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FACULTY OF ECONOMICS AND BUSINESS, 11000 Belgrade, Kamenička 6, Serbia
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*Claudius Gräbner-Radkowitsch** **https://doi.org/10.2298/EKA2235007G**
*Dennis Tamesberger***
*Philipp Heimberger****
*Timo Kapelari*****
*Jakob Kapeller******

TRADE MODELS IN THE EUROPEAN UNION

ABSTRACT: *By studying the factors underlying differences in trade performance across European economies, this paper derives six different "trade models" for 22 EU countries and explores their developmental and distributional dynamics. We first introduce a typology of trade models by clustering countries on the basis of four key dimensions of trade performance: endowments, technological specialisation, labour market characteristics and regulatory requirements. The resulting clusters comprise countries that base their export success on similar trade models. Our results indicate the existence of six different trade models: the 'primary goods model' (Latvia, Estonia), the 'finance model' (Luxembourg), the 'flexible labour market model' (UK), the 'periphery model' (Greece, Portugal, Spain, Italy, France), the 'industrial workbench model' (Slovenia, Slovakia, Poland, Hungary, the Czech Republic), and the 'high-tech model' (Sweden, Denmark, Netherlands, Belgium, Ireland, Finland, Germany and Austria). Subsequently, we provide a comparative analysis of the economic development and trends in inequality across these trade models. Inter alia, we observe a shrinking wage share and increasing personal income inequality in most of them, yet find that the 'high-tech model' is an exceptional case, being characterised by relatively stable economic development and an institutional setting that managed to counteract rising inequality.*

KEY WORDS: *Trade policy, cluster analysis, European Union, growth models, trade models.*

JEL CLASSIFICATION: F 10, F 16, F43, J3, J5, K2

* Europa-University Flensburg, Department for Pluralist Economics; Johannes Kepler University Linz, Institute for Comprehensive Analysis of the Economy (ICAE); ZOE. Institute for Future-Fit Economies, Cologne, Germany, email: claudius@claudius-graebner.com (corresponding author)
** Chamber of Labour, Linz, Department for Economic, Welfare and Social Policy, email: Tamesberger.D@akooe.at
*** Institute for International Economic Studies, Austria; Johannes Kepler University Linz, Institute for Comprehensive Analysis of the Economy (ICAE); email: heimberger@wiiw.ac.at
**** Institute for International Economic Studies, Austria; Johannes Kepler University Linz, email: t.kapelari@hotmail.com
***** Institute for International Economic Studies, Austria; Johannes Kepler University Linz; Institute for Socio-Economics, University of Duisburg-Essen, Germany, Email: jakob.kapeller@uni-due.de

Highlights

- We introduce the concept of trade models to describe patterns in trade performance
- We focus on exports as a particularly important component of aggregate demand
- We describe relevant dimensions for assessing and identifying different trade models
- We empirically develop a typology of trade models among EU countries by using cluster analysis
- We study the distributional patterns accompanying different trade models

Disclosure statement

There is no potential conflict of interest.

1. INTRODUCTION

Differences in trade performance and trade policy feature prominently in public discourse as well as in discussions on the development of different growth models in Europe. The literature argues that while most European countries experienced a decrease in domestic demand due to increasing inequality from the 1980s onwards (e.g., Stockhammer, 2015; Behringer & van Treeck, 2019), those with a competitive export sector were able to counteract this trend through an increase in exports, thereby following an *export-led growth model* (e.g., Gräbner et al., 2020a). Countries lacking the international competitiveness that is necessary to follow such as export-led growth model accumulated high levels of private (and, in a few cases, public) debt to stabilise aggregate demand – a strategy that proved unsustainable once the financial and economic crisis started (Gräbner et al., 2020b). The countries with such a *debt-led led growth model* experienced protracted recessions with high socio-economic costs. The present paper complements the existing literature on growth models by introducing the concept of 'trade models': since international trade and competitiveness play such an important part in the discussion on growth models, a closer investigation of the patterns of trade and competitiveness is warranted. Thus, the present paper provides such an investigation by taking a closer look at the trade patterns of European countries, which give rise to certain specialization paths, which we call "trade models". To delineate distinct trade models, we investigate differentials in

international competitiveness, the composition of trade as well as trade policies. We also study which developmental and distributional patterns accompany the different trade models in the European Union.

In the literature on growth models, typologies are a well-established instrument for analysing commonalities and differences across countries (e.g., Simonazzi et al., 2013; Gräbner et al., 2020a; Behringer & van Treeck, 2019). These typologies group countries according to some fundamental similarities and can go beyond simple classifications by capturing systemic aspects of policy or institutional arrangements. Hence, such typologies are useful when it comes to developing the "big picture" of how identified regimes work (Ebbinghaus, 2012; for a methodological discussion see also Gräbner-Radkowitsch, 2022). In the present case, our main interest is to highlight the different strategies countries pursue to achieve success in international competition, and to ask whether these strategies are accompanied by consistent developmental and distributional patterns.

