2005).

The other spectrum is the Anti-growth view acclaimed to those economists that criticize economic growth. Spash (2021) argues that since the beginning of the environmental movement in the 1960s, the economic growth paradigm has been challenged by social and ecological criticism, which calls

for radical transformation (Spash, 2021). Environmental economists and professionals worry that policies being made to promote growth consequently have a negative impact on environmental goals and the stability of equality both within and between countries. Daly (1996), is a sustainable development advocate whose book *Beyond growth* argues that economic growth instead of assisting sustainability, leads to ecological and social crises. He proposes transitioning from a growth economy to a sustainable or steady state economy. Instead of maximizing profits, and consumer surplus, the sustainable economy maximizes the life of individuals (Daly, 1996). Furthermore, Schor (2014) also condemns economic growth due to the detrimental effect it supposes for social inequality and the environment (Schor, 2014). Meadows (1972) takes a different approach by uttering that this world cannot handle increasing rates of population and growth. Resources are finite and the existing trends of pollution, food production and depletion of resources, will, obliterate the future (Meadows, 1972).

Lastly there is the view that combines both pro-growth and anti-growth perspectives. This viewpoint is supported by many economists that believe in a more nuanced approach by combining both the advantages of economic growth as well as the advantages of sustainable economics, to be able to reach a harmonious equilibrium where all members of society are valued. Sen (1999) instead of criticizing economic growth, argues that "*being against markets, would be almost as odd as being generically against conversations with people"*. Here he stresses the need for economic growth, but more so combining it with environmental and social sustainably especially in policy making (Sen, 1999).

Overall, the debate over economic growth reflects differing perspectives on the role of economic development in achieving broader social and environmental goals. While some argue that growth is necessary for improving living standards, others suggest that it can have negative consequences for the environment and society, and that alternative models of development are needed.

Hausmann, Rodrik, & Velasco's (2005) *Growth Diagnostics* methodology is more lenient towards the pro-growth view. The entire Methodology is based on finding the country specific underlying binding constraints that explain why its growth is stagnant. This framework was therefore developed with the goal of promoting economic growth in countries whose progress is inactive and/or diminishing. On another aspect, given that this is a very specific in-depth analysis,

policymakers, through the contingent circumstances of the country, propose well-rounded policies to promote growth taking a problem-solving approach.

II.II Serbia's previous empirical growth analyses

To understand the nuances and subtleties of this paper, we look at the empirical applications that have been done with regards to Serbia, one of which uses the *Growth Diagnostics* methodology. Empirical evidence shows that binding constraints are not set by a specific standard and vary widely across countries. Several studies have been conducted in recent years regarding Serbia which identify the main constraints to economic growth and recommend policy interventions to address these. However, despite the legitimacy of these empirical applications, they aren't without their limitations.

The World Bank (WB) has two prominent reports that have been carried out regarding Serbia, them being *Serbia Systematic Country Diagnostic Update 2020*, and *Serbia's New Growth Agenda 2020*. Although neither concretely use the *Growth Diagnostics* framework, a combination of the different approaches and scope, reach similar conclusions.

Serbia's New Growth Agenda published by the WB in 2020 proposes a growth strategy that the country should adopt in order to bring it closer to the living standard of the European Union (EU) (World Bank, 2020). Some of the growth opportunities the agenda focuses on are:

- Strengthening institutions through rule of law, a reduction in corruption and an increase in transparency & accountability.
- Increasing public investment, especially on infrastructure such as energy, and transportation.
- Promoting exports leading to an increase in GDP and Foreign direct investment (FDI)
- Skilling workers and increasing human capital by investing in education will solve the problem of businesses failing.
- Increasing the private sector competitiveness through the financing of growing firms, raising productivity, and enabling businesses.

However, there are limitations to this report. One of the most important being that there is no prioritization of the different strategies, which could make it difficult for policymakers to know

which one to carry out first. Our paper on the other hand does pick the most binding constraints and therefore, prioritizes the policy responses. Furthermore, although there are clear opportunities for Serbia, the growth agenda doesn't consider the external factors. This paper, through the methodology does look into the external as well as the internal scope in detail.

The *Serbia Systematic Country Diagnostic Update 2020* also by the WB in collaboration with Serbia's Government, most closely resembles the *Growth Diagnostics* methodology in the way that it analyses and therefore identifies the most binding constraints to its stagnant growth and offers policy recommendations. The report mentions an improvement in Serbia's macroeconomic position since 2014. Furthermore, despite this improvement, the report alludes that Serbia's economy is still doing worse than in the 1990s and therefore still needs amendment (World Bank, 2020). Furthermore, important constraints still remain that need to be abolished, especially constraints related to inequality and productivity. Similarly to the *Growth Diagnostics* framework, the report also provides a detailed outlook of Serbia's ongoing trade deficits and public & private investments (World Bank, 2020).The importance of agriculture for economic development is mentioned and is an essential opportunity for the country.

This report, although very complete in its analysis still faces limitations. For instance, relationships between international institutions are not considered. Furthermore, having the report collaborating with Serbia's Government, does leave room for bias and possibly an incomplete analysis of the impact of the governmental institution on the economy. Both these limitations are considered in this scientific analysis of Serbia using the *Growth Diagnostics* methodology.

The Republic of Serbia - First Review Under the Stand-By Arrangement - Press Release and Staff Report by the IMF (2015) dives deep into the impact on Serbia's economic reforms from the International Monetary Fund (IMF) arrangements under the standby agreement. According to the report, Serbia showed development after the implementation of the policies, including monetary policy reforms, fiscal consolidation, and structural reforms (International Monetary Fund, 2015). Despite the effectiveness, the report also draws attention to the slow impact the reforms have had on Serbia and even identify growing public debt and a weak banking sector (International Monetary Fund, 2015). The main limitation to this report is that it was made in 2015 and a lot of

things have changed since then, things that have not been captured and are accounted for in this dissertation.

The *IV Consultation Selected Issues Paper* also by the IMF (2013), discusses an analysis of Serbia's economy covering its multitude of macroeconomic policies. The report investigates Serbia's weak market outcomes and promotes policy recommendations to ease job creation and reduce unemployment, such as making the wage bargaining and employment procedures more flexible whilst till preserving social protection (International Monetary Fund, 2013).

Regarding the fiscal discipline, the report provides policy recommendations aimed at strengthening the fiscal discipline and improve its sustainability in the long run. The IMF draws attention to Serbia's deep rooted competitiveness problem and gives evidence of this by looking at its low exports.

Once again, the limitation to this report is its date. Published in 2013, the report does not reflect Serbia's changing economic conditions and policies, which limits the relevance of not only some of the policies, but also of the biding constraints.

The Inflation Report published by the National Bank of Serbia (NBS) (2020), analyses Serbia's economy and identifies several binding constraints that acquaint to its hindered growth (National Bank of Serbia, 2020). However, the report does not follow the *Growth Diagnostics* methodology, nor does it resemble it. The report analyses key determinants for inflation looking into Serbia's financial market trends, money & loans, and other determinants of its local finance impacting its economic growth. For instance, the report highlights that Serbia's FDI has increased reflecting its improvement in business climate (National Bank of Serbia, 2020). This is tested in this dissertation. Furthermore, the paper also discusses the stable state of Serbia's non-performing loans (NPL) at 5%, which alludes to its stable local finance (National Bank of Serbia, 2020).

Despite the insight of the report, it does not use the *Growth Diagnostics* framework, and by doing so, it focuses far more on inflation related analysis rather than looking into more areas of improvement, such as social returns. Therefore, the report, though very thorough in its analysis of

inflation and growth, misses key aspects that the *Growth Diagnostics* methodology and hence, this dissertation considers.

Moreover, the *Competitiveness of Serbia's economy in the context of new global economy: opportunities and threats* by Udovicki, et al. (2019) is a paper that explores Serbia's competitiveness in the context of the new globalized economy. This report uses Knowledge based economy (KBE), and the increasing importance of knowledge & technology for economic growth (Udovicki, Avlijaš, & Medić, 2019). The recommendations use the KBE and its subsequent tools to correct the social sector in terms of human capital, infrastructure, agriculture and appropriability. For instance, Serbia's agrobusiness could benefit from the additional advantages the KBE tools provide (Udovicki, Avlijaš, & Medić, 2019).

Although the report considers the social returns and appropriability aspect of the *Growth Diagnostics* methodology, it also fails to show concern for the financial implication to the Serbian economy, deeming this paper incomplete. Such concern, is accounted for in this dissertation, giving an overall encompassing analysis. Furthermore, there is no clear prioritization of the recommendations and their respective opportunities, making it hard for policymakers to select the more important ones, also a key facet considered in this dissertation.

Lastly, although there are virous different papers that analyze and discuss Serbia's economic growth and even provide polices to correct the identified constraints, there are few that utilize the *Growth Diagnostics* framework. However, the most recent study *Diagnosing Growth Constrains in South-Eastern Europe: The case of Serbia* by Marija Kuzmanovic and Peter Sanfey (2014), uses the *Growth Diagnostics* framework much like this dissertation. The paper investigates the main impediments to investment and growth in Serbia. However, it more specifically focuses on Serbia's low productivity, weak institutional quality, and domestic & foreign investments, or lack thereof (Kuzmanović & Sanfey, 2014). Kuzmanovic and Sanfey (2014) believe that the primary hurdles to investment in Serbia are limited competition, a costly tax administration, a tight labor legislation, a high labor tax burden, and endemic corruption (Kuzmanović & Sanfey, 2014).
Furthermore, the authors propose policy recommendations that address the identified constraints and promote growth, some of which include promoting innovation, improving the business

environment, and increasing spending in both public and private sectors, involving education and infrastructure.

Despite the report utilizing *Growth Diagnostics*, it still suffers some limitations. The most relevant limitation to this report is the stipulated time frame. This report was made in 2014, which deems it outdated, missing the most recent analysis of Serbia's economy, an analysis which is considered in this paper. Also, the report fails to produce an initial diagnosis, but rather goes straight into the underlying symptoms. This paper on the other hand, analyses GDP and its respective GDP growth that signals Serbia's potential hindered growth. Lastly, the policy recommendations presented in the report are quite broad and lack specificity and detail. Those exact details are included in the dissertation at hand.

Overall previous studies have proved usefulness in identifying and resolving the fundamental barriers to economic development in Serbia. However, each individual paper lacks certain aspects and contains limitations. These same aspects and limitations are accounted for in this paper, all with the purpose of reaching a well-rounded diagnosis and respective policy recommendations that would better Serbia's future economic endeavors.

II.III Hypotheses

To properly formulate the hypotheses that will be tested to answer the research question, it is very important to identify the different indicators that have been used to give evidence of the most binding constraints based on previous literary works in the past, not necessarily related to Serbia. The indicators employed by others to test these constraints lead to the creation of hypotheses that are either disproved or accepted in the analysis of each. We part from the research question implied by the *Growth Diagnostics* framework:

***Why does Serbia suffer from low levels of private investment and entrepreneurship*?**

To properly diagnose the reasons as to why Serbia suffers from low levels of private investment and entrepreneurship, we first need to identify the possible underlying symptoms. For its response, the research question unleashes a series of chain hypothesis that are either rejected or accepted

through the analysis of the respective indicator attached to each.

Prior to that, for the initial diagnosis, Hausmann et al. (2023) analyze Kazakhstan's GDP growth rates, to identify its growth trajectory over the years (Hausmann, et al., 2023). Furthermore, Hausmann & Klinger (2007) use GDP output to make an initial diagnosis. Also, Hausmann, Espinosa et al. (2017) compare the CAGRS of Latin American countries, to analyze Panama's Growth rates and identify if there is a signal for hindered growth (Hausmann, Espinoza, & Santos, 2017).

II.III.I Hypotheses regarding Serbia's high cost of financing

To determine if and why Serbia suffers from high cost of financing we first identify if the underlying issue is more related to its possible bad international finance (**H1**). Following the *Growth Diagnostics* decision tree:

H1. Serbia suffers from bad international finance and therefore high cost of finance.

Several studies have used the current account to identify a countries international finance position. Frias et al. (2018), analyze Serbia's current account to explain its poor international financing (Frias, Shimbov, Davies, & Ek, 2018). Furthermore, The WB also uses external imbalances to explain Middle Eastern and North African low growth regions (World Bank Group, 2019). However, the better indicator is external balance in trade as it considers specifically imports and exports in goods and services. Following this line of thought, the following hypothesis is tested:

H1.1 *An external balance deficit weakens Serbia's international financing position.*

Several studies have used external debt as a variable to analyze poor international financing. For instance, Clements et al. (2003) write about the implications external debt can have upon a country's economic growth. Specifically, it argues that increasing debt dampens investment and growth by increasing uncertainty. Furthermore, elevated external debt tends to have an impact on GDP by reducing both physical capital accumulation and total factor productivity growth (Clements, Bhattacharya, & Nguyen, 2003). Following this line of thought, the following hypothesis is tested:

H1.2 *Serbia's increasing external debt and inability to service it, weakens its international financing position.*

Furthermore, a study by Chibalamula et al. (2023) investigate the relationship between FDI flows and economic growth of Sub-Saharan African countries. The results from this random effect investigation show a direct positive correlation between FDI and economic growth and vice versa (Chibalamula, Evans, Kachelo, & Bamwesigye, 2023). Following this line of thought, the following hypothesis is tested:

H1.3 *Serbia's negative net FDI weakens its international financing position.*

The foreign exchange rate (FER) is very important in determining a countries economic growth as it determines inflation, balance of payments, trade imbalances and overall macroeconomic environment (Domazet, Lazić, & Hanić, 2014). Hausmann and Klinger (2007) use the FER to contribute to Paraguay's growth diagnosis (Hausmann & Klinger, 2007). Following this line of thought, the following hypothesis is tested:

H1.4 *Serbia's weak currency weakens its international financing position.*

To determine if and why Serbia suffers from high cost of financing we now identify if the underlying issue is more related to its possible bad local finance (**H2**). Following the *Growth Diagnostics* decision tree:

H2. Serbia suffers from bad local finance and therefore high cost of finance.

Low domestic savings can have detrimental impacts on a country's growth, especially in transitioning economies. Economic recovery for countries relies mostly on investments funded by private savings and capital accumulation. If the country spends a lot and hence saves very little it will find it difficult to remain independent (Vladušić, Dragović, & Bašić, 2018). Vladušić et al. (2018) study the correlation between low gross domestic savings (GDS) in Bosnia & Herzegovina to explain its hindered economic growth and the impact this has on FDI and stability. Following this line of thought, the following hypothesis is tested:

H2.1 *Serbia's low gross domestic savings compared to regional nations, weakens its local financing position.*

Hausmann, Santos, et al. (2022) investigated the incidence of NPLs to analyze Loreto, Peru's poor intermediation within the *Growth Diagnostics* framework (Hausmann, et al., 2022). Following this line of thought, the following hypothesis is tested:

H2.2 *Serbia's high's incidence of NPLs, are one of the main problems in the banking sector weakening its local financing position.*

II.III.II Hypotheses regarding Serbia's low return to economic activity

To determine if and why Serbia suffers from low return to economic activity we first identify if the underlying issue is more related to its possible low social returns (**H3**). Following the *Growth Diagnostics* decision tree:

H3. Serbia suffers from low social returns, and therefore low returns to economic activity.

Hausmann, Barrios et al. (2023) analyze Kazakhstan's main imports and exports in the mineral, non-mineral, and agricultural sectors to establish its geographical position and agricultural limitations. By identifying what it imports, the results reveal what Kazakhstan is not able to produce and must therefore seek abroad (Hausmann, et al., 2023). Following this line of thought, the following hypothesis is tested:

H3.1 *Serbia imports more minerals, metals, and agricultural products than it exports explaining its poor geography, and therefore low social returns.*

Hausmann, Santos, et al. (2022) analyzed Loreto's unemployment rate to see the labor market impact on economic growth (Hausmann, et al., 2022). They analyzed the different educational levels of Peru to see its effect on unemployment. In a well-functioning economy, there should be at least a high level of primary and secondary education (Hausmann, et al., 2022). The authors also cross Loreto's education levels with unemployment over the years, to see if it increases or not depending on the type of education that was attained. In an economy whose human capital

functions adequately, unemployment should be lowest in advanced education. Following this line of thought, the following hypothesis is tested:

H3.2 *Serbia's growing unemployment rate and weak functioning educational system, contribute to its low human capital, and therefore low social returns.*

The logistics performance index (LPI) has a lot do to with a country's coordination regarding tracking & tracing, shipments, infrastructure, and overall competitiveness. The LPI ranges from [1-5]. O'Brien et al. (2017) consider this index specifically to look at Albania's infrastructure (O'Brien, Nedelkoska, & Frasheri, 2017). Following this line of thought, the following hypothesis is tested:

H3.3 *Serbia's poor infrastructure score in LPI explains its bad infrastructure, and therefore low social returns.*

To determine if and why Serbia suffers from low return to economic activity we now identify if the underlying issue is more related to its possible low appropriability (**H4**). Following the *Growth Diagnostics* decision tree:

H4. Serbia suffers from low appropriability, and therefore low returns to economic activity.

Hausmann & Klinger (2007) utilize the ease of doing business (EODB) score to examine the ability of Paraguay's institutions facility of businesses proliferation (Hausmann & Klinger, 2007). Similarly, O'Brien et al. (2022) use doing business to identify if there are underlying issues regarding Jordans regulatory quality, competition, and business costs (O'Brien, et al., 2022). Following this line of thought, the following hypothesis is tested:

H4.1 *Serbia has an inadequate ability of doing business, contributing to its government failures and, therefore low appropriability.*

Budget deficit, tax revenue and government spending are all interrelated and contribute to a country's fiscal policies. A paper on Western Australia was conducted by Hausmann et al. (2021)

in which the fiscal balance and its respective high deficit was analyzed to explain the governments financial position (Hausmann, et al., 2021). These same authors also consider government spending and what nuances existed regarding tax spending. On the other hand, O'Brien et al. (2017) consider Albania's tax revenue as a percentage of GDP to explain the countries tax policies and their underlying implications (O'Brien, Nedelkoska, & Frasheri, 2017). A country with a high deficit, decreasing tax revenue and increased spending, will find it hard to reduce its deficit. This correlation can have detrimental effects on fiscal capacity and funding in the economy. Following this line of thought, the following hypothesis is tested:

H4.2 *The relationship between Serbia's fiscal deficit, tax revenue and government spending have negative implications on the macroeconomic environment, contributing to its government failures and therefore low appropriability.*

Shah (2022) uses the Gini coefficient to examine the influence it has with regards to South Africa's poverty due to disparities between income distribution in an economy, affecting low appropriability (Shah, 2022). A high Gini coefficient depicts a high disparity between the wealthiest and the poor. Following this line of thought, the following hypothesis is tested:

H4.3 *Serbia's income inequality is one of the highest in the EU, contributing to its low appropriability.*

O'Brien et al. (2017) use the corruption perception index (CPI) ranging from [1-100], to examine the corruption of Albania's public administration and its possible effect on appropriability. A country with a low CPI value deems to have corrupt institutions. Following this line of thought, the following hypothesis is tested:

H4.4 *Corruption prevails in Serbia's public sector, which exposes the inability of the public administration to properly manage the fiscal environment, contributing to its low appropriability.*

A nation with high expenditure on research and development (R&D) gives evidence that it is actively trying to better its knowledge and information structure. Hausmann, Barrios et al. (2023)

analyze Kazakhstan's expenditure in this field, to explain its impediment for successful institutional implementation (Hausmann, et al., 2023). Innovation and information are directly correlated.