To this end, we develop a typology of trade models among EU countries by applying hierarchical clustering tools to a selection of factors derived from theoretical considerations which allow us to describe different strategies of developing a trade model. We identify six different country clusters in the European Union, with each cluster representing a different trade model. The factors used for the clustering were extracted from the existing literature and comprise the dimensions of *natural endowments, technological capabilities, labour market characteristics* and *the regulatory environment*. It also turns out that the trade models we identify are accompanied by different – but within each trade model consistent – developmental and distributional patterns.

The rest of this paper is structured as follows. In the next section we clarify our theoretical vantage point and delineate trade models using a hierarchical cluster analysis. In section 3, we discuss the developmental and distributional patterns that accompany different trade models. Section 4 discusses the findings and offers concluding remarks.

2. TRADE MODELS IN THE EUROPEAN UNION: THEORETICAL AND EMPIRICAL CONSIDERATIONS

In this section, we clarify our theoretical vantage point and introduce the concept of trade models (2.1), justify the factors we use to delineate different trade models (2.2), describe the details of the clustering approach (2.3) and present its results (2.4).

2.1. Growth models and trade: different determinants of export success

Our theoretical vantage point is the literature on theories of path-dependency in economic development (Myrdal, 1958; Krugman, 1991). Kaldor (1980) argues that past "success breeds further success and failure begets more failure", and this may lead "to a 'polarisation process' which inhibits the growth of such [manufacturing, the authors] activities in some areas and concentrates them in others." Consequently, from a political economy perspective, economic development can be considered as a path dependent process, so that countries may be classified according to their structural characteristics (e.g., Celi et al., 2018; Iversen et al., 2016; Gräbner-Radkowitsch, 2022). In its classical structuralist interpretation, such classification[1] distinguishes between 'core' and 'periphery' countries, where the main idea is that both political and economic power are distributed strongly in favour of the core. The reasons for this asymmetry may be long-term: Ahlborn and Schweickert (2019), for instance, point out that economic systems in developing countries are still determined by their colonial heritage.

An area in which such typologies have been used extensively in the more recent past is the analysis of different 'growth models'. The growth model literature classifies countries according to their demand drivers of economic growth (e.g., Baccaro & Pontusson, 2016; Hope & Soskice, 2016; Regan, 2017). Export-led growth refers to a strategy where exports serve as the main driver of growth and

[1] The analytical use of country typologies has a long tradition in comparative social sciences: Esping-Andersen (1990) was among the first to develop a prominent typology of welfare states, suggesting a distinction between 'liberal', 'conservative', and 'social-democratic' welfare states. Typologies are also a prominent tool in the comparative analysis of economic systems. An example is the Varieties of Capitalism (VoC) approach pioneered by Crouch and Streeck (1995) and Hollingsworth and Boyer (1997), which categorises market economies as a whole rather than only with regard to their welfare state apparatus.

companies may substitute foreign demand for a potential lack of *domestic* demand. Export-led economies, therefore, typically export more goods and services than they import, and these net exports coincide with net capital outflows. Debt-driven growth, on the other hand, refers to a process in which a demand for credit (in the private sector) is met by corresponding credit supply, and increasing (private sector) debt serves as the main growth driver, so that these economies are prone to experiencing (debt-fuelled) asset-price bubbles in boom times and vulnerable to suffering from sudden stops in capital inflows in bad times, as such stops will typically trigger deleveraging processes that hinder economic growth. The literature points out that developmental paths throughout the EU have been shaped by these strategies to different degrees, with export-based expansion prevailing in some countries and private debt-led models in others (e.g., Stockhammer & Wildauer, 2016).

This paper complements the literature on growth models by introducing the concept of *trade models*, which aims to capture the different strategies countries pursue to achieve success in international competition. While the growth model literature refers to cross-country trends regarding the impact of different components of aggregate demand on the observed growth performance, we focus on one particular aspect of aggregate demand that has received considerable attention in the literature on Europe, namely exports. We thereby hypothesise that the resulting trade models closely align with existing typologies of growth models as we assume that trade performance is not determined exogenously, but rather is intrinsically connected to the overall properties of different growth models.

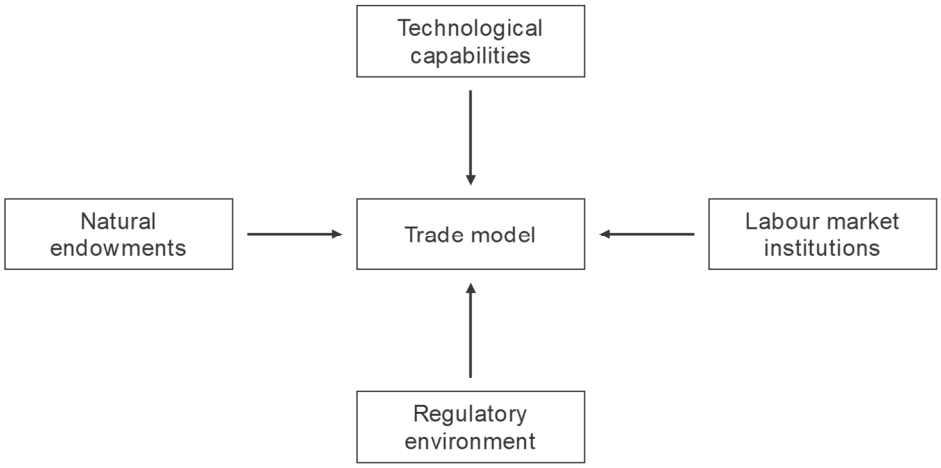
As a consequence, we opt for an empirical approach to assess this claim by employing a hierarchical clustering approach. In doing so, we systematically account for factors that shape different strategies for achieving success in international competition and thereby affect the possibility for a country to follow an export-led growth model. This strategy will highlight similarities among countries belonging to specific groups in terms of the factors that shape their success on international markets. Notably, our approach does not suggest a mono-causal relationship running from trade models to growth models, economic development and distribution. Rather, the causality may actually run in both directions. Therefore, our contribution is descriptive in the sense that we