H4.5 *Serbia's subdued expenditure on R&D, contributes to information externalities, and therefore low appropriability.*

Kuzmanovic & Sanfey (2014) use the economic complexity index (ECI) to analyze coordination externalities in Serbia's economy (Kuzmanović & Sanfey, 2014). Furthermore, O'Brien et al. (2017) use ECI to analyze Albania's productive knowhow and compare it to regionally relevant countries (O'Brien, Nedelkoska, & Frasheri, 2017). Following this line of thought, the following hypothesis is tested:

H4.6 *Serbia's low knowledge intensity and diversity regarding its productive capabilities against similar countries, contributes to coordination externalities and therefore low appropriability.*

III. METHOD

III.I *Growth Diagnostics*

This section aims to provide an overview of the framework of *Growth Diagnostics*, the theoretical implications as well as the different perspectives and limitations that exist with regards to it.

The *Growth Diagnostics* methodology developed by Hausmann, Rodrik and Velasco in the early 2000s, suggests a framework, that through an analytical approach, leads to the identification of the most binding constraints that are impeding the economic growth of a specific country (Hausmann, Rodrik, & Velasco, 2005). It is complex to make a diagnosis by only looking at external forces. This approach delves further into the unique characteristics and constraints of each country resulting in a country specific, well-rounded analysis.

Furthermore, following the principles of neoclassical economics, this methodology allows policymakers to form recommendations which address the most relevant binding constraints through the scope of both the country's socio-political and economic context, that when enforced, will remove these barriers to growth and pave way toward reform and economic development.

Growth Diagnostics was created as a response to the then prevailing "one size fits all" economic development strategies. Rodrik (2007) argues that development functions properly, however, it is the policies towards development that are failing (Habermann & Padrutt, 2011). The predominant strategy to promote growth in underdeveloped countries were the set of economic liberal policies established in the *Washington Consensus* that many institutions including the WB, IMF and WTO adopted towards the end of the last decade (Balaam & Dillman, 2019). Some of the *Washington Consensus* reforms that are necessary for development include currency devaluation, interest rate increases, reduced government subsidies, and the adoption of free trade policies (Balaam & Dillman, 2019). However, despite its speed and reach, and although the reform policies were rightfully promoting economic growth, many criticized its narrow scope. In fact, by the 1990s, a significant number of countries, principally in Africa were reaping the consequences of these policies (Balaam & Dillman, 2019).

Rodrik (2007), one of the fathers of *Growth Diagnostics* even pointed out that the challenge of the *Washington Consensus* was that the reforms were not deep enough and even says that the countries that came out successful, were not those who were undertaking ambitious reform strategies (Habermann & Padrutt, 2011). This demonstrates that policies were quite general and would not provide the esteemed benefits to all underdeveloped countries as each had their own specific constraints. It is without a doubt that the *Washington Consensus'* main limitation was that it provided extraordinarily different results. Depending on the country, its impact showed to either be exceptionally positive or, unintentionally negative (Hausmann, Rodrik, & Velasco, 2006).

Hausmann, Rodrik and Velasco (2005) created the *Growth Diagnostics* framework considering the limitations of the *Washington Consensus* and the detrimental effects it was having on the developing economies who had more country specific underlying constraints that were hindering their growth. The authors note that the more traditional approach does not in fact take into account the concrete underlying causes for each country to shape the necessary reform policies and therefore propose *Growth Diagnostics*, an approach that is more contingent on the economic environment (Hausmann, Rodrik, & Velasco, 2005).

The approach to the methodology is motivated by three considerations in terms of growth strategies. The first consideration implies that even though development may entail many concepts and has a wide spectrum, increasing economic growth rates is the main challenge developing economies face. For that matter, greater levels of living standards are the main drivers of improvement in both social and human indicators within an economy. Therefore, policy recommendations should aim to increase growth rates (Hausmann, Rodrik, & Velasco, 2005). The second consideration implies that identical strategies for all countries, never mind their circumstances, are not likely to turn out successful, which is why strategies should differ depending on each country. There are however principles for economic growth that apply to every country such as human capital, rule of law, etc. The last consideration implies the necessity to prioritize the growth strategies as governments may not have the capacity to alleviate all (Hausmann, Rodrik, & Velasco, 2005) .

Within the last consideration, there are different approaches to the reform strategies policymakers may decide to employ. An underperforming economy is one that is occupied by an array of market

distortions that prevent the economy from taking full advantage of its resources (Hausmann, Rodrik, & Velasco, 2005). Undoubtedly, getting rid of these distortions will most probably have beneficial effects on an economy, the heavier the distortion, the bigger the impact. However, the challenge lies upon those developing economies that have a variety of distortions of different sizeable impacts. Most policymakers bear the pressure of dealing with these market distortions and decide which ones to prioritize and therefore, which ones will have the biggest impact on maximizing social welfare and stimulating economic growth. Hausmann et al. (2005) argue that policymakers must figure out the most binding constrains that represent the biggest hurdle to growth, to extrapolate the best outcome. However just like choosing the wrong distortion may negatively impact other distortions, a distortion in one area may also indirectly alleviate those of other areas, leading to an additional benefit.

The first approach is the wholesale reform which aims to eliminate all distortions simultaneously in order to achieve the best possible economic growth rate (Hausmann, Rodrik, & Velasco, 2005). This approach is only successful if the policymaker in question has access to all prevailing distortions and the viability of correcting them (Hausmann, Rodrik, & Velasco, 2006)

The second approach is the "*do as much reform as you can, as best as you can*" which goes for the most practical and enforceable reform strategies, ignoring the basic economics of the framework (Hausmann, Rodrik, & Velasco, 2005).

A more sophisticated version to the previous approach is the "*second best reform*" whose aim is to reform the distortions that have second-best interactions, avoiding the reforms that may have detrimental effects on others. However, the second-best reforms are quite difficult to pin-point.

The next approach called "*target the biggest distortions*" has a purpose of removing the biggest distortions in the economy. The negative side to this approach would be that it unintentionally ignores the hidden and more underlying distortions, for instance the ones that arise form market failures. Also, who is to say that these distortions however big they may be, will have the biggest impact on economic growth? Lastly, the more reasonable approach is to focus on the most binding constraints, which is initially what the *Growth Diagnostics* methodology implies. This approach is based on prioritizing according to the scale or to the biggest impact it will have on economic

growth. Therefore, the reform policies of this paper will aim to alleviate the most binding constraints and will target multiple areas.

III.I.I Limitations

Growth Diagnostics also has its limitations, and economists have found to criticize serval aspects of it. Even Hausmann, Ricardo, and Rodrik (2006) the creators themselves have identified limitations. For instance, the framework does not correctly identify the exact costs and benefits these reform strategies will suppose. Furthermore, the fact that the methodology focuses on short-run constraints, may suppose the ignorance of long-run binding constraints that are potentially more relevant but haven't even been considered (Hausmann, Rodrik, & Velasco, 2006). Therefore, it ignores is more solving than preventative manner.

On the methodological aspect, Sartor (2007) draws attention to the absence of a formula for the framework, when most frameworks are applied on the basis of a scientific formula (Habermann & Padrutt, 2011). Leipzieger and Zagha (2006) criticize the fact that the framework merely provides hypotheses on binding constraints and does not use empirical tools to test them (Leipziger & Zagha, 2006). The real criticism lies in the uncertainty of the arbitrary and somewhat creative choice of the policymaker, that can only then be verified analytically (Habermann & Padrutt, 2011). However, Habermann and Padrutt (2001) argue that producing a scientific formula as a basis, would defy the purpose of this methodology. By not being bound to a scientific formula, the policymaker is able to elaborate a country specific diagnosis taking into account the context without being confined to a closed off approach.

Another limitation is choosing the best reform. If the policymaker is not careful, some reforms may negatively impact other constraints. This dissertation meticulously targets the most binding constraints that will have an overall best impact on other distortions and therefore mitigate the possibility of this limitation. Additionally, Rodriguez (2005) argues that instead of focusing on one most binding constraint that hampers economic growth, it is more efficient for policymakers to focus on two by half since more than one solution is needed to have an impact. He goes on by saying that even though neither constraint will be completely eliminated, under certain conditions, it is more favorable (Rodriguez, 2005).

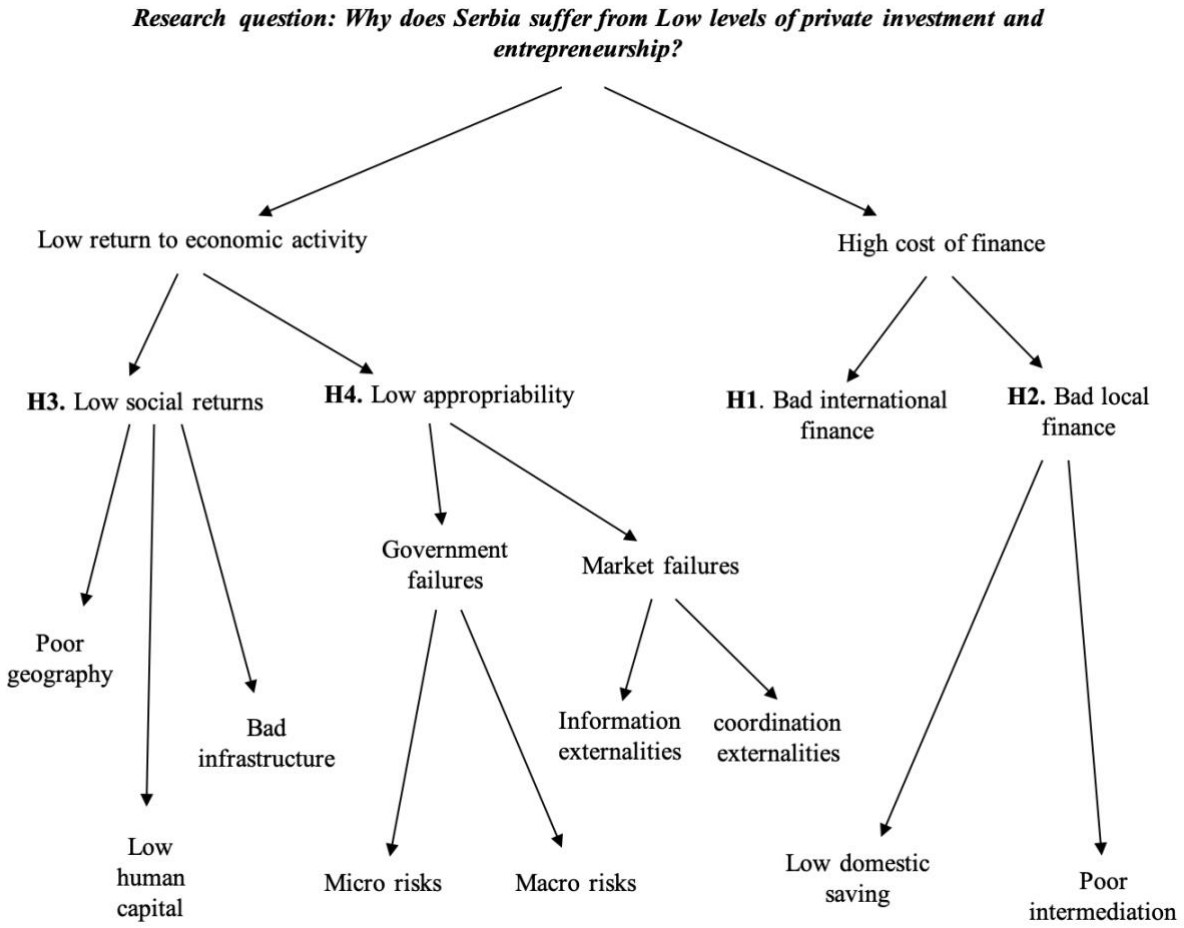
Similarly, Sachs as conveyed by Sartor (2007), argues that choosing the one most binding constraint may be effective for functional economies. However, in cases of very dysfunctional economies, this will not have a truly impacting difference (Habermann & Padrutt, 2011). Therefore, there should also be a country specific way for policymakers to choose what constraints they should tackle and how many. Nonetheless, Hausmann et al. (2005), do not specifically argue against alleviating multiple constraints at once, they merely raise the preoccupation that constraints that might be negatively interconnected or even constraints that cannot be financed at the same time, should not be eliminated simultaneously and that there is a certain chronology that must be imposed. This paper specifically makes sure to take into account the most binding constraints and whose policy recommendations not only positively impact these, but also may have positive rippling effects on other sectors.

Hausmann et al. (2005) identify levels of private investment and entrepreneurship as the principal determining driver to economic growth, or lack thereof. From there, the decision tree used for this framework branches out into more underlying symptoms of the diagnosis. Fernandez-Arias (2007) argues that this driver may be hiding relevant misallocations (Powell & Fernandez-Arias, 2007). However, Hausmann et al. (2008) argue that this driver from which the *Growth Diagnostics* framework is based on, reflects these underlying issues and is therefore an effective starting point (Hausmann, Wagner, & Klinger, 2008). Moreover, there is a general limitation to the *Growth Diagnostics* methodology which is the dependency on the data availability. Depending on the country, there will be an array of information available. This paper therefore takes into consideration the indicators whose data is available, abundant, and trustworthy.

Overall, the limits of *Growth Diagnostics* have been explored in a variety of publications and policy discussions, which illustrate continual attempts to refine and enhance the methodology for detecting growth restrictions. This paper specifically, although utilizing the *Growth Diagnostics* methodology attempts to mitigate the limitations or best handle them.

III.I Methodology

Figure 1: Growth Diagnostics decision tree



Source: (Hausmann, Rodrik, & Velasco, 2005)

Contemplating the assumption of the *Growth Diagnostics* methodology established previously, and by means of its decision tree framework, the country diagnosis takes place. As simple as it may seem, the decision tree allows the policymaker to conceptualize the methodology and serves as a guide to get to the binding constraints.

Each hypothesis coincides with one of the branches of the *Growth Diagnostics* decision tree. As depicted in figure 1, The decision tree bases itself on the research question which is "*Why Does Serbia suffer from low levels of private investment and entrepreneurship*?" From there on, it

branches out into 4 principal hypotheses: **H1**, **H2**, **H3** and **H4** elaborated in the previous section and depicted in figure 1.

H1, **H2** and their subsequent hypotheses are all associated with high cost of financing. **H1** based on bad international finance, is justified by an unattractive financial position internationally. **H2** based on bad local finance, is justified by an unattractive financial position internally, possibly linked to poor systems of domestic financial institutions.

H3, **H4** and their subsequent hypotheses are associated with low returns on economic activity. **H3** based on low social returns, is justified by poor geography, low human capital, and bad infrastructure. **H4** based on low appropriability, is justified by government and market failures. Microeconomic and macroeconomic risks come to play when looking into government failures, whilst information and coordination externalities are associated to market failures. Indicators associated to each hypothesis are analyzed and based on the conclusions, the hypothesis is accepted or rejected.

As previously mentioned, *Growth Diagnostics* and the decision tree framework displayed in figure 1 play an essential part in the methodology going forward. There will be an initial characterization to understand if Serbia does in fact have a development problem by looking at Real GDP and % GDP growth, comparing it to those of countries with similar characteristics. This characterization examines if Serbia's growth is stagnant, deteriorating, or if it has the potential to be in trouble in the future. With this general judgement, symptoms of this diagnosis need identification, which is where the decision tree and the subsequent hypotheses come to play.

Each branch will be broken down through the hypotheses **H1**, **H2**, **H3**, **H4** which will be answered through their respective sub-hypotheses. The acceptance or rejection of the sub-hypotheses and therefore the main hypotheses will assess whether they could be the underlying causes for Serbia's stagnant growth. Therefore, by meticulously accepting and rejecting the hypotheses, based on an exhaustive analysis of associated relevant economic indicators, binding constraints will be uncovered that attest to the research question. All of this is done to be able to formulate reforms and recommendations so that Serbia can reach the growth potential it deserves.

Regarding the stipulated time frame, this paper does not consider any data prior to the year 2000. Furthermore, in the occasion that Serbia needs to be compared to other countries for further substantiation of the analysis, the chosen ones are Hungary, Slovenia, Croatia, Romania, and Bulgaria, as well as upper middle-income countries when given the opportunity. The reason being these countries share similarities with Serbia in terms of region, population, demographics, size, history, and overall economy. The EU will also be used for comparison in certain instances such as comparing income inequality.

III.II Data

Data derived from institutional organizations and/or large databases that gather economic records from countries worldwide. All data for this investigation is used for the analysis of each hypothesis established in section II.III. All data is self-elaborated in the form of tables, graphs and charts for a clearer and more coherent understanding and analysis. Furthermore, for currency substantiated data, the chosen currencies are US$ and €, giving priority to the US$ when applicable.

V.I Data for the initial diagnosis.