systemise the different trade models in the Europe and in the process describe one important aspect of growth models in considerably more detail than the literature has been doing so far.

2.2. Dimensions of trade models

Any delineation of a typology must start with a selection of variables according to which countries are to be classified. In line with the existing literature, we take into account variables from four dimensions: *natural endowments*, *technological capabilities*, *labour market institutions* and *regulatory environment* (see Figure 1).

Figure 1: Dimensions of trade models.



Since Adam Smith's seminal contributions, natural endowments have been seen as a key factor in shaping patterns of trade and economic development (e.g., Barbier, 2003; Dosi & Tranchero, 2018; Wright, 1990). Possessing scarce resources needed for further processing represents an advantage for a given country. The developmental implications of such resource endowments are, however, mixed: while countries such as Norway or Saudi Arabia have acquired considerable wealth due to their natural endowments, many other resource-rich countries remain poor, either because of negative exchange rate effects (à la the *Dutch disease*) or because of increased corruption and social conflicts, which often result from personal short-term gains related to resource appropriation.

The importance of technological capabilities for trade performance has been highlighted in a number of recent studies (e.g., Dosi et al., 2015; Gräbner et al., 2020b; Storm & Naastepad, 2015a, 2015b Storm & Naastepad, 2015). The accumulation of technological capabilities usually comes with positive developmental implications. Lee (2011), for instance, analysed 71 countries and showed that those countries exporting high technology products grew more rapidly than countries exporting low or medium technology products. For Hidalgo (2015), technological capabilities are the ultimate source of economic development, a view motivated by recent contributions to the science of economic complexity (Cristelli et al., 2015; Felipe et al., 2012; Hidalgo & Hausmann, 2009; Tacchella et al., 2013).

The third set of variables is concerned with labour market institutions and labour market outcomes. The relevance of institutions that ensure relatively low unit labour costs as a key source of international competitiveness is regularly highlighted (Chen et al., 2012; Cuñat & Melitz, 2012; Lapavitsas et al., 2011; Samuelson, 2004).[2] Consequently, boosting export-led growth is said to require more labour market flexibility, which implies the need to reduce employment protection legislation, unemployment benefits and the influence of trade unions. In more general terms, however, strong labour market institutions can also be seen as a protection of employees from the uncertainty caused by globalisation and are able to explain a large part of cross-country differences in income inequality and wage mobility (Aristei & Perugini, 2015; Esping-Andersen, 1990; Crouch & Streeck, 1995; Hall & Soskice, 2001). Rodrik (1996) and, more recently, Manow (2018) argue that the well-developed welfare state is mainly a promise to compensate potential losers of international trade.

The final category of variables more broadly covers the regulatory environment of countries. The ability of a country to attract international investments and/or incentivise firms to migrate to that country is considered a major determinant for international competitiveness. A common line of argument relates this ability to low corporate taxes and loose regulations. Being aware of their significance for

[2] The actual relevance of low labour unit costs for relative export-success, however, is surrounded by many doubts. A typical counterargument is that labour market flexibility and low labour unit costs mainly reduce domestic demand as well as imports and thus contribute to increasing trade surpluses (Flassbeck & Lapavitsas, 2013).

job creation and international competitiveness, firms influence the political discourse and try to avoid new regulations. In a highly interconnected global economy, however, politicians try to convince firms to stay in a respective country by relocating the tax-burden or by weakening regulatory requirements, especially for the financial sector. This setup can lead to a general race to the bottom in regulatory standards (e.g., Carruthers & Laboureaux, 2016; Egger et al., 2019; Kapeller et al., 2016) and foster distributional conflicts (Baccaro & Pontusson, 2016). In the following, these four (to some extent conflicting) sources of trade competitiveness are used to delineate different growth models.

2.3 Data and Method

To develop a typology of trade models, we compose a data set for EU countries that comprises indicators for all four main dimensions of competitiveness highlighted in the previous section for the time period between 1995 and 2017 (see Table 1).[3] We operationalise the dimension of endowments via the employment share in agriculture, the share of oil in total exports, the share of general primary goods in total exports, the share of value added coming from manufacturing, and natural resources rents (in % of GDP).

To address the complexity of technological capabilities, we refer to the gross domestic expenditure on R&D and government expenditure on education as indicators for how countries foster the development of high technology products through education and research. Furthermore, the capital share of information and communication technology in relation to GDP (ICT) and employment in the industrial sector are used to proxy for the economic structure of countries. Finally, the index of economic complexity (Hidalgo & Hausmann, 2009) is used as a proxy for the number of technological capabilities accumulated within a given country.