Indicator	Source	Description	Used for	Figure
GDP (constant 2015 US$)-2000-2021	**WB**	Sum of all value added in the economy. Describes the change in the county's output, focusing on production levels over time and therefore removing the influence of prices rising due to inflation. Last price adjustment to inflation is 2015, as there is no earlier data available. Data expressed in US$	***Initial diagnosis***	*Figure 2*
GDP growth rate (annual%)-*Serbia 2000-2022*	**IMF**	Measured by the change in the volume of its output. this indicator represents GDP growth year-on-year parting from 2010 since the financial crisis impacted the growth of all countries.	***Initial diagnosis***	*Figure 3*

GDP growth rate (%CAGR)-*SCSRHB*[1] *2012-2022*	**World Economics**	It is a measure that calculates the average annual growth rate of an economy's GDP over a specific period, considering the compounding effect.	***Initial diagnosis***	*Figure 4*

V.II Data for high cost of finance

Indicator	Source	Description	Hypothesis	Figure
External balance on goods & services (Current US$)-Serbia 2000-2021	**WB**	(Net trade Balance) is the exports of goods and services subtracting away imports of goods and services (X-M)	**H1.1**	*Figure 5*
External debt stocks, total (DOD, current US$) billions– Serbia 2000-2021	**WB**	The total debt owed to nonresidents, whether it is currency or of goods and services. Both short-term, and long-term (publicly guaranteed/non) debt are included. It is the portion of Serbia's debt that is being borrowed from international lenders in current US$. This debt includes government debts, bank debts, financial institutions, all of which are foreign. Also, these loans include interest, in the currency in which the loan was originally made.	**H1.2**	*Figure 6*
Debt service on external debt (current US$)-Serbia 2000-2021	**WB**	The proportion of external debt that has been serviced/repaid	**H1.2**	*Figure 6*

[1] Serbia, Croatia, Slovenia, Romania, Hungary, Bulgaria

Net FDI (BoP, Current US$)-Serbia 2000-2021	**WB**	Represents the difference between the investment inflows coming from foreign countries to Serbia, and the investments of Serbia abroad. Negative net FDI shows more outflows of FDI than inflows.	**H1.3**	*Figure 7*
Official exchange rate (RSD per US$, period average) 2000-2021	**WB**	RSD relative to the US$ represented annually based on the monthly averages in that period.	**H1.4**	*Figure 8*
Gross domestic savings (%of GDP)-*SCSRHB* 2000-2022	**WB**	Gross domestic savings are calculated as GDP subtracting final consumption expenditure (total consumption). It indicates the proportion of a Serbia's income that is saved and not consumed.	**H2.1**	*Figure 9*
NPL-Serbia 2013-2023	**Credit bureau Association of Serbian banks**	Represents the Share of default in total bank loan debt as a % of total loans.	**H2.2**	*Figure 10*

V.III Data for low return to economic activity

Indicator	Source	Description	Hypothesis	Figure
Serbia exports and imports in agriculture and natural resources 2021	**Atlas of economic complexity**	Serbia's main imports and exports specially related to the agriculture, minerals, and metals.	**H3.1**	*Figure 11*
School enrollment in primary, secondary,	**EOCD**	The ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the 3 levels of education	**H3.2**	*Figure 12*

tertiary education (%gross) *2014-2021*				
Unemployment total (%of total labor force) (National estimate)- Serbia 2014-2021	**EOCD**	The share of the labor force that is without work but is actively seeking and available for employment.	**H3.2**	*Figure 13*
Unemployment and education (%of total labor force)-Serbia *2014-2021*	**EOCD**	The percentage of labor force with a basic (primary, lower secondary), intermediate (upper-secondary), and advanced (tertiary+) level of education who are unemployed.	**H3.2**	*Figure 13*
LPI-Serbia 2016-2018-2023	**WB**	Measures the efficiency and performance of Serbia's logistics and supply chain management, including customs, infrastructure, international shipments, logistics competences & equality, timeliness, and tracking & tracing. [1= low performance and 5= high performance]	**H3.3**	*Figure 14*
EODB score-Serbia 2020	**WB**	Assesses the absolute level of regulatory performance over time. Rank [1-190]: 1 being the country with best ease of doing business, 190 being the worst ranked country. Score [0-100]: 0 represents the lowest,100 represents the best performance.	**H4.1**	*Figure 15*

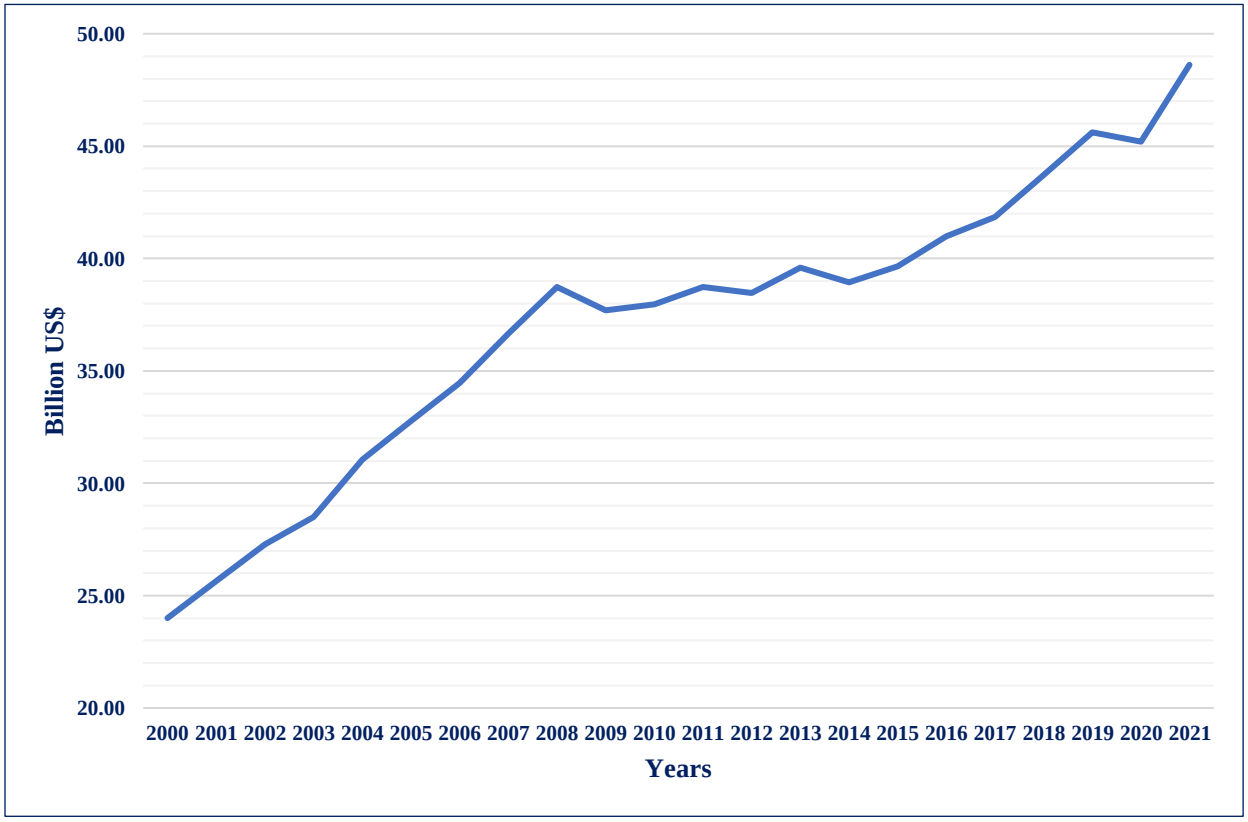
Fiscal balance (%of GDP)-Serbia 2012-2022	**NBS**	Serbia's revenue subtracting expenditures, as an annual percentage of GDP. When the government spends more than it collects it is considered a fiscal deficit.	**H4.2**	*Figure 16*
Tax revenue (%of GDP-Serbia 2012-2021	**WB**	The tax collected by Serbia's central government. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded.	**H4.2**	*Figure 16*
Government spending (%of GDP) 2012-2022	**Trading Economics**	The percentage of GDP that the government spends within Serbia's economy**.**	**H4.2**	*Figure 16*
Gini index-Serbia 2012-2020 *-EU 2020*	**WB**	Measures the extent to which income is distributed inadequately among individuals. Score [0-1]:1 shows a perfectly distributed income (perfect equality), whilst a range closer to 0, shows a large disparity between the income of individuals.	**H4.3**	*Figure 17, Figure 18*
CPI-Serbia 2012-2022	**Transparency International**	It ranks countries by their perceived levels of public sector corruption. Score [0-100]:0 means highly corrupt;100 means very clean. Rank [1-180]: 180 means highest corruption.	**H4.4**	*Figure 19*
R&D expenditure (%of GDP)-Serbia 2016-2021	**Statistical office in the republic of Serbia, WB**	Serbia's current and capital expenditures on creative work undertaken systematically to increase knowledge, including knowledge of humanity, culture, and society.	**H4.5**	*Figure 20*

ECI- *SCSRHB* 2011-2021	**OEC**	It captures the diversity and sophistication of a country's exports, meaning the ability to produce and exports more complex products with high knowledge and skills. It reflects the ability of firms to coordinate their production in these goods. [0= less complex products and 5= more complex products]	**H4.6**	*Figure 21*

IV. RESULTS

IV.I Initial diagnosis.

Figure 2. GDP (constant 2015 US$)-Serbia

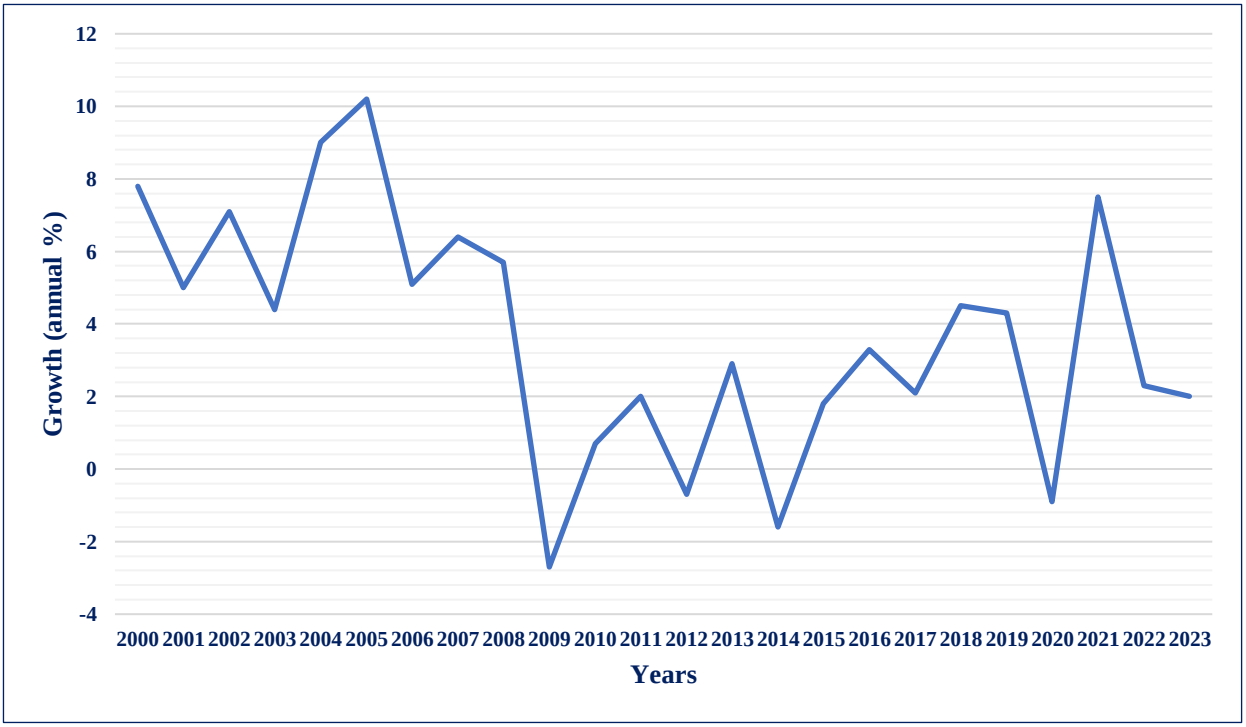


Source: The World Bank

As depicted in figure 2, Serbia's GDP seems to be performing well overall, especially from the year 2000 to 2008 where its growth was quite stable, amounting to 38,74 billion $. However, from 2008s global financial crisis until 2016, Serbia's GDP was quite stagnant and unstable. From there on out, its GDP has been relatively constant and growing. More recently, from 2019 to 2020 there was a decrease in GDP which can be attributed to the pandemic. In 2021, Serbia found itself in a period of increasing GDP standing at 48,62 billion US$.

Overall, figure 2 shows that Serbia's Real GDP is overall growing however its growth may not be.

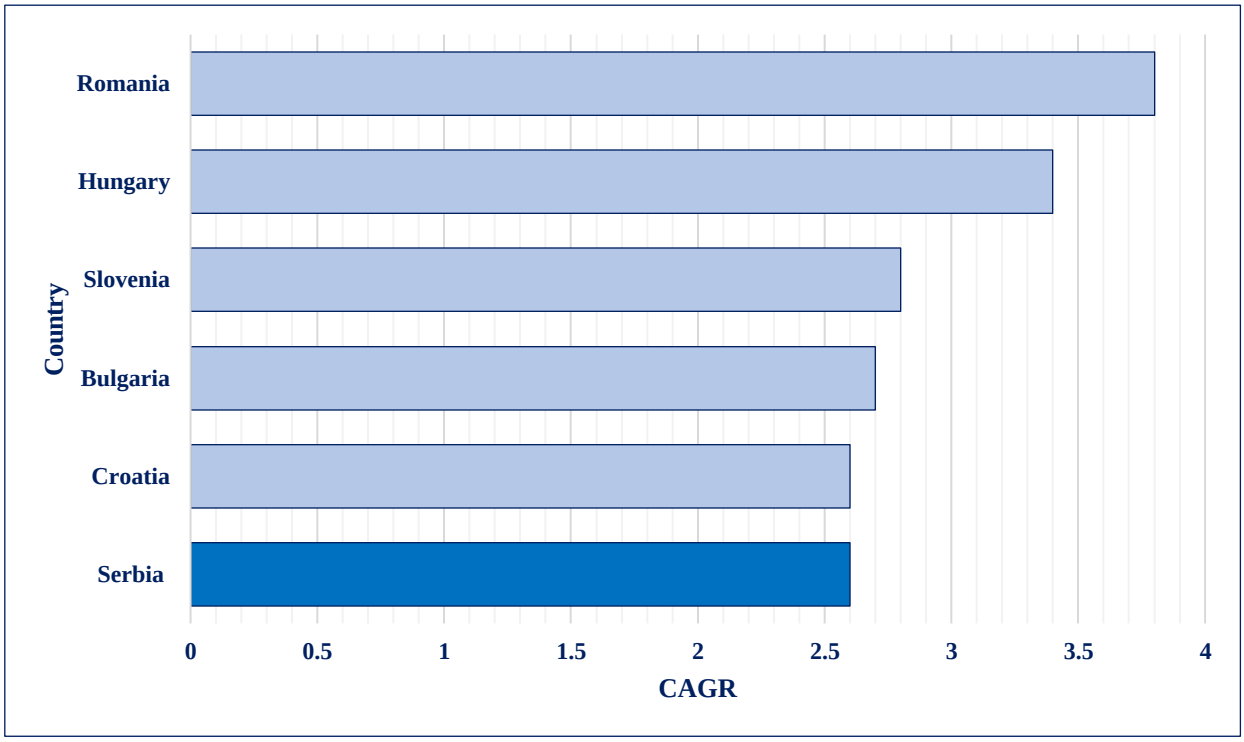
Figure 3. Real GDP growth (annual%)-Serbia



Source: International Monetary fund

Looking into the actual % of GDP growth year-on-year as depicted in Figure 3, we see that Serbia's growth has heavily fluctuated from 2000 to 2023. Serbia's, political and economic turmoil, especially the bombing in the late 90s explains its erratic behavior from 2000 to 2005. From 2004 to 2005 growth increased to 10%. However, this was short lived, when growth started slowing down, and quickly began to diminish, reaching once again a negative growth of -2,7% in 2009. It is relevant to note that the financial crisis during that period played a role in this drop. Since then, Serbia's GDP growth has not managed to fully recover and has even faced periods of apparent instability. % GDP Growth has managed to go back to positive figures from 2020 to 2021, amounting to 7,5%. However, from 2021 to 2023, growth has diminished radically, standing at 2,3% as of the latest data. This decrease could have been caused due to the pandemic and recent war. Overall, Figure 3 demonstrates that although GDP in Serbia is rising, its growth is unstable and very sensitive to changing economic conditions.

Figure 4.GDP growth rate (%CAGR)-SCSRHB (2012-2022)



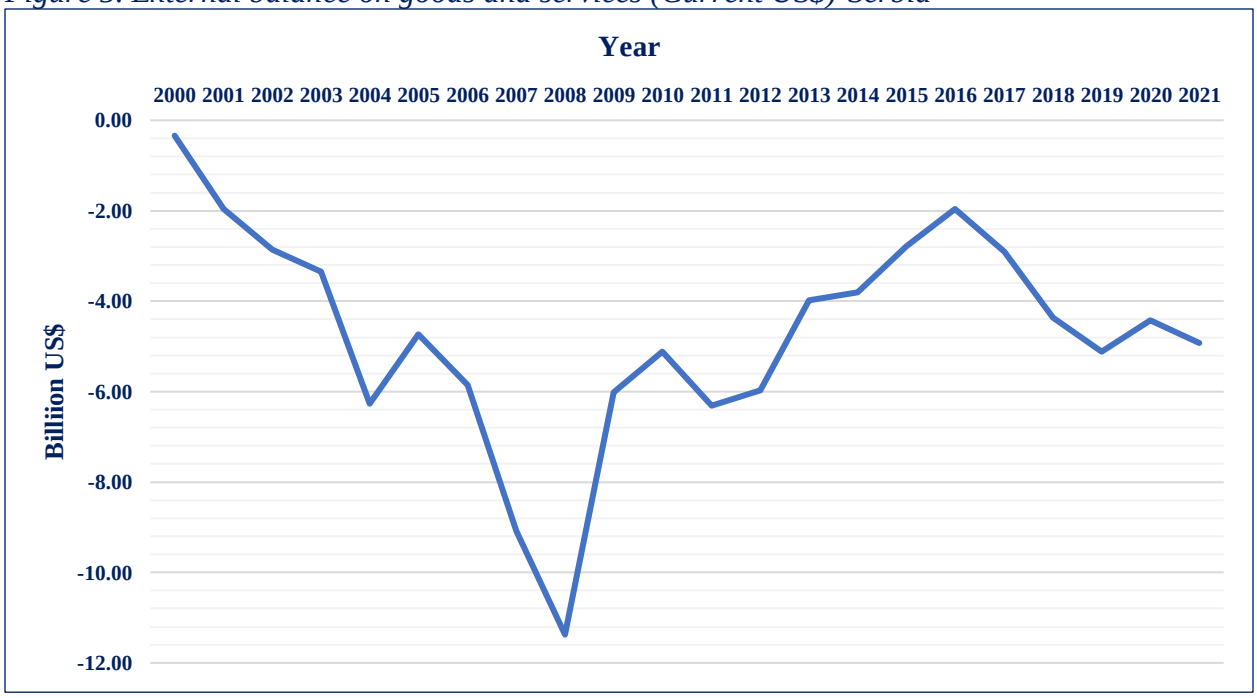
Source: World Economics

As depicted in figure 4, Serbia's compound annual growth in the last 10 years, has been the lowest amongst its similar countries aside from Croatia, standing at 2,9. Overall, figures 3 and 4 show that Serbia's annual growth trajectory is erratic and proportionately slower than other countries, raising alarming signals that its economy has and may be suffering.

After this contextualization, we have obtained an initial diagnosis that Serbia is struggling in its development. Now we analyze the reasons behind Serbia suffering from low levels of private investment and entrepreneurship. Thereby answering our research question using the decision tree and its respective established hypotheses **H1**, **H2**, **H3**, and **H4** to identify the symptoms of this diagnosis.

IV.II High cost of finance

Figure 5. External balance on goods and services (Current US$)-Serbia



Source: The World Bank

As depicted in Figure 5, Serbia has an ongoing net trade balance deficit. This means Serbia is an overall net importer, spending more on imports than it is earning from exports, leading to an overall trade balance deficit, and thereby illustrating a value below 0.

figure 5 demonstrates that Serbia has constantly been a net importer. There have been moments where this deficit was decreasing, and others when it was intensifying. From the year 2000 until 2008, Serbia has progressively imported more than it has exported. This can be explained by the breakup of Yugoslavia and Serbia becoming a newly independent nation with need for external help in goods and services. From 2008 to 2010 due to the financial crisis impacting all countries including Serbia's main trade partners, the deficit decreased by a significant amount from -11,37 to -5,10 billion US$, though it remained negative. From 2010 until 2016, Serbia seemed to have continued reducing some of the deficit which may have been due to the depreciation its currency faced, making imports more expensive and exports cheaper. However, this was not enough to alleviate the entire deficit it was facing as it was still at -1,96 billion US$. From 2016 to more recent years the deficit has once again augmented. In 2021, Serbia's trade deficit was of -4,92

billion US$.