[3] The raw data has been published as Gräbner-Radkowitsch et al., (2019). For a general overview see the appendix. The code used to create the results and figures in the paper is available via Github: https://github.com/graebnerc/trade-typology.

Table 1: *Indicators and Dimensions of the trade models.*

Dimension	Indicator	Unit
Natural endowments	Employment in agriculture	Share of total employment
	Natural resources rents	Share of GDP
	Oil	Share of total exports
	Primary goods	Share of total exports
	Share of value added from manufacturing	Per cent of GDP
Technological capabilities	Economic complexity index	Index
	Employment in the industrial sector	Per cent of total employment
	Government expenditures on education	Per cent of GDP
	Gross domestic expenditure on research and development	Per cent of GDP
	ICT capital share in GDP	Per cent of GDP
Labour Market	Adjusted wage share	Per cent of GDP
	Average wages per year	PPP Dollar
	Coordination of wage setting	Index
	Strictness of regulation on dismissals and the use of temporary contracts.	Index
	Unemployment benefit net replacement rates for single earner in initial phase of unemployment	Per cent
Regulatory environment	Corporate Tax	Tax revenue as per cent of GDP
	De jure component of the KOF econ index	Index
	Foreign direct investment (FDI)	Per cent of GDP
	Share of financial sector in gross output	Per cent of all sectors
	Taxes on estates and other wealth taxes	Tax revenue as per cent of GDP
	Taxes on estates and other wealth taxes	Tax revenue as per cent of GDP

To operationalise the dimension of labour market institutions, we consider employment protection legislation and the net replacement rate of unemployment benefits. We also include an index for the coordination of wage bargaining since the literature suggests that wage moderation – which is considered a major determinant for export success – requires a high degree of wage coordination (Traxler et al., 2001). As an indication of a low labour cost strategy, we use two indicators: average national wages and the adjusted wage share. A low or a decreasing wage share would mean that employees benefit less from economic growth and from international trade than owners of assets.

Finally, with regard to the dimension of the regulatory environment, we use the revenues of three categories of taxes (as per cent of GDP) which are relevant for companies' (re)location choices: corporate taxes, estate taxes and all other wealth taxes. Furthermore, the share of the financial sector in gross output and foreign direct investment (FDI) in relation to GDP are included as indicators for capturing deregulation strategies that are geared towards attracting foreign investments, and the KOF de jure index measures the strictness of regulation with respect to economic openness.

Due to data limitations, particularly with regard to labour market institutions and tax revenues, our analysis takes into account OECD countries only. Moreover, since tax data are not available for Lithuania, we cannot consider this country. Therefore, we end up with a data set for 22 EU countries for the period between 1994 and 2016.

We derive our typology via the use of a hierarchical clustering algorithm, a well-established tool from unsupervised machine learning. We chose to rely on hierarchical methods since the resulting dendrograms will allow us to further interpret the similarities and dissimilarities between members of the various clusters. In a first step, we remove all missing data points and average all variables for each country over time. Then the variables are z-transformed, and a clustering algorithm is applied. Here we use the (agglomerative) WARD-method (Everitt et al., 2001), which minimises the variance within groups and maximises their homogeneity. As indicated by Table 2, the WARD algorithm is the most appropriate algorithm for the data we use.

Table 2: *Comparison of the performance of different hierarchical clustering algorithms. The higher the clustering coefficient, the more appropriate the algorithm.*

	Algorithm	Clustering coefficient
1	Agglomerative clustering – Ward's method	0.98
2	Agglomerative clustering – Complete linkages	0.96
3	Divisive clustering	0.96
4	Agglomerative clustering – Average linkages	0.93
5	Agglomerative clustering – Single linkages	0.76

2.4. Results

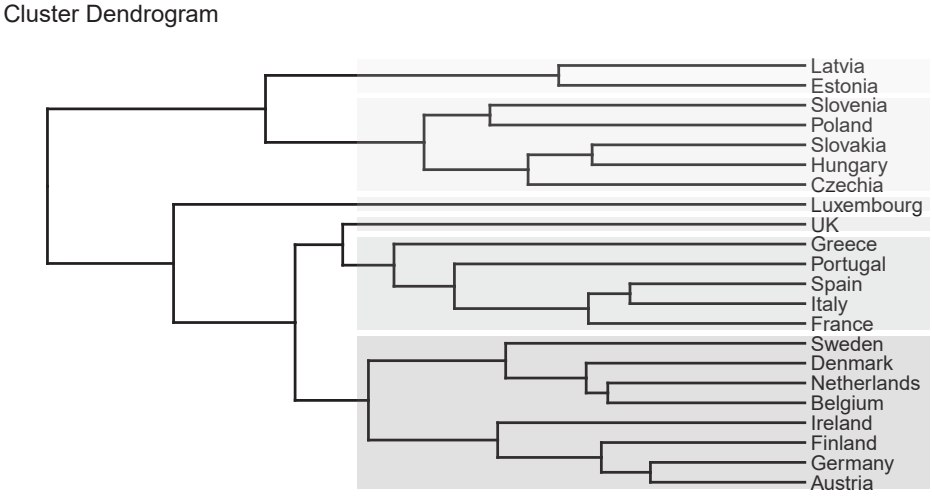
Based on our hierarchical cluster analysis, we identify six different types of trade models for the 22 EU countries (see Figure 2). Their distinguishing characteristics are summarised in Table 3.