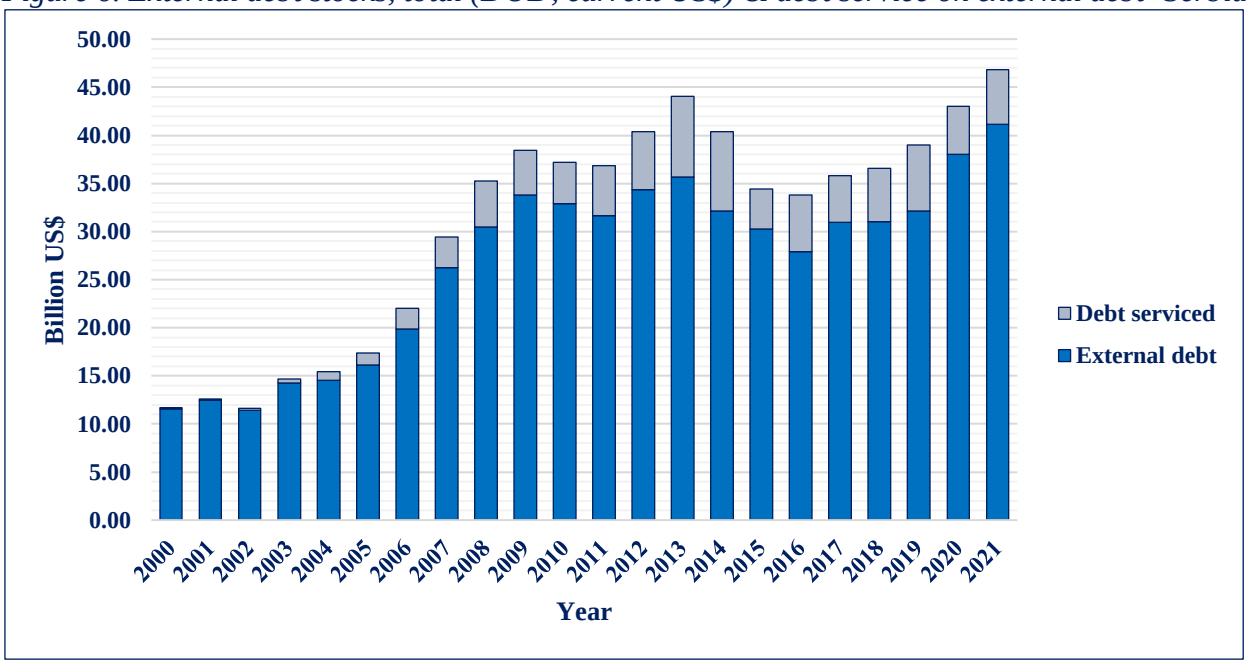
Serbia's trade deficit may be appointed to the fact that its exports are not successful in competing to those of other countries. Also, Serbia remains very dependent on imports from international markets in goods such as petroleum, consumer goods and raw materials, all of which Serbia lacks [2]. Likewise, these imports could be considered necessities. Serbia does not have the capabilities to produce these necessities and therefore, relies on imports to attain them. Furthermore, Serbia in general hasn't diversified their exports by adding or exporting very technologically advanced products, which overall makes them less attractive to foreign countries. Additionally, we have seen that Serbia's services make up for more than half of the country's GDP. Meaning there really is a very small amount they can export, which may be a reason why its export portfolio is very week and not diversified at all. It is relevant to mention that Serbia does not belong to the WTO, though it has made an effort to accommodate to its requirements, such as tackling tariff and non-tariff barriers, eliminating quotas on imports, reducing import prohibition and bettering customs processes; all of which have impacted imports being higher than exports (International trade administration, 2022).

Besides the obvious impact on economic growth, this ongoing trade deficit may have some negative retributions for Serbia. Being too dependent on international markets makes Serbia vulnerable if there is a financial crisis or a war between one of its main exporters, much like today's situation with Russia. An increase in foreign debt is also a consequence, as Serbia will somehow need to make up from the deficit, usually by borrowing from other countries. Also, having a negative trade balance could potentially lead to the long-term loss of domestic jobs and/or many businesses could close. However, this issue is not very relevant for Serbia since it mostly imports goods it can't produce.

Having analyzed figure 5 we can accept **H1.1** that *Serbia's continuous balance deficit weakens its international financing position*. Therefore, we identify Serbia's external balance deficit as a binding constraint.

[2] For more information on Serbia's specific imports & exports visit: https://oec.world/es/profile/country/srb

Figure 6. External debt stocks, total (DOD, current US$) & debt service on external debt- Serbia



Source: The World Bank

Figure 6 shows Serbia's exponential external debt over the last decade. Serbia was very economically unstable towards the beginning of the new millennium due to former Yugoslavia's collapse, and the events that followed it. This involved a significant amount of international financial support to aid in Serbia's recovery which explains the significant increase in external debt from 2002, up until 2009. Until then, debt was minimally being serviced. The 2008 financial crisis, and an overall hesitation of countries, is reflected in the fluctuation and shrinking of external debt in that period. This brief lapse in external debt was short lived, as it began to escalate once again from 34,36 billion US$ in 2012 to 35,64 in 2013. However, this time more of it was being serviced. From this point, recovery seemed optimistic as external debt diminished, however only until 2016. Since then, net debt has augmented, standing at 41,14 billion US$ from the last available data. There is a clear inefficiency in Serbia given that its external debt is almost as large as the country's GDP.

There are several factors that contribute to Serbia's ongoing external debt position. As seen in figure 5, Serbia has had a consistent trade deficit, meaning it imports far more than it exports. to pay for these imports, Serbia has been buying large amounts of foreign currency, which has led to an increase in external debt. It is also important to note that Serbia is one of the few countries in the European region that has not adopted the € and is therefore not part of the eurozone. Despite

having multiple trade agreements with the EU, it has caused a toll on its exchange rate transactions. Serbia has been trying to buy a large amount of € to be able to cover the number of imports it acquires, which are a significant amount.

Increasing levels of external debt are essentially doing more damage than good to Serbia. First, a very small part of the external debt is being serviced. Serbia owing in debt almost the same amount of its GDP is alarming. By paying back these debts, Serbia will have to lower, or even give up the internal financing of its economy, especially in the fiscal aspect.

Having analyzed figure 6 we can accept **H1.2** that *Serbia's increasing external debt and inability to service it weakens its international financing position*. Therefore, we identify Serbia's external debt as a binding constraint.

Figure 7. Net FDI (BoP, Current US$)-Serbia

Source: The World Bank

Foreign direct investment (FDI) plays an essential role in a country's economic development, especially in terms of technology transfer and financing. One can tell how attractive a country is by its amount of Net FDI.

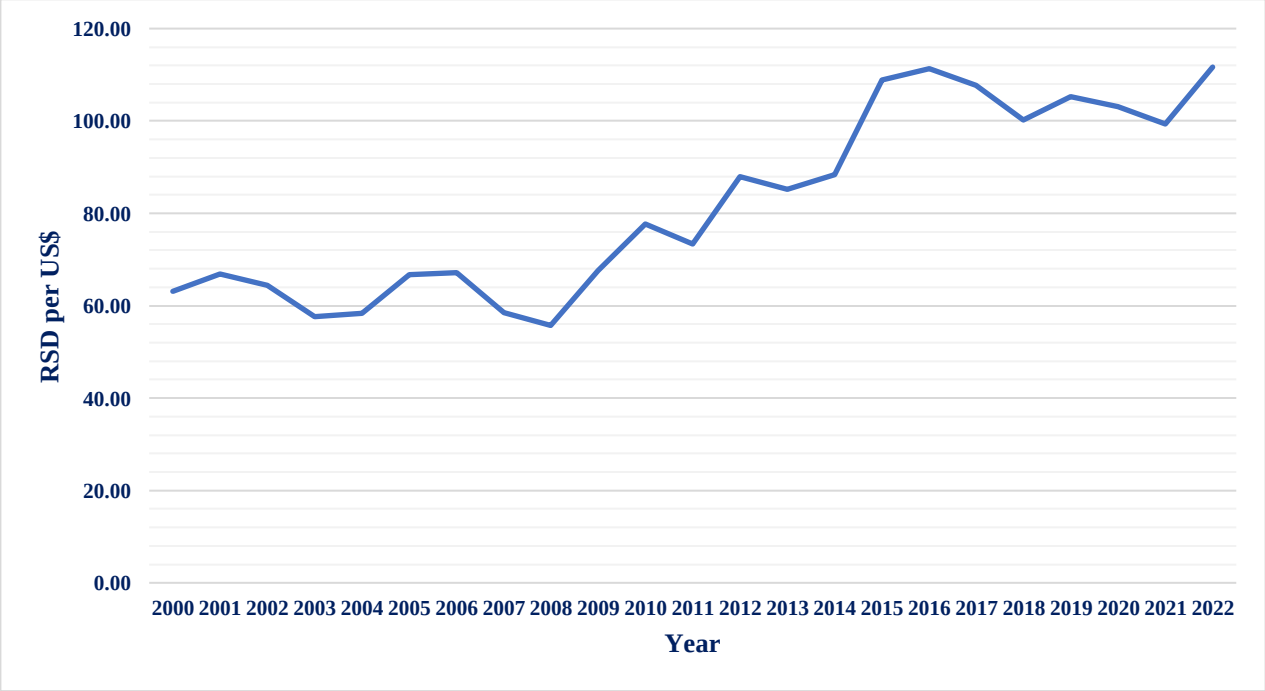
Figure 7 clearly illustrates Serbia's attractiveness in foreign markets or lack thereof, throughout the years. From the last recorded data, Net FDI has been negative, and even more in recent years.

This means that Serbia's FDI inflows are less than its outflows. From 2008 to 2011, net FDI has fluctuated quite a lot, having faced a great downfall in 2011 that amounted to -4,62 billion US$. This means that not enough FDI was coming into Serbia. There was a temporary upsurge of FDI from 2011 to 2012. However, this was short-lived. Since 2012, net FDI has progressively diminished. From the last recorded data, Serbia faced a net FDI value of -4.3 billion US$ in 2021 and has decreased even more since.

Serbia political instability throughout the years may be a reason why foreign investors are hesitant to enter Serbian markets. Likewise, Serbia's inefficient government, especially in decision making and law enforcement is another reason for inflow deficiencies. Also, Serbia not being part of the EU may be a contributing factor since countries belonging to this group are more likely to invest within each other. Furthermore, Serbia is susceptible to exchange rate volatility and therefore risk, which is not a favorable condition for foreign investors.

Having analyzed figure 7 we can accept **H1.3** that *Serbia's progressively negative net FDI weakens Serbia's international financing position*. Therefore, we identify Serbia's Net FDI as a binding constraint.

Figure 8. Official exchange rate (RSD per US$, period average)-Serbia



Source: The World Bank

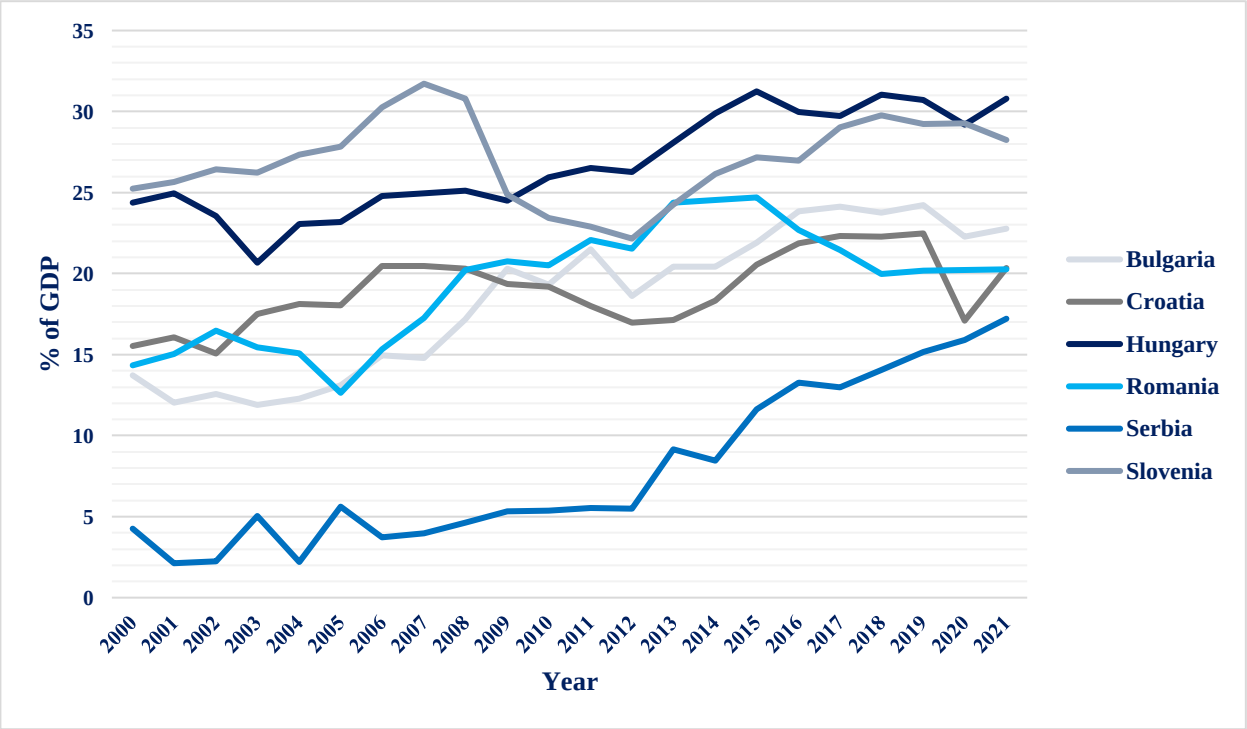
Figure 8 shows that Serbia's currency has always been weaker relative to the US$. Over the years, the RSD/US$ exchange rate has fluctuated. From 2000 to 2008, although the exchange rate was quite unstable; it was still stronger than what it is today. From 2008 until 2015 there was an overall depreciation of the RSD against the US$, meaning its currency was weakening over the years. In a Depreciation, like the one depicted from 2008 to 2015, an individual now needs more RSD to buy one US$. In the last couple of years, from 2016 onwards, Serbia's currency has been appreciating against the US$, except for 2019 where it depreciated again. A currency appreciation means that the RSD has become stronger. Before, in 2019 you needed 105 RSD to buy 1 US$. In 2021 the RSD appreciated against the dollar to 99,4. Since then Serbia's currency has depreciated to 111,6 in 2022, the weakest it has been since 2000.

Despite this strengthening in the last couple of years, the RSD continues to be a very weak currency against the US$. Serbia's weaker currency makes exports cheaper and imports more expensive. However, figure 5 depicts an external balance deficit which comes to show that the exchange rate is not the underlying problem to Serbia's trade deficit, but more so its dependency on imports. The exchange rate can also have an impact on external debt, as the value of Serbia's debt may increase if its currency is weaker relative to its debt providers. The relationship between both can be seen, as external debt in figure 6 grows in line with its currency depreciation over the years. Serbia having a weaker currency does has negative effects on FDI, which explains the deficit seen in figure 7. This is because investors worry about the instability of the currency and may therefore be reluctant to invest in Serbia.

Having analyzed figure 8 we can accept **H1.4** that *Serbia's weak currency weakens its international financing position.* Therefore, we identify Serbia's currency as a binding constraint.

H1.1, **H1.2**, **H1.3**, and **H1.4** have been accepted. Based on these results, the research hypothesis **H1** is confirmed being that ***Serbia suffers from bad international finance and therefore high cost of finance***. Therefore, Serbia's weak currency, ongoing external deficit, high external debt and negative FDI are all biding constraints that affect its cost of financing and therefore low levels of private investment and entrepreneurship.

Figure 9. Gross domestic savings (% of GDP)-SCSRHB



Source: The World Bank

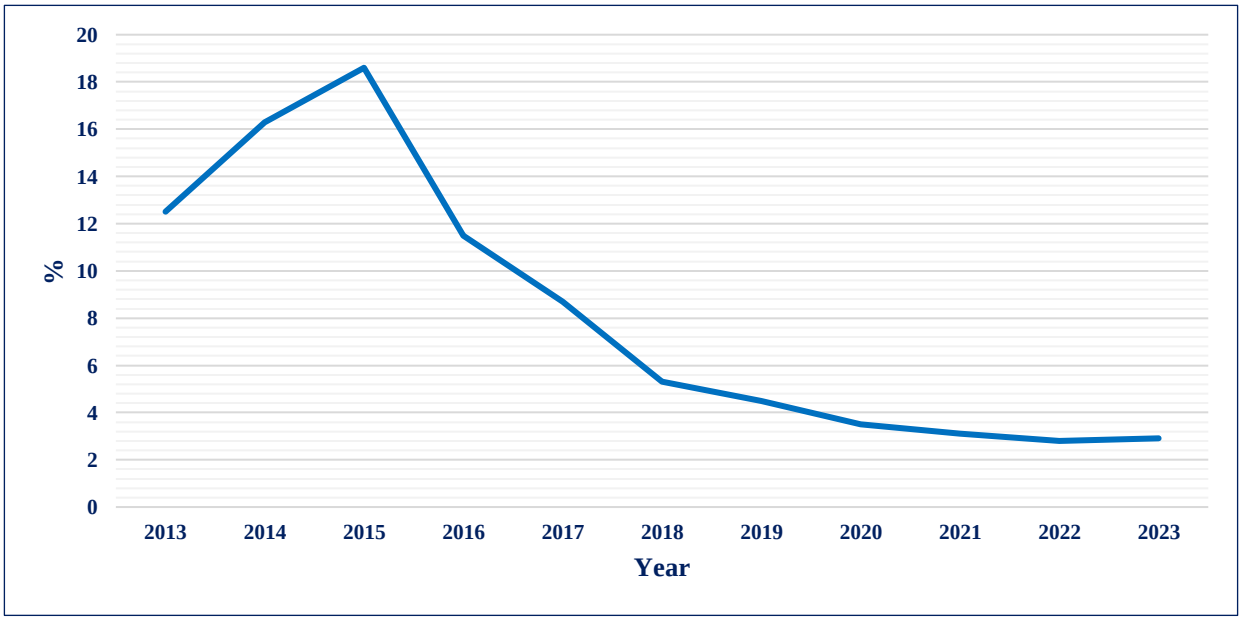
Figure 9 explicitly shows how Serbia's gross domestic savings (GDS) as a % of GDP are continuously lower in comparison to SCSRHB. By simply observing Serbia, figure 9 depicts that its savings have progressively increased over time. From 2000 to 2005, savings fluctuated a significant amount. The new era for Serbia, the uncertainties about its economic future as a newly independent nation as well as the transition from a socialist to a market-based economy, explain this erratic behavior. From 2005 to 2012 savings remained stable, even amounting to 5,3% of GDP. Since then, Serbia's savings have exponentially increased, standing at 17,2% of GDP, according to the last available data. During this period, Serbia underwent fiscal consolidation, reducing wages and pension plans, which also explains increased savings. More recently the COVID 19 pandemic as well as the conflict between Ukraine and Russia, have encouraged more savings. A decreased domestic consumption and lower energy prices attribute the 2020 increase in savings (National bank of Serbia, 2023). Despite the most recent increase in savings, they are still lower than the countries depicted in figure 9.