The first cluster comprises the two Baltic countries Latvia and Estonia. Due to the importance of primary goods for exports and the total economy, we label this trade model the 'primary goods model'. Natural resources rents amount to 1.4 % of GDP, which is two to three times higher than in the other models. Primary goods are responsible for almost 24% of all exports, with oil alone accounting for 14%. Both values exceed those of the other clusters by several orders of magnitude. The importance of the primary sector in this cluster also becomes visible when comparing the employment share in agriculture, which is much higher in this cluster than in the rest of the sample. In the dimension of technological capabilities, this trade model exhibits the lowest value of economic complexity and the smallest expenditure on research and development. At the same time, the industry sector plays an important role in the employment structure of these countries, most likely because of the important (but technologically inferior) oil industry. Government expenditures on education, on the other hand, are surprisingly high (6.2% of GDP). Interestingly, this cluster has the second highest ICT capital share. In the labour market dimension, this trade model is characterised by a very low degree of wage coordination, low average wages and a low wage share. The very low corporate, estate and all other wealth

tax revenues are remarkable, pointing to the usage of tax arbitrage to attract foreign investments.

The second cluster consists only of Luxembourg, which distinguishes itself from all the other countries by the vast size of its financial sector, which amounts to 34.7% of total gross output, at least 15 times more than in the other clusters. Therefore, an obvious label for this trade model is the 'finance model'. The regulatory environment is attractive for foreign investors and companies, which can be seen from the largest share of FDI, the highest corporate tax revenues and the highest degree of (de jure) economic openness. Luxembourg is therefore a prime example of weak regulation boosting the financial sector and attracting foreign investments (Zucman, 2015). ICT technologies seem to be important in this case, while primary goods and natural resource rents do not play a notable role. Interestingly, unemployment benefits are relatively high, which implies that the welfare state tries to compensate potential losers of globalisation in the case of unemployment.

Figure 2: Result of the hierarchical clustering.



The trade model of the United Kingdom (UK) seems to be a particular case with few similarities to the other trade models as well. The UK is mainly characterised by a highly deregulated labour market and high economic complexity. Therefore, we call this cluster the 'flexible labour market model'. On average, people receive

only around 19.4 % of their former net income in the case of unemployment, and employment protection is very low. The coordination of wage settings is underdeveloped, reflected in a fragmented wage bargaining structure confined largely to individual firms or plants. This trade model is obviously geared towards a deregulated labour market strategy in favour of firms, with little job security and benefits for employees. Against this backdrop, the observation that both average wages and the wage share are quite high seems to be surprising at first. Yet, these high values are mainly due to employees in the financial sector in London who obtain extremely high incomes (and, therefore, contribute to the high estate and wealth tax revenues), a fact that manifests itself in very high levels of income inequality (Denk, 2015).

The fourth model comprises the remaining Eastern European countries (Slovenia, Poland, Slovakia, Hungary, the Czech Republic). This model has the highest share of manufacturing in GDP and employment relative to all the other clusters. At the same time, primary goods play a minor role in exports in this trade model. We call this model the 'industrial workbench model' since it is obviously specialised in the manufacture and processing of industrial products, but mainly with regard to intermediate goods; the Visegrad countries, in particular, are strongly integrated into global value chains and the European industrial core around Germany (Stöllinger, 2016). This significant position also becomes visible in the dimension of technological capabilities as indicated by these countries' high scores for economic complexity. This cluster seems to have an intermediate position between the primary goods model (cluster 1) and the high-tech model (see cluster 6 below), also with respect to the level of wages. The lowest value of (de jure) economic globalisation (de jure component of the KOF index) is remarkable given the important role of this cluster for the European industrial production chain.

Table 3: *Mean values of the identified trade models. Highest values are bold; lowest values are in italics.*

	Cluster 1 Primary goods (LV, EE)	**Cluster 2 Finance** (LUX)	**Cluster 3 Flexible labour market** (UK)	**Cluster 4 Industrial workbench** (SI, PL, SK, HU, CZ)	**Cluster 5 Periphery** (GR, PT, ES, IT, FR)	**Cluster 6 High tech** (SE, DK, NL, BE, FI, DE, AT, IE)
Endowments						
Employment in agriculture	**13.71**	1.94	***1.41***	8.34	8.08	3.89
Share of oil in total exports	**0.14**	***0.00***	0.08	0.02	0.03	0.03
Share of primary goods in total exports	**0.24**	0.09	***0.08***	0.09	0.17	0.14
Natural resources rents in % of GDP	**1.44**	***0.05***	0.75	0.56	0.11	0.39
Share of manufacturing in % of GDP	13.71	***7.57***	11.19	**19.79**	12.97	17.23
Technological capabilities						
Economic complexity	***0.60***	1.27	**1.80**	1.37	0.94	1.67
Employment in industry	**29.14**	***17.77***	22.69	35.41	26.34	24.79
Gross domestic expenditure on research and development in % of GDP	***0.85***	1.48	1.63	1.08	1.20	**2.37**
ICT capital share in GDP	3.85	**3.88**	3.22	3.30	***2.82***	3.36
Government expenditure on education in % of GDP	**6.21**	4.98	5.31	5.17	***4.96***	5.58