Low domestic savings can be threatening for individuals in an economy. Having low savings puts Serbia and its agents in a vulnerable situation, not being able to resort to them in a case of sudden

economic downturn. Furthermore, investments in Serbia are funded by domestic savings. If there is low saving it will reflect on the amount and quality of investments. Also, since savings in Serbia appear to be inefficient in funding investments, its high external debt depicted in figure 6 can be partly attributed to this constraint.

Having analyzed figure 9 we can accept **H2.1** that *Serbia's low gross domestic savings compared to regional nations, weakens its local financing position*. Therefore, we identify Serbia's inability to save a binding constraint.

Figure 10. Non-performing loans (share of default in total bank loan debt)-Serbia



Source: Credit bureau Association of Serbian bank

Kuzmanovic & Sanfey (2014) discussed Serbia's high incidence of non-performing loans (NPLs). However, the antiquity of the study makes this indicator revisable. As depicted in figure 10, the available data from 2013 shows that until 2015, there was a high share of defaults in loan debt, amounting to 18,6%. The main reason for the high incidence in NPLs was the negative impact of the financial crisis as well as the low liquidity within the corporate sector and low household cashflows (Ristanovic & Mirkovic, 2017). After 2015, the NBS began making some reforms including banking supervision, implementing accounting standards, and the disclosure of asset quality, all of which contributed to the decrease in NPLs (National Bank of Serbia , 2018). Today it stands at 2,9% in 2023, a 0,1% difference from 2022, the record low for Serbia. A high incidence

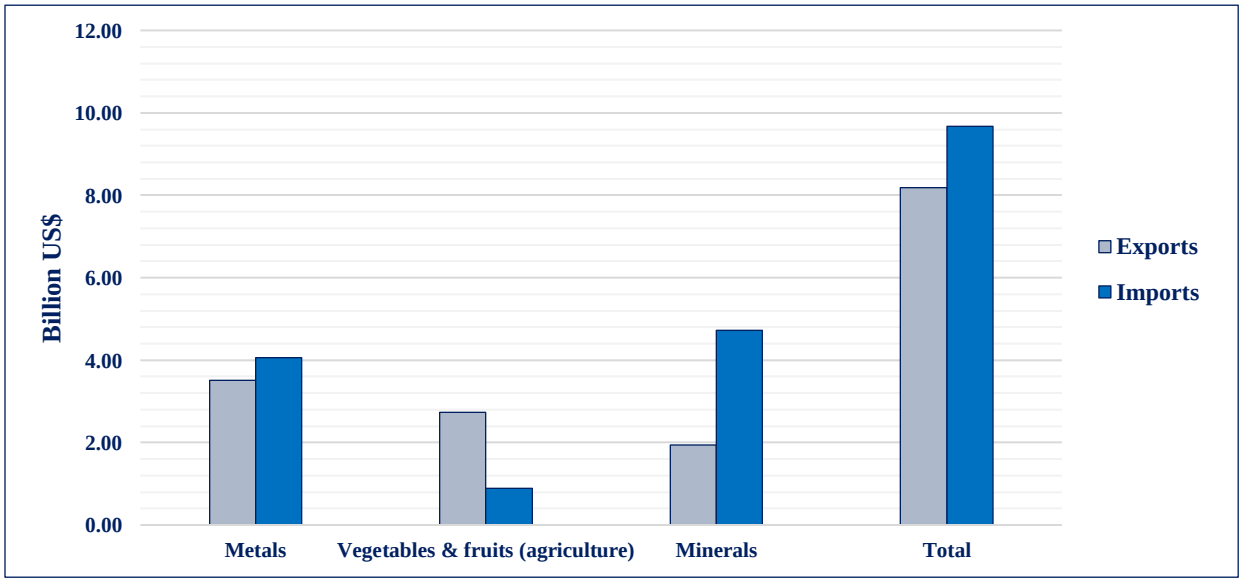
of NPLs can reduce lending capacity by banks as inflows from other loans serve to finance new ones. Furthermore, there is also a loss of confidence in banks stability and debtors.

Having analyzed figure 10 we can reject **H2.2** that *Serbia's high's incidence of NPLs, are one of the main problems in the banking sector*, weakening its local financing position as Serbia has managed to correct the defaults.

H2.1 has been accepted whilst **H2.2** has been rejected. Based on these results, the research hypotheses **H2** is confirmed being that ***Serbia suffers from bad local finance and therefore high cost of finance***. Therefore, Serbia's low GDS is a biding constraint that affects its cost of financing and therefore low levels of private investment and entrepreneurship.

IV.III. Low return to economic activity

Figure 11. Exports & imports in agriculture, metals, and minerals 2021 (billion US$) -Serbia



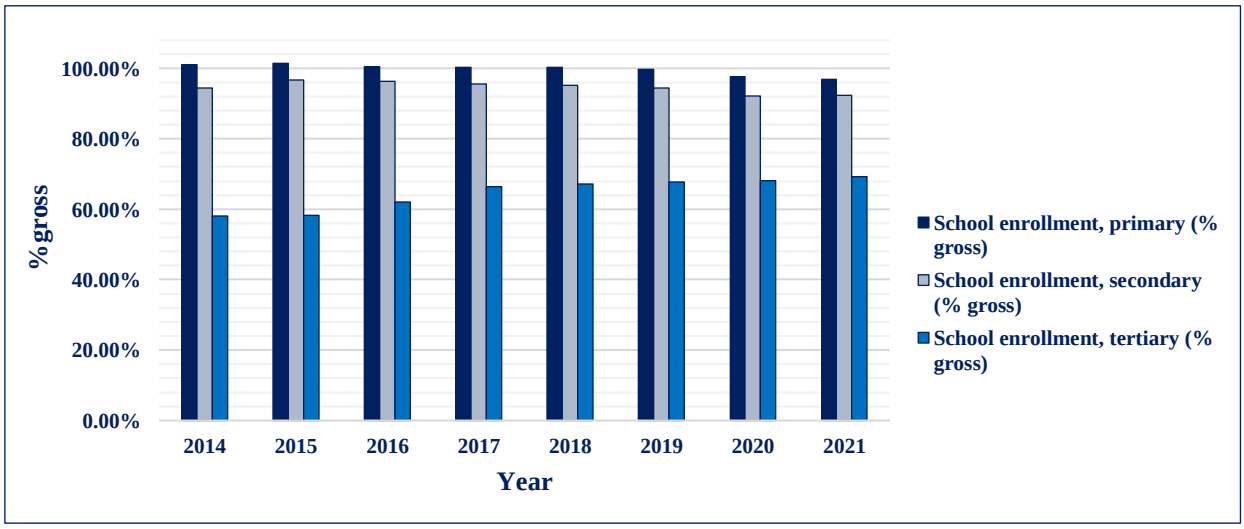
Source: OEC

Figure 11 depicts Serbia's imports and exports in agricultural products, metals, and minerals from 2021. These three baskets of products are used to analyze whether Serbia has the capacity to produce or must therefore import them from aboard. As portrayed in figure 11, Serbia imports more of these products in total amounting to 9,67 billion US$ vs the 8,18 billion US$ that it exports. Breaking total exports into minerals, metals and vegetables & fruits, there are differences in each group. Starting with metals, in 2021 Serbia imported half a billion US$ worth of metals

than it exported, alluding to its geographical incapacity. However, this difference is not significant. Figure 11 also depicts that Serbia exports far more than it imports in vegetables and fruits. We can therefore conclude that Serbia does not have the inability of producing agricultural products. On the other hand, we also see that Serbia imports far more minerals such as petroleum and iron ore, having a difference of almost 3 billion US$. This comes to show that Serbia is substantially dependent on external trade in minerals and metals though it excels in exporting agricultural products. This dependency on certain necessity goods could affect its continuous trade deficit which is depicted in figure 5.

Having analyzed figure 11 we accept part of **H3.1** that *Serbia imports more minerals and metals than it exports explaining its poor geography and therefore low social returns*. However, we reject that it imports more agricultural products like fruits and vegetables. Therefore, excluding agricultural products, we identify Serbia's geographical capacity as a binding constraint.

Figure 12. School enrollment in primary, secondary, tertiary education (%gross)-Serbia

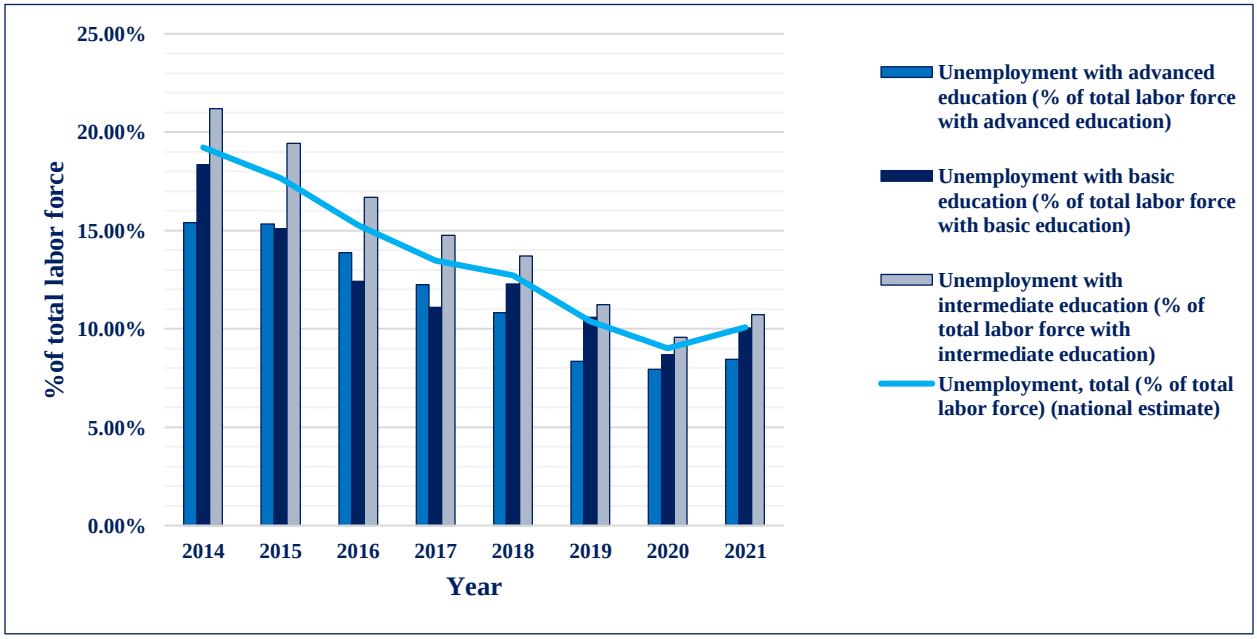


Source: OECD

Figure 12 represents Serbia's school enrolment in primary, secondary and tertiary education as a % of the population age that corresponds to each category. As depicted in figure 12 we can see that school enrolment in the 3 educational levels has remained relatively steady from the first recorded data in 2014 until 2021. We can however identify different trends. With regards to primary enrollment, we see that the percentage of population age corresponding to the level has diminished over time, however not by a significant amount. From 2019 onward the % of school

enrollment in primary decreased below 100%. Which can be acclaimed to a demographic decline in population, specifically due to fertility rates (OECD, 2020). Though since the difference is not large, we cannot deem this an issue. With regards to school enrolment in secondary education, figure 12 illustrates that it has remained within the 90% range, and even increased from 2020 to 2021. The fluctuation in secondary enrollment may be acclaimed to the government allocating the least amount of spending on this level of education (OECD, 2020). Tertiary enrollment although, significantly lower due to high private costs, has seen an exponential increase from 2014 to 2021, the difference being 10%. The increase can be acclaimed to more government expenditure on this level, and an expanded access to it. Based on figure 12, we cannot deem educational quality as a binding constraint to low social returns. Therefore, we need more proof.

Figure 13. Unemployment, total (National estimate) and Unemployment & education (%of total labor force)-Serbia



Source: OECD

Figure 13 depicts not only unemployment as a % of total labor force but also unemployment in basic, advanced, and intermediate education. At first sight we see that unemployment in the 3 levels of education grows or diminishes in accordance with the total level of unemployment. Figure 13 shows the overall decrease in Serbia's unemployment since the first recorded data. However, we must note that it is a national estimate and must therefore be considered with precaution. The

decrease in unemployment rate from 17,66% in 2014, to 9% in 2020 is attributed to more job creation with the help of the ILO, which Serbia is a part of. Furthermore, the decrease can also be attributed to much of the working age population leaving abroad to seek employment (OECD, 2020). Nevertheless, unemployment has increased from 2020 to 2021 possibly as a consequence of global economic issues, which other countries have also suffered from.

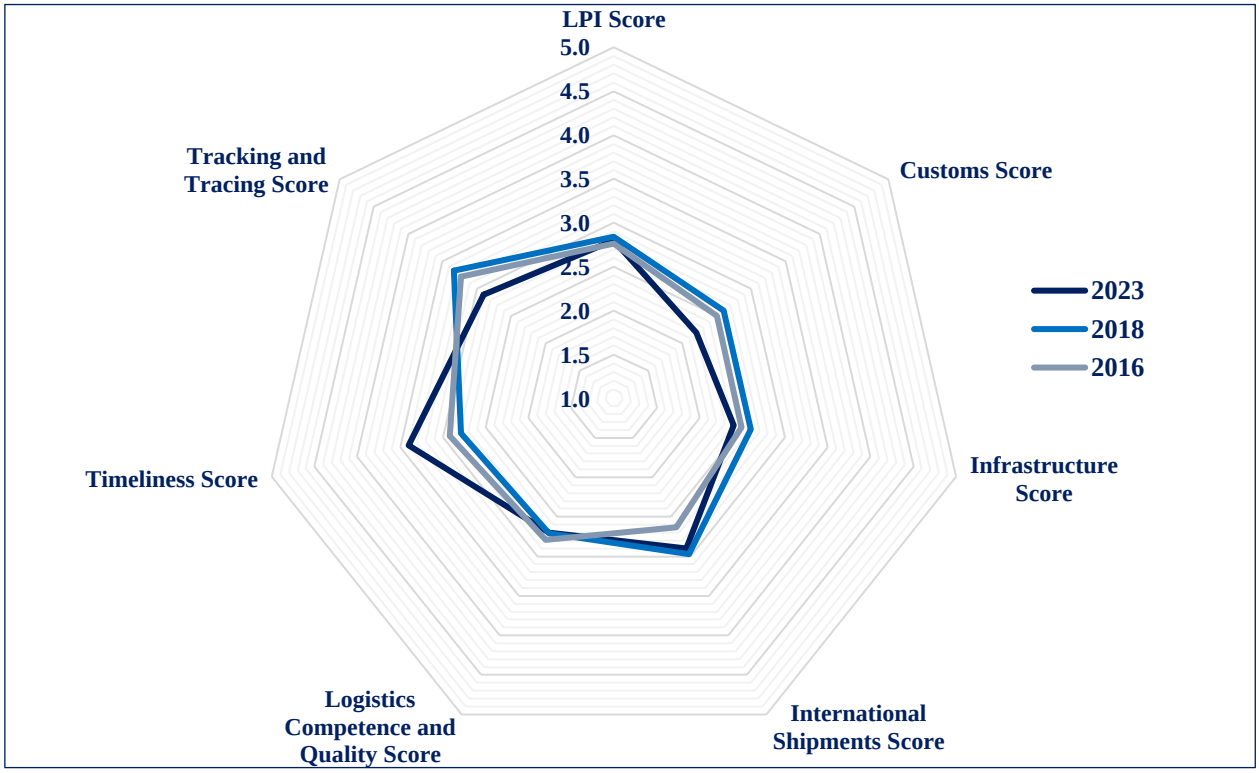
Figure 13 also illustrates higher unemployment within intermediate education, than unemployment with labor force participants that have a basic educational attainment. This shows some nuances within the labor market, specifically in skills mismatches, and possibly overqualification within groups of intermediate education who may not take jobs due to them being overqualified. Therefore, out of 19,22% of unemployment in the labor force in 2014, 22% are individuals with intermediate education. Through the years, the percentage of labor force with intermediate education who are unemployed decreases, however consistently remaining above the other levels.

Regarding unemployment with advanced education, these individuals have the least unemployment rate overall. However, from 2015 to 2017, these were higher than unemployment with basic education. In 2016 specifically, unemployment with advanced education was higher than basic education by almost 2%. Unemployment has overall decreased. However, it is odd for Serbia's economy to have higher unemployment with intermediate and advanced education than basic education, which alludes to low human capital. Despite this, Serbia has since managed to correct at least the difference between unemployment in advanced education and basic education.

This failure in human capital can lead to unemployment increases in the future, poverty, and negative implications for the government such as opportunity cost and fiscal challenges including reduced tax revenue and increases spending.

Having Analyzed figures 12 and 13 we reject part of **H3.2** that *Serbia's growing unemployment contribute to its low human capital, and therefore low social returns*. However, we accept that there is an issue with Serbia's educational system in the labor force. Therefore, the relationship between education and the labor force is a binding constraint.

Figure 14. Logistics Performance Index (LPI)-Serbia [1-5]



Source: The World Bank

The Logistics Performance Index (LPI) of a country shows higher performance when the score is closer to 5 and the rank is closer to 1. As clearly depicted in Figure 14, Serbia's LPI score has remained quite steady by looking at the stipulated time frame[3]. In 2016, Serbia was ranked 76 out of 139 countries, showing a score of 2,76. In 2018 Serbia's LPI improved to 2,84 and its rank decreased to 65, exhibiting an increase in performance. In 2023, the score declined by 0,4 points since 2018 and now ranks 73rd meaning that Serbia's efficiency in logistics and supply management has worsened since 2018. Within figure 4, we are only considering the infrastructure score as it shows direct relation to the hypothesis being tested (**H3.3**). In figure 14, we can see that infrastructure has decreased in 2023 compared to both 2016 and 2018. In 2016 Serbia's infrastructure scored 2,49, ranking 85 against other countries. However, in 2018, the score increased to 2,6 with its rank improving to 74. This was short lived as 2023 supposed Serbia's lowest score of 2,4 and therefore performance in this category. Serbia now stands at 89th rank,

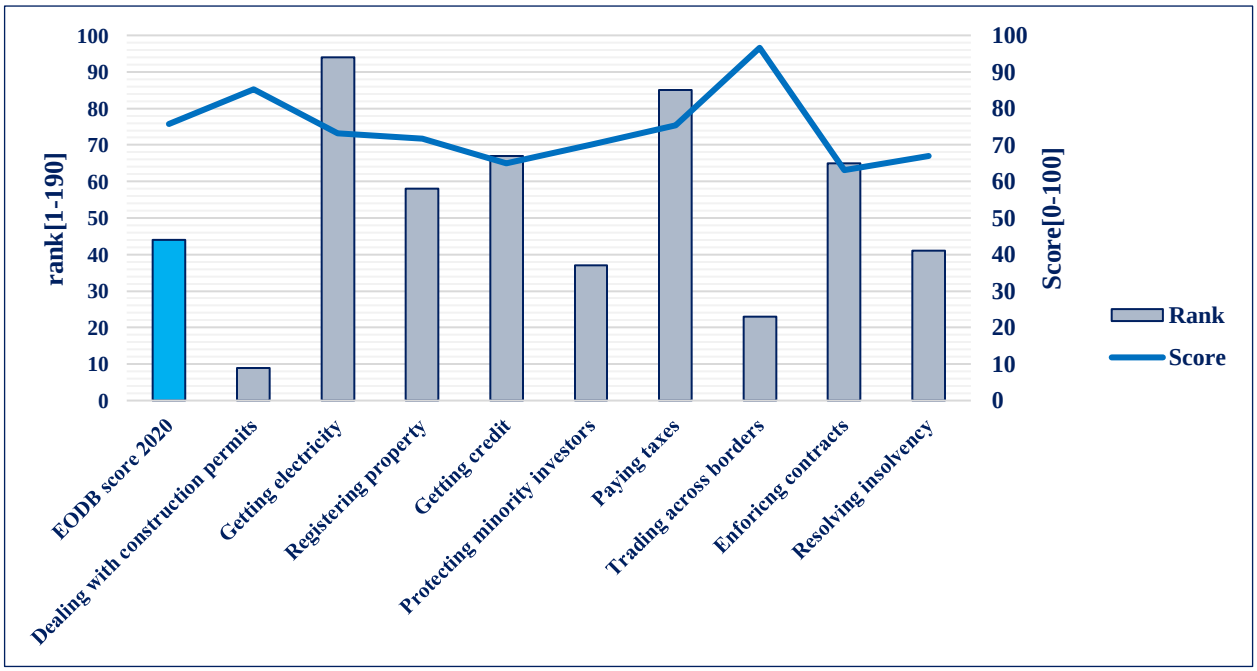
[3] For more information on Serbia's LPI visit:
https://lpi.worldbank.org/international/scorecard/radar/C/SRB/2023/C+SRB+2016+C+SRB+2018

positioning itself within the top 50 countries with worst performance in the category. Serbia is situated to have excellent connections with the Middle East and Western Europe. Therefore, its infrastructure should reflect this opportunity. There have been massive investment plans on infrastructure by US companies (International trade administration, 2022). However, underfunding in infrastructure prevails, which explains Serbia's decrease in score.