Labour market institutions						
Coordination of wage setting	1.19	2.38	***1.00***	2.12	2.75	**4.08**
employment protection legislation	2.40	2.25	***1.20***	2.45	**2.92**	2.30
Unemployment benefit net replacement rates in %	69.18	**82.93**	***19.40***	62.37	65.17	66.92
Average wages per year PPP Dollar	***15,950***	**55,570**	40,390	21,640	33,400	43,720
Adjusted wage share in %	***56.50***	58.17	63.20	57.78	62.19	**62.57**
Regulatory environment						
Corporate tax revenue as % of GDP	***1.70***	**5.88**	3.12	2.65	3.41	3.06
Estate tax plus all other wealth tax revenue as % of GDP	***0.55***	2.26	**2.95**	0.55	1.27	0.77
Foreign direct investment (FDI) to GDP	6.17	**41.03**	3.95	6.46	***1.95***	8.11
Share of financial sector in gross output	***1.83***	**34.65**	4.93	1.87	2.59	2.96
De jure component of the KOF globalisation econ index	80.47	**88.99**	88.26	***67.66***	82.17	85.47

The fifth trade model consists of the Southern European countries Greece, Portugal, Spain, Italy and France. Even though agriculture represents an important employment sector, the relevance of primary goods in this 'periphery model' is lower than in the primary goods model. The technological capabilities in the periphery model are less well developed than in the other trade models with the exception of the primary goods model. Moreover, the periphery model

exhibits the smallest ICT capital share and the lowest government expenditures on education across all trade models. Also, the degree of economic complexity, the total output of industry and the gross domestic expenditures on R&D are rather low. This combination of poor technology, low investments in education and strict employment protection legislation seem to provide an unattractive setting for foreign direct investments. As a consequence, this trade model is most strongly constrained by the fact that currency devaluations became impossible after the introduction of the euro as a shared currency.

Finally, the sixth model comprises Sweden, Finland, Denmark, Netherlands, Belgium, Ireland, Germany and Austria. These countries distinguish themselves from the others mainly in the dimensions of technological capabilities and labour market institutions. These eight countries have the highest R&D investments and also show a high degree of economic complexity. Because of their international competitiveness, particularly with regard to complex products requiring a high level of technological capabilities, we term this model the 'high-tech model'. The high expenditures on R&D and education suggest that this trade model is characterised by an active role of the state in a mixed economy. Most prominently, Mazzucato (2013) has already pointed out the relevance of the interaction between the state and private firms when it comes to fostering innovation and technical developments. The high-tech model also stands out from the others due to the highest degree of wage coordination and relatively high wage shares (Sorge & Streeck, 2018). The main trade strategy in this cluster is to produce internationally competitive complex products of high quality. To do so, not only are large investments in research and development necessary but also an environment that fosters education and research in a bargaining relationship based on trust between labour- and capital-related institutions (e.g., Zhou et al., 2011; Kleinknecht et al., 2013). The links between a corporatist (Traxler et al., 2001) inclusion of societal interests in public decision-making in coordinated market economies and its positive impact on productivity and innovation outcomes has also been documented extensively (e.g., Hall & Soskice, 2001; Storm & Naastepad, 2009).

By focusing on the overall positioning of economies in globalised markets, we find some similarities, but also differences, to previous studies. Our typology suggests that categorising Europe into core and periphery countries (e.g.,

Galgóczi, 2016: Laffan, 2016; Sepos, 2016) could be too simplistic when it comes to trade models in the EU. However, to some extent the distinction between core and periphery is also visible in our results, as the periphery model and the high-tech model have a series of features that resemble those typically attributed to core and periphery countries. Nonetheless, our suggested typology is closer to the findings of Gräbner et al. (2020a), who consider more than two groups. Taking a closer look reveals that countries with similar path dependencies in their development also share a similar trade model. There are some differences in the composition of the group, however, which are most likely due to Gräbner et al. (2020a) also considering more macroeconomic benchmark variables, such as debt per capita, GDP growth and unemployment, while our focus is exclusively on trade-related factors.

3. SOCIO-ECONOMIC DEVELOPMENT IN DIFFERENT TRADE MODELS

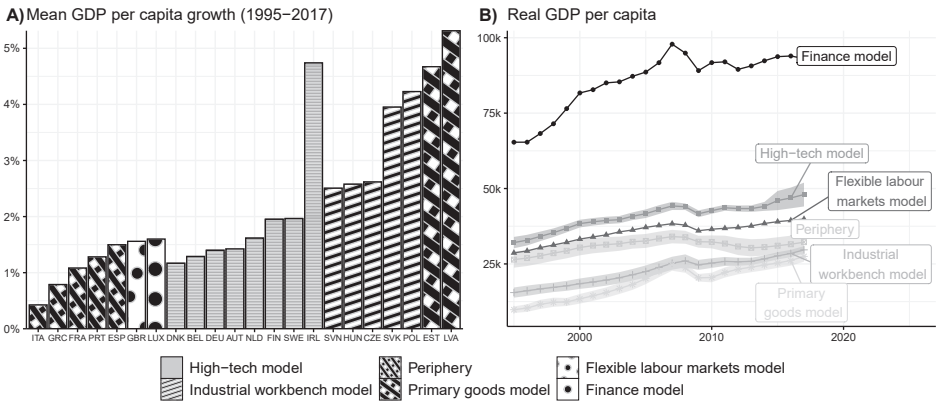
In what follows, we study whether particular trade models tend to be accompanied by specific patterns of socio-economic development, particularly growth and employment (3.1), trade performance (3.2) and inequality (3.3).