Having Analyzed figure 14 we accept **H3.3** that *Serbia's poor infrastructure score in LPI explains its bad infrastructure, and therefore low social returns.* Therefore, we identify Serbia's poor infrastructure as a binding constraint.

Part of **H3.1** and **H3.2** have been accepted whilst **H3.3** has been accepted in its entirety. Based on these results, the research hypotheses H3 is confirmed being that ***Serbia suffers from low social returns, and therefore low returns to economic activity.*** Therefore, Serbia's inability to efficiently reduce minerals and metals, education nuances in labor force and poor infrastructure are all biding constraints that affect its low return to economic activity and therefore low levels of private investment and entrepreneurship.

Figure 15. Ease of doing business (EODB) 2020-Serbia [0-100]



Source: The World Bank

Figure 15 depicts Serbia's ease of doing business[4] (EODB) overall score and rank, as well as its individual parameters. Starting off with the EODB total score from the las recorded data in 2020, Serbia Ranked 44th out of the 190 countries examined. Therefore, only by assessing its rank we can conclude that Serbia is amongst the top 50 countries with best business regulation and enforcement. Furthermore, from 2019 to 2020, Serbia's overall score increased from 73,9 to 75,7, a 1,8-score growth. This demonstrates that Serbia has taken outstanding efforts to be ranked 44th and is pushing the boundaries to improve regulatory performance. If we break down this score, we can specifically address the most outstanding areas that attribute to Serbia's respectable score.

With regards to dealing with construction permits, Serbia ranked 9th out of 190 countries, attaining a score of 85,3. Specifically for its 2020 score, Serbia implemented a new online portal and reduced administrative fees, making dealing with construction permits easier (World Bank, 2020). Furthermore, Serbia scored 73,2 in getting electricity. Serbia has collaborated with the EBRD on electricity projects and has improved reengineering substations, installed remote control systems and improved grid maintenance, all of which impacted its score (World Bank, 2020). Despite this, it ranked 94th, which is high compared to the rest of the countries. However, this does not mean Serbia is weak in this parameter only the other countries excelled more and thereby ranked better.

In terms of registering property, although Serbia scored below the previous parameter, it ranked 58th against other countries. Its score of 71,8 is attributed to Serbia's effectiveness in terms of procedures, time, and low costs. Moreover, Serbia's score in the getting credit parameter was 65, the lowest thus far. Despite this, it did perform better than the other 190 countries, ranking 67th. Given that the last visible reforms accounted for by the WB in getting credit were in 2010, could explain Serbia's low score[5].

With regards to protecting minority investors, Serbia although it scored 70, it ranked 37th. This means that Serbia was amongst the top 40 countries who successfully protected minority investors

[4] For more on EODB visit: https://archive.doingbusiness.org/en/rankings

[5] For more on doing business reforms visit: https://subnational.doingbusiness.org/en/data/exploretopics/getting-credit/reforms

in 2020. Serbia accomplished this by mandating an external assessment and rapid disclosure of related-party transactions, expanding shareholder rights in critical decisions, clarifying ownership and control structures, and ensuring more corporate transparency (World Bank, 2020).

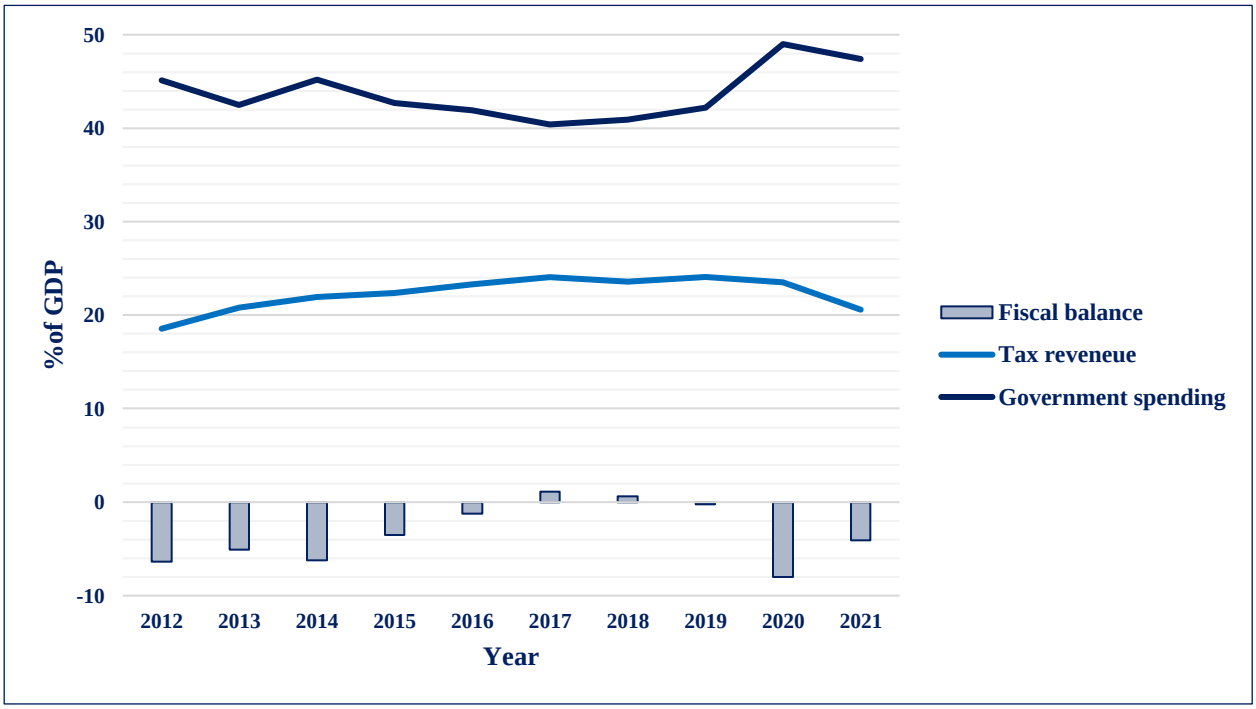
Additionally, its score of 75,3 shows Serbia to successfully have paid taxes in 2020. Its rank of 85 does not by any means suggest it is weak in this, it just indicates that other countries performed better in 2020 and were therefore ranked better. Serbia, by introducing internal deadlines to refund value added tax credits, acquired its score of 75,3 (World Bank, 2020).

Serbia's rank and score in trading across borders shows that this parameter is the best performing thus far. It scored 96,6 attaining an almost perfect score. This placed 23rd out of the 190 countries. We have previously seen in figure 5 that Serbia is an overall net importer, and thereby exports less. Despite this, the score and ranking demonstrate that it performs well in this area, making exporting an opportunity for the country.
In terms of enforcing contracts, this parameter scored the lowest at 63,1. However by establishing financial incentives for mediation, Serbia ranked better than 125 countries, at 65th. Lastly, Serbia ranked 41st in resolving insolvency with an above average score of 67. This means that despite the difficulty for countries to score high in these parameters, Serbia has performed well.

Largely, A combination of all of the above are the reason why Serbia has improved it EODB score and is ranked 44th. Furthermore, Serbia's net FDI deficit decrease from 2019 to 2020 could be acclaimed to the increase in doing business score. If Serbia keeps taking efforts to improve its ranking, it will attract foreign investors, and its businesses will perform better in regulatory performance.

Having Analyzed figure 15 we reject **H4.1** that *Serbia has an inadequate ability of doing business, contributing to its government failures and, therefore low appropriability.*

Figure 16. fiscal deficit, tax revenue, government spending (%GDP)- Serbia



Source: NBS, The World Bank, Trading economics

As depicted in figure 16, the relationship between Serbia's fiscal deficit, tax revenue and government spending are quite complex. Tax revenue is often used to fund government spending or to correct fiscal deficits, which Serbia has had a large amount of.

Figure 16 shows how Serbia's tax revenue within the stipulated time frame has been quite low compared to the OECD average which lays around the 33% range[6]. Despite this, from 2012 to 2017, taxes increased from 18% to 24%. This increase occurred as a relief measure to fight against the effects of the crisis (Ristic, 2012). From 2017 until 2020, tax revenue remained quite steady. In 2021 however, it diminished.

Figure 16 also shows Serbia's government spending trajectory and fiscal balance. From 2012 to 2013, spending decreased by 3% to 42,5% of GDP. This was done to relieve Serbia's fiscal deficit, which it accomplished as it decreased by 1%. With an increase in tax revenue as previously

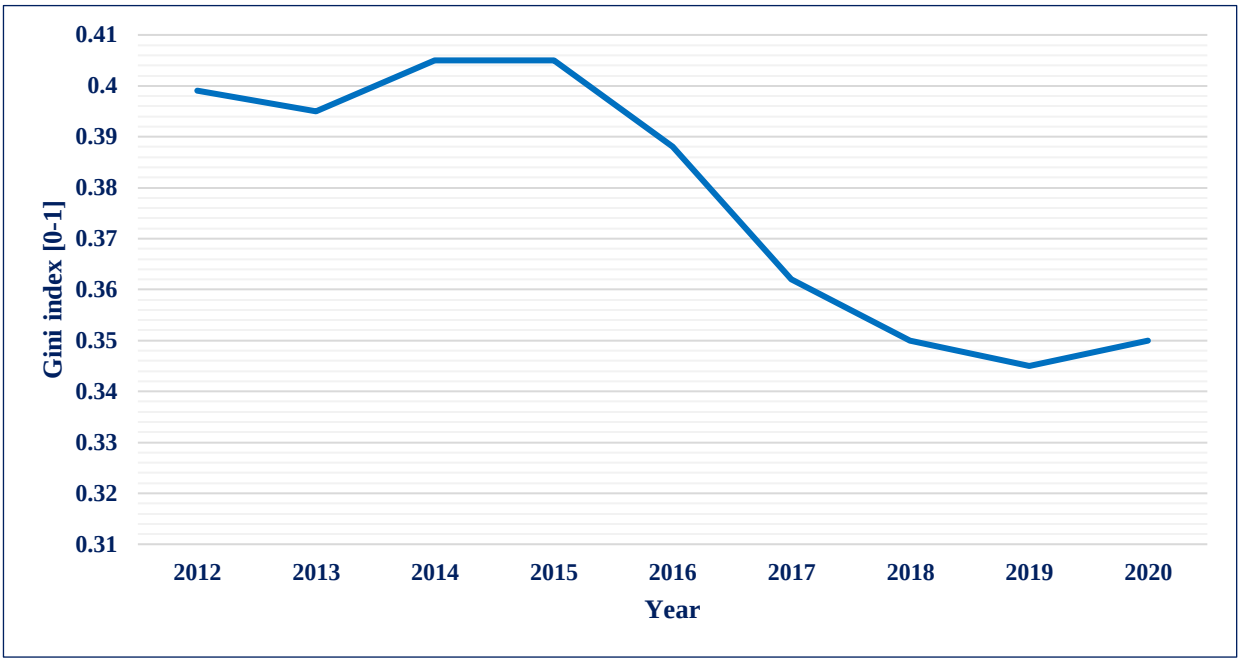
[6] Tax-to-GDP ratios, OECD, 2021, https://www.oecd.org/coronavirus/en/data-insights/tax-to-gdp-ratios#:~:text=Even%20as%20the%20economic%20effects,the%20nominal%20falls%20in%20tax

mentioned, spending increased, but so did its fiscal deficit. From 2014 to 2017 government spending also diminished from 45% of GDP to 40%, as a measure to reduce fiscal balance. The increase in tax revenue and decrease in spending managed to reduce the fiscal deficit and even corrected it. However, this was short lived as tax revenue stabilized in 2018-2019, and spending once again began to increase. Due to this, fiscal balance was once again at a -0,2% deficit in 2019 and intensified to an -8% deficit in 2020. High expenditures on medical equipment and support to aid in pandemic times also account for the increased balance deficit Serbia faced in 2020 (National bank of Serbia, 2023). In 2021, tax revenue decreased so government spending did as well, due to less funding capacities. Serbia's fiscal deficit diminished in 2021 from -8% to -4,1% of GDP due to a stimulus package that Serbia received worth 2,2 billion €.

Within figure 16, we have identified an opportunity cost for the Serbian government. Tax revenue though it has increased over the years, is still relatively low. Serbia faces fiscal balance concerns as well as government spending concerns. Serbia's government has found itself in a position to choose what to do with its already low tax revenue; if to use it for spending, or to alleviate recurrent balance deficits. If Serbia's government is not collecting enough in taxes, it cannot spend adequately on the public sector and will also find it difficult to reduce its deficit overtime. Furthermore, there are negative implications towards crisis response if a government is not adequately managing its fiscal sector, which seems to be the case with Serbia.

Having Analyzed figure 16 we accept **H4.2** that *the relationship between Serbia's fiscal deficit, tax revenue and government spending have negative implications on the macroeconomic environment, contributing to its government failures and, therefore low appropriability.* Therefore, we identify Serbia's fiscal sector as a binding constraint.

Figure 17. Gini index-Serbia [0-1]



Source: The World Bank

The Gini index, as depicted in figure 17, is a measure by which the income inequality of a country can be identified, Serbia's in this case. A coefficient close to 0 indicates a country's income being closer to the line of perfect equality. On the other hand, a coefficient closer to 1 indicates the line of perfect inequality. However, no country has surpassed a Gini coefficient above 0,7. Having established this basis, we see that Serbia has managed to decrease its Gini coefficient and therefore its income inequality within the stipulated time frame.

In 2012, Serbia's Gini coefficient was of 0,399 very high compared to most European countries in that period. The reason for this heightened inequality is Serbia's employment rate being less than 50% in this period. The recent economic crisis just a few years before, caused a toll on an already high disparity. Therefore, Serbia reaped its consequences. However, from 2012 to 2013 Serbia's Gini coefficient decreased to 0,395. In 2014 and 2015, the recorded Gini index at 0,405 was undoubtedly high as consequence of Serbia's regional discrepancies, ethnic divides, unequitable distribution in social transfers & taxation, and an overall weak economic environment (Kuznar, 2019). Also, the poor population was more filled with children & younger adults, and there was a

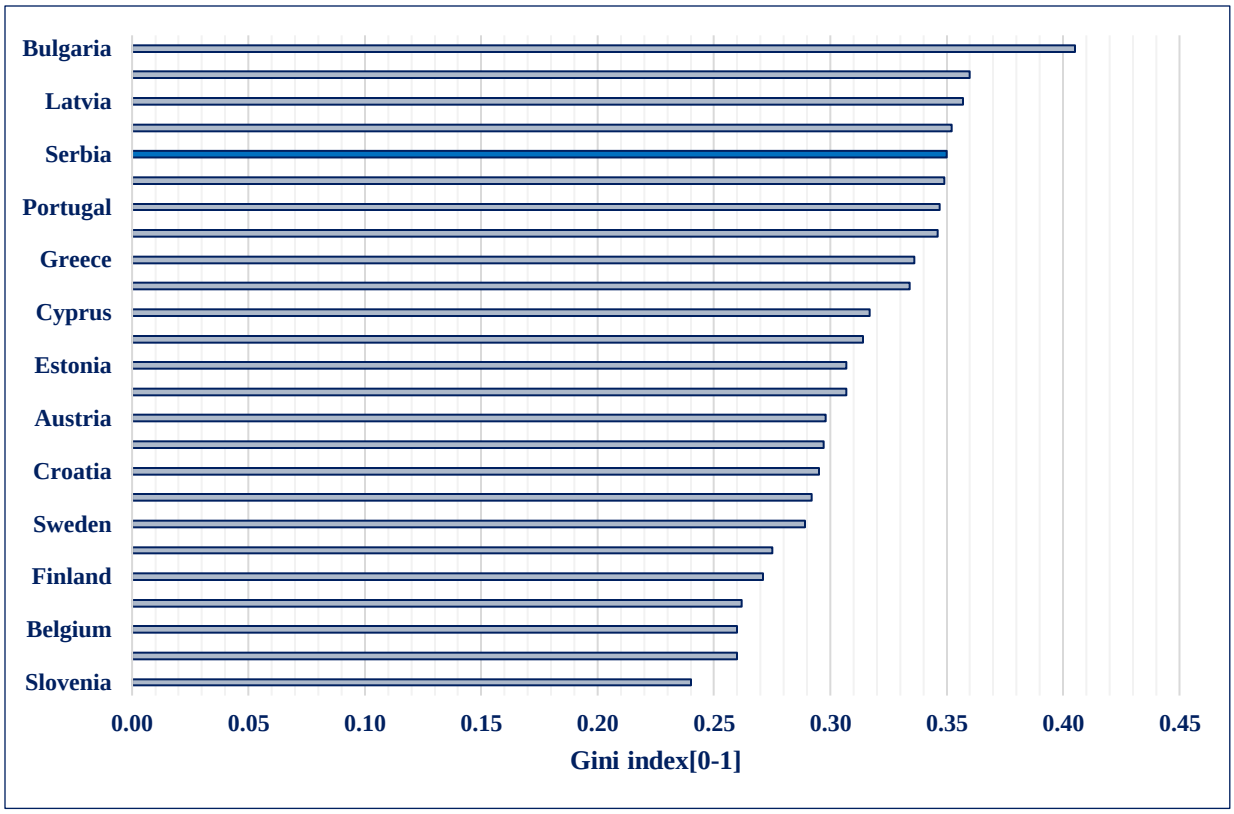
very large percentage of individuals with low work intensity, both of which contributed to Serbia's high Gini coefficient (Arandarenko, Krstić, & Rakić, 2017).