3.1. Growth and employment

The highest growth rates in terms of GDP per capita can be observed in the Baltic countries, although these countries were hit particularly hard by the financial crisis in 2007 and thereafter (see Figure 3). The only exception is Ireland; the growth rates of Ireland are, however, hard to interpret because of statistical problems in national accounting that result from the restructuring activities of Irish-based multinationals (e.g., Beesley, 2017; Linsi & Mügge, 2019). The average growth rate of the Baltic countries exceeds those of the other trade models considerably, with the two countries following the primary goods model clearly taking the lead – albeit with a relatively volatile development path and relatively low absolute levels of income. Given the importance of the primary sector in these countries, this is hardly surprising. Countries following the industrial workbench model also experienced exceptional growth rates, which can most likely be traced to the effects of increasing returns associated with accelerating industrialisation in conjunction with a stable employment structure in these countries (see below). As Figure 3b indicates, these high growth rates are, however, at least to some extent, also due to the low absolute values of their GDP per capita: the Eastern

countries are still the poorest in our sample and have so far only managed to catch up to the countries in the periphery, which have experienced by far the lowest growth rates of all the countries.

Figure 3: *Growth of real GDP per capita (PPP). Source: World Bank; own calculations.*

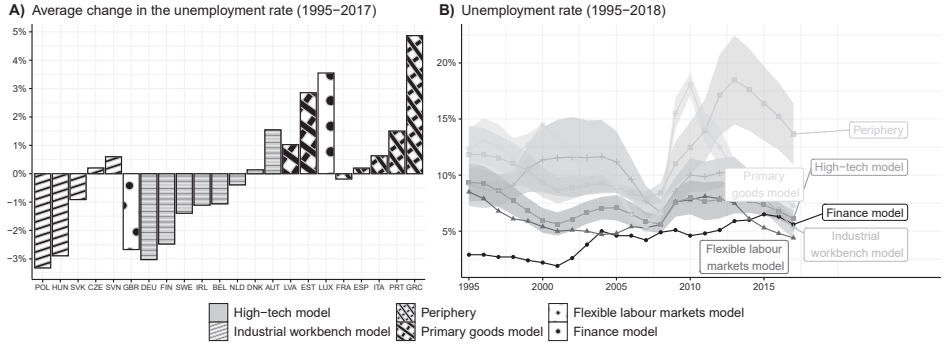


Between these extremes, we find the countries following the high-tech model, the flexible labour market model and the finance model. All these countries – despite following very different trade models – experienced similar growth rates from 1994 onwards, although the focus on finance in Luxembourg led to a much more volatile development. When considering the levels of GDP per capita, the exceptional state of affairs in Luxembourg becomes obvious. In addition, we also note significant higher per capita incomes in the high-tech cluster as compared to the flexible labour market model.

Given that labour market institutions played an essential role in delineating the different growth models, we might expect employment dynamics between trade models to be different. Figure 4a confirms this conjecture by suggesting a kind of dichotomous polarization across trade models: unemployment fell considerably in the countries following the industrial workbench model, indicating that they were harvesting the benefits of their successful industrialisation (although regional differences continued to play a role). The flexible labour market model and the high-tech countries also managed to reduce unemployment significantly, the former mainly through a very flexible labour market with strong incentives to

accept work, the latter mainly through their competitiveness in terms of technological capabilities and a strong export industry.[4] On the other hand, unemployment grew considerably in the finance model, but this is mainly the result of an exceptionally low unemployment rate in the year 1994, the lowest of all the models. The high increase in unemployment in the countries following the primary goods model is more serious. This indicates that – despite rising incomes in the past – these countries faced the challenge of structural change to more future-fit industrial sectors. The by far worst development of employment can be observed in the periphery countries, who not only faced severe problems of international competitiveness, but above all suffered from harsh austerity measures and a continuing recession after the financial crisis.

Figure 4: *Unemployment rate in per cent. Source: AMECO; own calculations.*



The relevance of the crisis in shaping employment patterns becomes obvious when inspecting Figure 4b. While there are some convergence tendencies of the unemployment rate until the year 2007, countries following different trade models showed very different reactions to the financial crisis: all countries experienced a spike in unemployment, but this effect was barely noticeable in Luxembourg, was rather moderate in the high-tech, industrial workbench and the flexible labour market models, and extreme for the countries following the periphery and the primary goods models. Compared to the latter, the periphery

[4] Even so, Germany also introduced restrictive labour market reforms (the "Hartz Reforms", see, e.g., Mohr, 2012), which put high pressure on unemployed and led to wage moderation. Its superior technological competitiveness, however, still seems to be the main determinant for its export success (Storm & Naastepad, 2015a, 2015b).