Despite the peak we examined in these two years, from 2015 to 2019 the Gini coefficient significantly improved, standing at 0,34. This can be attributed to the decrease in unemployment examined previously in figure 13. Furthermore, Serbia has a progressive taxation system, so an increase in the personal income tax system during this period, could explain the improvement.

Serbia's high-income inequality could be a factor explaining its low domestic savings assessed in figure 9, since individuals with lower income tend to spend a larger portion of it. Furthermore, apart from the obvious repercussions on economic growth, high inequality can have negative implications towards social welfare, potentially leading to higher crime rates, poverty, lower life expectancy and overall poor standards of living. With regards to education, a higher income inequality may affect education, which is already causing problems for Serbia in the labor force as seen in figure 13.

Having analyzed figure 17 we conclude that Serbia has managed to reduce its Gini coefficient. Despite the reduction, we need more proof since it still may be higher compared to other countries.

Figure 18. Gini index 2020-Serbia, EU [0-1]



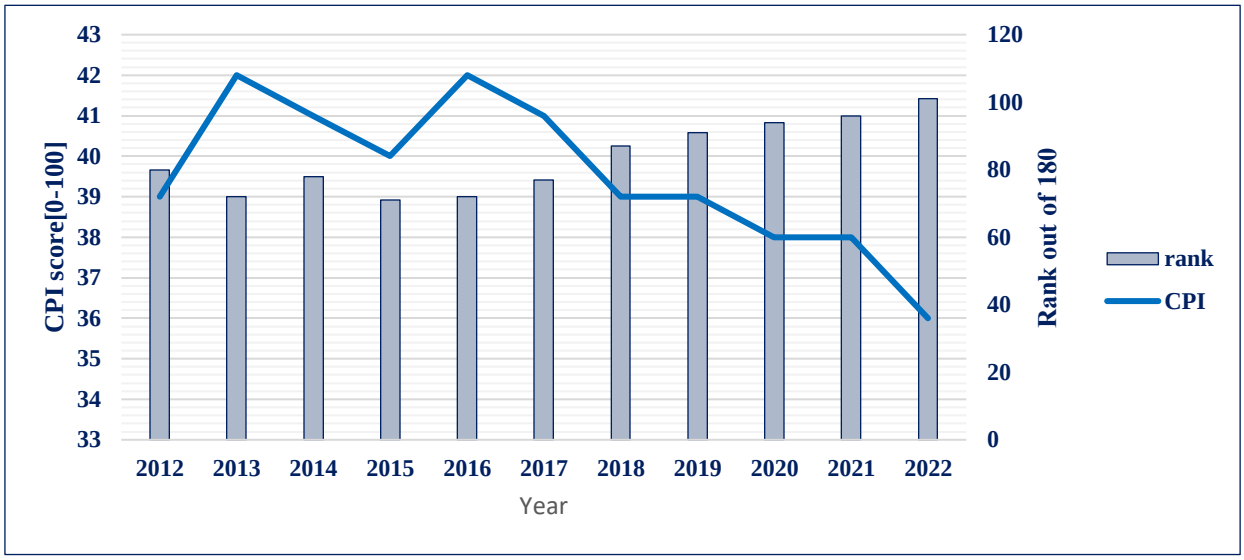
Source: The World Bank

Despite the conclusions extrapolated by looking solely at Serbia's Gini index trajectory, when comparing it against other countries in the EU[7], as is done in figure 18, we clearly discover that Serbia's income inequality is in fact amongst the highest from the last available data in 2020. By looking at figure 18, where Serbia coefficient is compared to those of countries in the EU despite itself not being a part of this group, we can see that aside from Bulgaria, Lithuania, Latvia and Italy, Serbia still holds a high score. What is even more preoccupying, is that Serbia having improved its income inequality as depicted in figure 17, its efforts are not sufficient.

Having analyzed Figures 17 and 18 and despite Serbia's income inequality diminishing in the last couple of years, we accept **H4.3** that *Serbia income inequality is one of the highest in Europe, contributing to its low appropriability.* Therefore, we identify Serbia's unequal income distribution as a binding constraint.

[7] Excluding Germany, Slovak Republic and Poland due to lack of data

Figure 19. Corruption perception index (CPI)-Serbia [1-100]



Source: Transparency International

Figure 19 shows the CPI[8] which ranks and scores 180 countries by their perceived levels of public sector corruption, in this case Serbia. A score closer to 0 means that a country is highly corrupt whilst, a score closer to 100 means a country has very low levels of public sector corruption. The 180 countries are ranked from lowest corruption to highest. Therefore, we can establish that the CPI score and rank have an inverse relationship, whereas score increases rank decreases, indicating less corruption. Now that this premise has been established, Figure 19 illustrates Serbia's ranking and score in this index over the last 10 years. Firstly, in the last 10 years, Serbia's CPI score has always been under 50, which demonstrates that Serbia has not had an instance where its public sector has not been moderately clean. The score has ranged from [42-36] within the stipulated time. Regardless of this affirmation, there have been years where corruption has prevailed, and others where corruption has reduced.

Commencing with Serbia's 2012 score of 39 and a rank of 80, it was a meager year regarding corruption perception. However, Serbia seemed to have improved its corruption from 2012 to 2013 and the government expressed optimistic views for the upcoming years. However, this was short lived as Serbia's CPI in 2014 decreased and prevailed until 2015 where it scored 40 on CPI. There

[8] For more information on the CPI visit: https://www.transparency.org/en/cpi/2022/index/srb

was a large case of corruption in 2014 involving Belgrade's waterfront project most commonly known as the Savamala affair. The real estate project involved the collaboration between the Serbian government and a UAE[9] company, where an unexpected demolition of the project in the middle of the night was accused of government conspiring. Despite these allegations, there is no proven evidence of government involvement. Furthermore, even though the score did diminish in 2015, due to the other countries performing worse, Serbia ranked lower in corruption than the previous years. There was a recovery of CPI in 2016, scoring once again 42 and ranking once again 72. Despite this, from 2016 to 2022, CPI began to decline, corruption worsened, and Serbia was ranking progressively worse each year. The COVID pandemic weakened Serbian governance systems ability to fight against corruption, which explains the decrease in 2020 (Transparency Serbia, 2021). 2022 marked a historic low for corruption in Serbia, scoring 36, and ranking 101 out of the 180 countries. This decrease in performance can be acclaimed to Serbia not implementing regulations on corruption effectively.

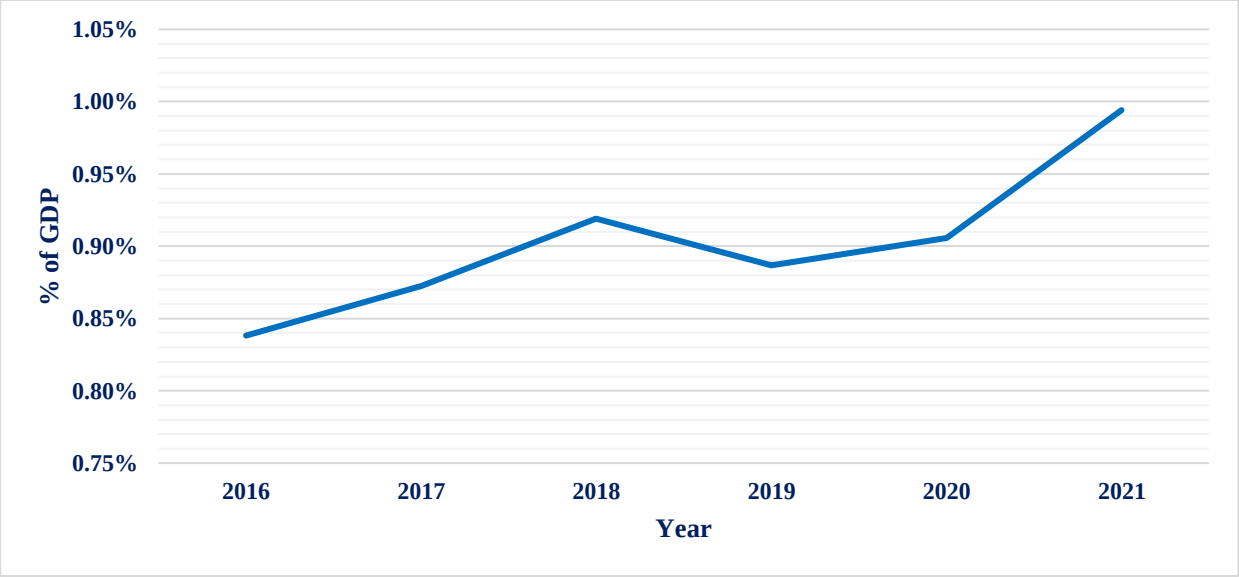
There are many reasons as to why corruption prevails in Serbia to this day. Despite the government being democratic, it acts in what seems to be an authoritarian regime (Transparency Serbia, 2021). Bribery also prevails in Serbia and accountability has significantly worsened over the years. Likewise, actions against corruption have not been properly taken, and political stability is unbalanced. Serbia's anti-corruption agency established in 2009 has not successfully improved the situation. In fact, from what we can see in figure 19, the situation has worsened. Furthermore, the government has found itself being involved in crime undertakings with dangerous groups in Serbia. Overall, the government must take more systematic changes to combat corruption as their efforts thus far have shown to be insufficient.

Serbia's corruption may be influential to its FDI inflows, or lack thereof. It comes as no surprise that Serbia's high incidence of corruption might make investors reluctant to invest in the country. Corruption may also influence Serbia's increased income inequality, since the most powerful individuals control how money is distributed. Lastly, a high incidence on corruption makes individuals in the Serbian economy loose trust and undermine governments and institutions.

[9] United Arab Emirates

Having analyzed Figure 19 we accept **H4.4** that *Corruption prevails in Serbia public sector, which exposes the inability of the publics administration to properly manage the fiscal environment, contributing to its low appropriability.* Therefore, we identify Serbia's high corruption perception as a binding constraint.

Figure 20. Research & Development (R&D) expenditure (%of GDP)-Serbia



Source: Statistical office in the republic of Serbia, The world Bank

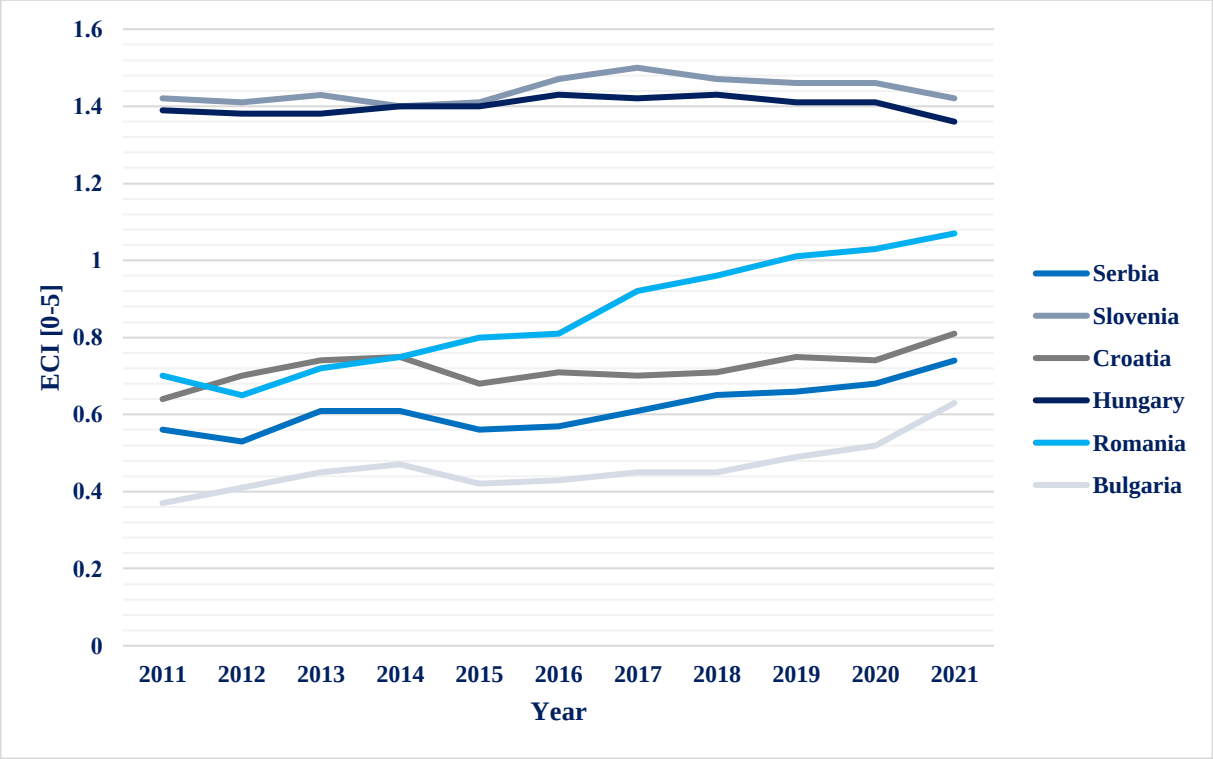
The amount of *R&D* a country spends on can effectively demonstrate the actions taken to acquire new information with regards to technology and innovation. As depicted in figure 20, Serbia has had an overall exponential increase in R&D expenditure as a % of GDP from the latest available data. Starting at 0,84% of GDP in 2016, Serbia has increased its expenditure to almost 1% in 2021. In this case, though the amount being employed for this matter seems low, what matters is the trajectory as this demonstrates that Serbia is in fact taking actions to better the acquisition of information with regards to knowledge and innovation.

Serbia is attempting to build an economy based on science and innovation. The overall increase in expenditure that figure 20 illustrates can be acclaimed to Serbia's increase in investments specifically related to scientific research (The governmnet of the Republic of Serbia, 2023). Serbia

is also increasing expenditures in this field for the purpose of increasing its economic development and facilitating EU integration. Furthermore, if Serbia continues its efforts towards R&D, not only will innovation and information flows increase, but so will its competitiveness and attractiveness in foreign markets. Increasing R&D expenditure will increase FDI inflows as well as make exports more appealing to international trade, improving Serbia's recurring negative net FDI and Balance of trade deficit.

Having analyzed figure 20, we reject **H4.5** that *Serbia's subdued expenditure on R&D, contributes to information externalities, and therefore low appropriability*. We can conclude that Serbia has increased its expenditure on R&D and therefore, is taking measures to increase information and innovations flows that come with this.

Figure 21. Economic complexity index (ECI)- SCSRHB [0-5]



Source: OEC

Figure 21 representing the economic complicity index (ECI), provides an insight into Serbia's export sophistication and diversity compared to those of regionally significant countries in a 10-year range. A higher score, closer to 5 implies more complex goods, and therefore more

competitive and sophisticated exports. Now that the premises have been established, Figure 21 shows that Serbia's and Bulgaria's productive capabilities are more basic, whilst Romania, Hungary, Croatia and Slovenia are more efficient in producing complex goods. Overall Serbia has a weaker ability to coordinate in producing a wider range of complex goods.

As shown in figure 21, From 2011 and 2013 Serbia and Croatia followed a similar trend with regards to the ECI trade score, Serbia scoring 0,61 only 0,11 points behind Croatia. From there on, Croatia continued its growth exponentially whilst Serbia faced a decline until 2015, which supposed a setback from there on out. Despite this, its ECI score has progressively increased from 2015 to 2021 and is even approaching Croatia's complexity. Serbia's sophistication and diversity increase may be acclaimed to an increase in business environment as explored in the EODB indicator. However, Serbia was not the only country whose score increased from 2015 to 2021, as Croatia, Bulgaria and Romania all faced improvements. this shows that an increase in sophistication and diversity was regional and cannot specifically be pinpointed to specific actions taken by Serbia's.

If Serbia continues to progress in this area as it has been doing in the last 10 years, it will be able to become more competitive, and therefore be a more successful exporter. As previously mentioned, Serbia is quite dependent on imports. In order to improve Serbia's fiscal balance deficit, businesses should strive to improve the sophistication of their products to benefit from international trade whilst still remain reliant on their imports. A combination between the two would likely decrease the recurring deficit it faces in external trade balance. Thus, Serbia's ECI must still improve for growth to accelerate.

Having analyzed figure 21, we accept **H4.6** that *Serbia's low knowledge intensity and diversity regarding its productive capabilities against similar countries, contributes to coordination externalities and therefore low appropriability.* Therefore, we identify Serbia's unsophisticated exports as a binding constraint.

H4.2, **H4.3**, **H4.4**, and **H4.6** have been accepted whilst **H4.1** and **H4.5** have been rejected. Based on these results, the research hypotheses **H4** is confirmed being that ***Serbia suffers from low***

appropriability, and therefore low returns to economic activity. Therefore, Serbia's weak fiscal sector, high income inequality, high corruption, and unsophisticated exports are all binding constraints that affect its low return to economic activity and therefore low levels of private investment and entrepreneurship.

V. POLICY RECOMMENDATIONS

Based on the results from the tested hypotheses, we have successfully answered the research question of "*why does Serbia suffer from low levels of private investment and entrepreneurship*". Thus, we found the underlying binding constraints that lead to Serbia's low levels of private investment and entrepreneurship and therefore the areas that hinder its growth. The reform strategies (policy recommendations) for the Serbian government to implement, attempt to target the most binding constraints and are as follows.

Policy recommendation I

The first policy recommendation is to implement frequent and thorough inspections on public sector finances and procedures. Apart from the obvious impact on corruption perception previously explored in **H4.2**, this policy also targets Serbia's income inequality previously explored in **H4.3** As well as Serbia's negative FDI previously explored in **H1.3**.

Serbia's Anti-corruption Agency (ACA) established in 2009 should intervene in the following ways in order to successfully implement this policy[10]:

- Regularize audits→ By regularizing audits on all public sector institutions, the ACA can specifically track potential corruption by the public sector. Furthermore, having the ACA and their independent auditors implementing these actions, there is no room for government interference and further corruption. Likewise, the public sector should take corrective actions depending on the results shown in the audits, and therefore, follow-up audits should be implemented to further track the progress.
- Transparency in audits→ The reports on the audits mentioned in the first point, should be available to all public, and hence be posted on government websites thus breaking the walls between the public sector and the individuals in the economy.
- Auditor protection→ Auditors should be protected in case they report on a misconduct related

[10]For more information on anti-corruption guidelines visit: https://www.worldbank.org/content/dam/documents/sanctions/other-documents/osd/User%20Friendly%20Version%20of%20the%20Anti-Corruption%20Guidelines.pdf

to corruption.

This policy will impact the following binding constraints:

- Reduce corruption → By frequently inspecting public sector procedures, the likeliness of corruption will decrease. Furthermore, knowledge on frequent audits will reduce not only incidences of corruption but also the intents of corruption. Moreover, public sector accountably will increase, which will make the individuals in the economy trust the Serbian government more.
- Attract FDI→ A decrease in corruption through this policy will also make foreign investment in Serbia more attractive. Foreign investors will not be so reluctant to invest in Serbia if its public institutions make efforts to become cleaner, therefore increasing FDI inflows and consequently reducing the negative net FDI depicted in figure 7.
- Close income inequality gap→ Public sector corruption influences the unequal distribution of income by the public sector. Therefore, by successfully implementing this strategy, it will come as no surprise if Serbia sees a closing in its income inequality gap depicted in figures 17 & 18.

Policy recommendation II

The second policy recommendation is to strengthen Serbia's currency. This policy targets Serbia's high external debt explored in **H1.2** and negative net FDI explored in **H1.3**.

Since Serbia does not follow a fixed exchange rate regime, it cannot simply revalue its currency in order to strengthen it. However, the NBS can implement a variety of interventions to be able to implement this policy:

- Increase interest rates→ The NBS can raise interest rates in order to attract foreign investors that seek higher returns on investments. This will increase the demand for the RSD and hence appreciate it.
- FX market intervention→ The NBS can sell its foreign currency in the FX market and buy RSD. This will increase the demand for the RSD and hence appreciate it.

An appreciation and therefore strengthening of the RSD will alleviate the following binding constraints:

- Attract FDI→ As previously mentioned, Serbia's weaker currency makes foreign investors reluctant to invest, explaining the negative net FDI. A strengthening in the RSD will make it more attractive for foreign investors to invest in Serbia.
- External debt→ As previously mentioned, Serbia's high external debt could be acclaimed to its weak currency since the value of the debt in terms of domestic currency increases. A strengthening in the RSD will make the debt burden decrease. Likewise, this will also lower Serbia's cost of borrowing as having a stronger currency will make it cheaper.

It is relevant to mention that although a strengthening of the RSD will make imports cheaper and exports more expensive, we have previously established that Serbia's external balance in goods and services is more related to its dependency on imports and not the exchange rate. So far, with Serbia's weak currency making imports more expensive and exports cheaper, Serbia has still imported far more than exported.

Policy recommendation III

The third policy recommendation is to increase Serbia's government revenue in order to better manage the opportunity cost it faces within the fiscal sector. This policy targets Serbia's relationship between government spending, fiscal deficit and tax revenue explored in **H4.2**.

The most effective way to increase government revenue is through taxation. three different taxation interventions can be implemented:

- Increase in progressive taxation→Serbia already follows a progressive taxation regime. Therefore, increasing taxation especially proportionately on high income individuals and the most profitable corporations is an effective method to increase government revenue.
- Tax base expansion→ Broadening the number of individuals and economic agents that are subject to paying taxes is also an effective way to increase government revenue in addition to increasing the taxes themselves.
- Improve tax administration→ Lastly improving the tax administration itself, especially tax compliance is a way for the government to collect revenue form this area more efficiently.

However, government revenue may also be increased through partnerships with profitable businesses and merging private and public spending, without necessarily increasing taxation.

An increase in government revenue will alleviate the following biding constraints.

- Fiscal sector opportunity cost→ An increase in government revenue can be split into two parts. Part of the tax revenue can be used to progressively reduce Serbia's fiscal deficit previously identified in Figure 16. However, it can also be used to increase spending in specific sectors that improve export sophistication and competitiveness. Therefore, by increasing government revenue Serbia won't have to choose between one or the other and be able to fund its fiscal deficit as well as spend on relevant areas, which it struggled to do before.
- Export competitiveness→ The portion of tax revenue that is devoted to spending will be employed in education and R&D, all with the aim of reducing the deficit in the external balance of goods previously explored in **H1.1** as well as improving the complexity and sophistication of its exports previously explored in **H4.6**. Since Serbia imports necessities, the reform lies in the exports. By spending on R&D, and thereby improving innovation and technology, Serbia's goods will be more competent in foreign markets. Furthermore, spending on education, specifically in STEM[11] will also improve the necessary skills to make goods more sophisticated and competitive against foreign markets.

The Serbian government should prioritize policy recommendation I, since public sector corruption affects how tax revenue is being employed therefore impacting policy recommendation III. The subsequent reform the Serbian government should prioritize is policy recommendation II. This is because sectors in policy recommendation III could possibly be affected by a strengthening in the currency. Therefore, Policy recommendation III should be prioritized last as it could be influenced by both prior policies.

[11] Science, Technology, Engineering, Mathematics

VI. CONCLUSION

Many studies have been carried out with regards to this country's growth, one of them even used the *Growth Diagnostics* methodology. So how has this paper solved something we previously did not know about Serbia's economic growth and development? To begin with, many different papers have looked at different sectors of Serbia's economy, which was previously explored in the literature review. Kuzmanovic & Sanfey (2014) even used the same methodology. However, this paper has not only explored the more resent underlying reasons for Serbia's growth but has also touched upon all the different areas provided by the *Growth Diagnostics* decision tree that lead to Serbia's low levels of private investment and entrepreneurship. Previous to this paper, we knew that Serbia's economy is not on the same development wavelength as the EU or its regionally significant countries. However, it is also a fact that Serbia has improved over the years, compared to how it began after the turmoil in the late 1900s and early 2000s. Despite the improvement we have identified the very binding constraints that still hinder its growth and have subsequently provided policies to alleviate the most relevant ones. The previous papers that have analyzed Serbia's growth did not encompass all the different sectors that this methodology has allowed us to do, and the one that has, is outdated, and has therefore not considered the most recent evidence of the country's economic development whilst this paper has.

Throughout this paper, we have discussed the opportunity cost Serbia's government has to face with regards to its policies and decision making. However, we have yet to speak about the opportunity cost for the policymakers. Policymakers must choose what areas to target, possibly postponing reforms in other sectors. It is without a doubt that policymakers must be meticulous in the fabrication, prioritization, and implementation of the policies. As established in the method section, there are many approaches policymakers can take in order to recommend reform strategies. We chose to target the most binding constraints. However, it is difficult for policymakers to assess the tangible impact the chosen reforms will have on the economy, no matter if the constraints are the most binding ones. Furthermore, policymakers must choose policies with precaution that don't interfere negatively with other sectors in the economy. Likewise, policymakers have to be aware that policies will not change the whole economy from one day to another and will possibly not save Serbia's situation. However, they must be aware that they will

make a difference. Despite these implications, the *Growth Diagnostics* methodology employed in this paper has allowed us to identify not only Serbia's constraints, but the most binding ones through the analysis of the different indicators tested in the different hypotheses. Thus, allowing policy recommendations that target them which even ripple into solving other constraints. And although the impact cannot be simply measures, the evolution of the indicators can be tracked after the implementations have occurred in order to see if the policy is in fact positively impacting the economy.

With regards to the implications for businesses, they are also very important stakeholders that can aid in policy implementations and even benefit from them. Businesses can gain valuable insights on the economic conditions of Serbia, and they can plan accordingly. Furthermore, having identified Serbia's binding constraints, large corporations can aid in implementing policies especially related to R&D and export competitiveness. Likewise, they can also collaborate with Serbia's government and provide funding in the sectors that need it, as seen in the third policy recommendation.

This dissertation has touched upon many different indicators which have allowed us to identify the following biding constraints for Serbia:

- Weak currency against the $
- Ongoing external deficit
- High external debt
- Negative net FDI
- Low domestics savings
- Inability to efficiently produce minerals and metals.
- Education discrepancies in the labor force
- Poor infrastructure
- Serbia's weak fiscal sector
- High income inequality
- High corruption in the public sector
- Unsophisticated exports

However, other than the word limitations of this paper, there is no reason as to why this

examination should end. This analysis could be extended to far more indicators tested in different hypotheses that could identify far more binding constraints. Furthermore, within each binding constraint, a deeper analysis could also be explored. For instance, we concluded that Serbia suffers from poor infrastructure. However, further lines of research could test hypothesis related to specific areas of infrastructure that could acclaim to Serbia's poor infrastructure.

Likewise, other indicators and indexes could be used and interchanged to answer the research question and therefore other hypotheses could be tested. Some examples of hypotheses that were excluded due to word limitation, that could be tested in further papers are the following:

- *Serbia's lack of public education expenditure contributes to its low human capital, and therefore low social returns.*
- *Serbia has a weak protection and enforcement of IPRs, contributing to its government failures and therefore, low appropriability.*
- *Serbia's tax burden has fluctuated a lot over the years which depicts an unstable microeconomic environment contributing to its government failures and therefore, low appropriability.*

Additionally, further lines of research could also include the analysis of specific correlations between different indicators. For instance, the relationship between Serbia's governance and FDI could be correlated to identify cause and effect. Or lack of expenditure on education and health could also be crossed with employment to analyze the relationship between the two. All in all, this dissertation can serve as a basis for future studies regarding Serbia's economic growth and development.

To conclude, this paper has conducted a thorough analysis of Serbia's development, offering relevant insights to the underlying binding constraints that suppose an impediment to its full growth potential. Furthermore, this paper also serves as a demonstration to the effectiveness of the *Growth Diagnostics* methodology in bringing to light these very constraints, as well as in allowing policy recommendations to be formed in order to alleviate the most pressing ones. Serbia is a country that continues to grow and possesses a strong potential to reach sustained economic development. Tanks to this methodology and the subsequent analysis and proposed policy recommendations, Serbia can climb further on the ladder of a developed economy.

VII.BIBLIOGRAPHY

Habermann, H., & Padrutt, P. (2011). Growth Diagnostics: Strengths and Weaknesses of a Creative Analytical Framework to Identify Economic Growth Constraints in Developing Countries. *Journal of Knowledge Management, Economics and Information Technology*, 1-25.

Hausmann, R., Rodrik, D., & Velasco, A. (2005). Growth Diagnostics. *John F. Kennedy School of Government, Harvard University*, 1-26.

World Bank Group. (2019). *Reforms and External Imbalances: The Labor-Productivity Connection in the Middle East and North Africa.* Washington D.C.: The World Bank.

International Monetary Fund. (2013). *Republic of Serbia:Selected Issues Paper.* Washington, D.C.: International Monetary Fund.

Hausmann, R., Barrios, D., Brenot, C., Taniparti, N., Protzer, E., & Henn, S. (2023). *The Economic Complexity of Kazakhstan: A Roadmap for Sustainable and Inclusive Growth.* Cambridge, Massachusetts: Center for international development at Harvard University.

O'Brien, T., Bùi, T.-N., Frasheri, E., Garcia, F., Protzer, E., Villasmil, R., & Hausmann, R. (2022). *What Will It Take for Jordan to Grow?* Cambridge, Massachusetts: Center for International Development at Harvard University.

Kuzmanović, M., & Sanfey, P. (2014). *Diagnosing growth constraints in south- eastern Europe: The case of Serbia.* London: European Bank for Reconstruction and Development.

Hausmann, R., Rodrik, D., & Velasco, A. (2006). Getting the Diagnosis Right. *Finance and Development.*

Meadows, H. D. (1972). *The limits to growth.* New York: Universe Books.

Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *The Quarterly Journal of Economics*, 65-94.

Shah, K. (2022). *Diagnosing South Africa's High Unemployment and Low Informality*. Cambridge, Massachusetts: Center for International Development at Harvard University.

Goldstein, P., Freeman, T., Sanz, A. R., Matha, S. G., Bui, S., Rao, N., . . . Bustos, S. (2023). *The Connectivity Trap: Stuck between the Forest and Shared Prosperity in the Colombian Amazon.* Cambridge, Massachusetts: The growth lab, Harvard University.

Lall, S. V., Wang, H., & Munthali, T. (2009). *Explaining High Transport Costs within Malawi.* Washington D.C.: The World Bank.

Zahidi, S. (2022). *Global gender gap report.* Geneva: The world economic forum.

Kannan, E., & Pohit, S. (2021). *Agricultural Growth Diagnostics for Bihar (India): Identifying the Binding Constraints and Policy Remedies.* New Delhi: National council of applied economic research.

Domazet, I., Lazić, M., & Hanić, H. (2014). *FOREIGN EXCHANGE RATE AS A FACTOR TO IMPROVE THE BUSINESS ENVIRONMENT – THE CASE OF SERBIA.* Ministry of Science and Technological Development of The Republic of Serbia.

Clements, B., Bhattacharya, R., & Nguyen, T. Q. (2003). *External Debt, Public Investment, and Growth in Low-Income Countries.* Washington, D.C.: IMF Working Paper.

Frias, J., Shimbov, B., Davies, E., & Ek, C. (2018). *Country Economic Memorandum Serbia's New Growth Agenda.* Washington, D.C.: The world bank.

Udovicki, K., Avlijaš, S., & Medić, P. (2019). *Competitiveness of Serbia's economy in the context of new global economy: opportunities and threats.* Belgrade: Institute of economic sciences.

Hausmann, R., Wagner, R., & Klinger, B. (2008). Doing Growth Diagnostics in Practice: A 'Mindbook'. *Center for International Development at Harvard University*.

Powell, A., & Fernandez-Arias, E. (2007). The Role of Multilateral Lending' in Living with Debt.How to Limit the Risks of Sovereign Finance. In *The Role of Multilateral Lending' in Living with Debt.How to Limit the Risks of Sovereign Finance* (pp. 121-144). Washington DC.: Inter-American Development Bank.

Rodriguez, F. (2005). Comment on Hausmann and Rodrik. *Economia*, 90-98.

Leipziger, D., & Zagha, R. (2006). Getting Out of the Rut. *Finance and Development, International Monetary Fund Vol. 43*.

Sen, A. (1999). *Development as Freedom.* New York: Alfred A. Knopf, Inc.

Schor, J. B. (2014). *Sustainable Lifestyles and the Quest for Plenitude: Case Studies of the New Economy.* New Haven: Yale University Press.

Spash, C. L. (2021). Apologists for growth: passive revolutionaries in a passive revolution. *Globalizations*, 1123–1148.

Daly, H. E. (1996). *Beyond Growth The Economics of Sustainable Development.* Cambridge : MIT press.

Sachs, J. D. (2005). *The end of Poverty.* New York: Penguin Group.

Romer, P. M. (1990). Endogenous technological Change. *The Journal of Political Economy, Vol. 98, No. 5, Part 2*, 71-102.

Stroper, M., & Venables, A. J. (2004). Economic growth: a review of theoretical and emirical foundations. *Journal of economic geography*, 219-251.

Balaam, D. N., & Dillman, B. (2019). *Introduction to international political economy.* New York: Routledge.

National bank of Serbia. (2023). *Macroeconomic developments in Serbia.* May: National bank of Serbia.

Ristanovic, V., & Mirkovic, S. (2017). *Threat of Non-perfoming loans to Serbian banking sector.* Belgrade: International conference EEE.

National Bank of Serbia . (2018). *NPL resolution Strategy.* Vienna: The World Bank.

OECD. (2020). *OECD Reviews of Evaluation and Assessment in Education: Chapter 1. The Serbian education system.* Paris: OECD.

Kuznar, E. (2019). *Serbia Inequality Report.* Boston, Massachusetts: NSI.

Arandarenko, M., Krstić, G., & Rakić, J. Z. (2017). *Analysing income inequality in Serbia. From data to policy.* Belgrade: Friedrich Ebert Stiftung.

International trade administration. (2022, 08 05). *Serbia - Country Commercial Guide, Trade barriers*. From International trade administration: https://www.trade.gov/country-commercial-guides/serbia-trade-barriers

International trade administration. (2022, 08 05). *Infrastructure*. From Serbia - Country Commercial Guide: https://www.trade.gov/country-commercial-guides/serbia-infrastructure

Ristic, M. (2012, August 16). *Serbia Plans Tax on Wealth, Higher VAT*. From Balkan insights: https://balkaninsight.com/2012/08/16/serbia-plans-to-reform-its-tax-system/

Transparency Serbia. (2021, 02 18). *COVID-19 Pandemic has weakend the ability of Serbias Governance systems to fight corruption*. From Transparency international: https://www.transparency.org/en/blog/covid-19-pandemic-has-weakened-the-ability-of-serbias-governance-systems-to-fight-corruption

The governmnet of the Republic of Serbia. (2023, 06 01). *Projects and innovations Ideas take us forward*. From The governmnet of the Republic of Serbia: https://www.srbija.gov.rs/tekst/en/129792/projects-and-innovations.php

International Monetary Fund. (2015). *Republic of serbia—first review under the stand-by arrangement—press release and staff report.* Washington, D.C.: International Monetary Fund.

World Bank. (2020). *Serbia Systematic Country Diagnostic Update.* Washington D.C: The World Bank.

World Bank. (2020). *Serbia's new growth agenda.* Washington D.C: The World Bank.

National Bank of Serbia. (2020). *Inflation Report.* Belgrade: National Bank of Serbia.

Hausmann, R., Taniparti, N., Brenot, C., Soylu, C., El Houda, R., Vashkinskaya, E., . . . Henn, S. (2023). *A Growth Diagnostic of Kazakhstan.* Cambridge, Massachusetts: Center for International Development at Harvard University.

Hausmann, R., Espinoza, L., & Santos, M. A. (2017). *Shifting Gears: A growth diagnostic of Panama.* Cambridge, Massachusetts: Center for International Development at Harvard University.

Chibalamula, H. C., Evans, Y., Kachelo, M., & Bamwesigye, D. (2023). *The Effect of Foreign Direct Investment and Trade Openness on Economic Growth: Evidence from Five African Countries.* Ag econ.

Hausmann, R., & Klinger, B. (2007). *Growth Diagnostic: Paraguay.* Cambridge, Massachusetts: Harvard University.

Hausmann, R., Santos, M. A., Muci, F., Pye, J. T., Grisanti, A., & Lu, J. (2022). *Overcoming Remoteness in the Peruvian Amazonia: A Growth Diagnostic of Loreto.* Cambridge, Massachusetts: Center for International Development at Harvard University.

O'Brien, T., Nedelkoska, L., & Frasheri, E. (2017). *What is the Binding Constraint to Growth in Albania?* Cambridge,Massachusetts: Center for International Development at Harvard University.

Hausmann, R., Barrios, D., Grisanti, A., Kasoolu, S., O'Brien, T., Protzer, E., . . . Tapia, J. (2021). *Growth Perspective on Western Australia.* Cambridge, Massachusetts: Center for International Development at Harvard University.

Vladušić, L., Dragović, V., & Bašić, D. (2018). Growth and Relation of Private Savings and Gross Domestic Product in Bosnia and Herzegovina. *Journal of Balkan and near eastern studies*, 477–494.

World Bank. (2020). *Paying Taxes*. From Subnational Studies measuring business regulation: https://subnational.doingbusiness.org/en/data/exploretopics/paying-taxes/reforms

World Bank. (2020). *Dealing with Construction Permits*. From Subnational studies measuring business regulations: https://subnational.doingbusiness.org/en/data/exploretopics/dealing-with-construction-permits/reforms

World Bank. (2020). *Getting Electricity*. From Subnational studies, Measuring Business Regulations: https://subnational.doingbusiness.org/en/data/exploretopics/getting-electricity/reforms

World Bank. (2020). *Protecting Minority Investors*. From Subnational studies measuring business regulations: https://subnational.doingbusiness.org/en/data/exploretopics/protecting-minority-investors/reforms

Hausmann, R., Cunningham, B., Matovu, J., Osire, R., & Wyett, K. (2014). *How should Uganda grow?* Cambridge, Massachusetts: Center for International Development at Harvard University.

World Bank. (2021). *Taxes on income, profits and capital gains (% of total taxes) - Serbia*. From the world bank data: https://data.worldbank.org/indicator/GC.TAX.YPKG.ZS?locations=RS