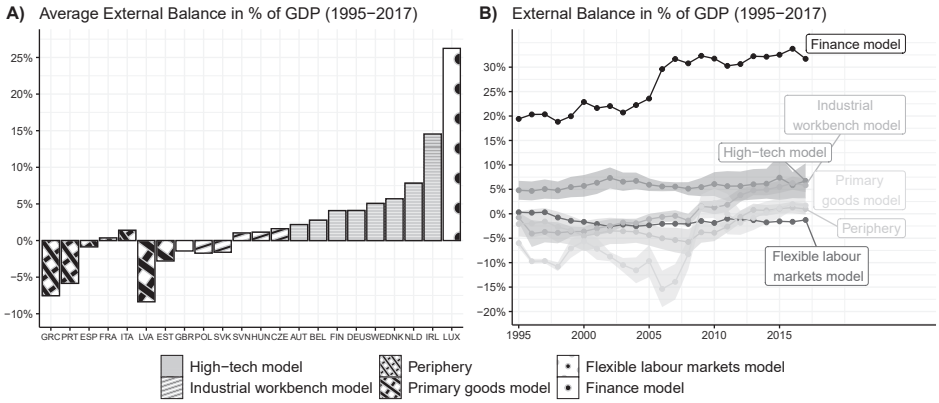
barely recovered from this shock and still experiences by far the highest unemployment rates of all the countries. The countries following the primary goods model managed to recover to some extent, but still record significantly higher unemployment rates than the rest, including the other Eastern European countries following the industrial workbench model, the strong industrial sector of which seems to be a better job provider than the primary goods sector in Latvia and Estonia. The remaining clusters (high-tech, finance and the UK) now all experience similar levels of unemployment.

3.2. Trade performance

We now assess the various trade models with regard to their external balance.[5] As shown in Figure 5a, it is mainly Luxembourg and the countries following the high-tech trade model that achieve a positive current account balance on average, although as the result of different mechanisms. The constant current account surplus in the high-tech countries is most likely due to their advanced industrial sectors being capable of producing complex products that face less competition, but enjoy stable demand, as compared to the technologically less sophisticated products produced by the periphery countries or those following the primary goods model. The latter two groups show the worst average current accounts, with only Spain and Italy being the exceptions. This has to do with the regional polarization within these countries: in Spain, for example, companies in the north have a strong position in the world markets and contribute positively to the current account of Spain as a whole. But the south of Spain is scarcely industrialised, and companies possess only few technological capabilities. A similar divide can be observed within Italy. The positive trend since the financial crisis (Figure 5b) can be traced back to shrinking imports, which themselves are due to a considerable reduction in citizens' disposable income. The industrial workbench countries improved their external balance, indicating that their newly established industries are increasingly competitive on international markets.

[5] Most of what can be said about the external balance, which is defined as the difference between exports and imports of goods and services expressed as a share of total GDP, is equally true for the current account balance of the countries more generally.

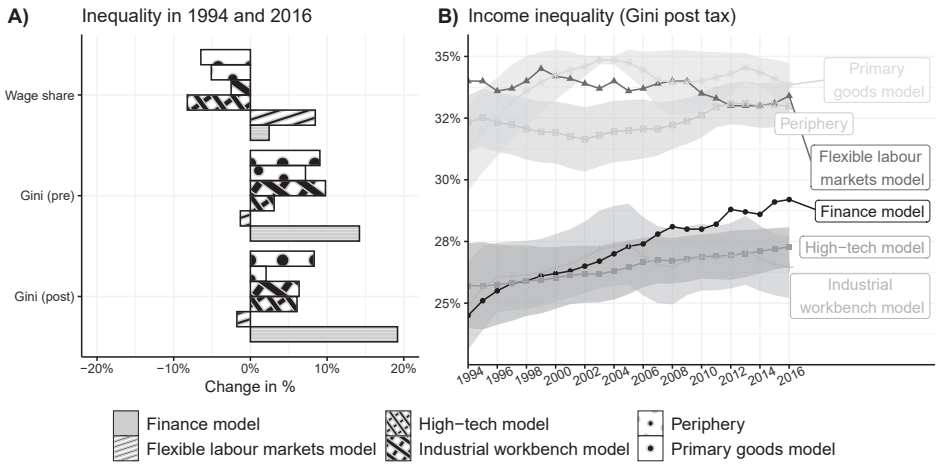
Figure 5: *Trade balance in % of GDP. Source: World Bank.*



3.3. Inequality

Finally, we study whether different trade models are also accompanied by distinct inequality dynamics. With regard to the functional income distribution, we observe a reduction in the wage share in all the trade models except for the UK and the finance model, indicating that in most trade models, employees did not benefit markedly from economic growth and increasing international integration (see Figure 6a). The exceptional role of Luxembourg and the UK is most likely due to the many well-paid jobs in the large financial sectors of these countries. Because of their different economic structures, this does not imply a high level of personal inequality in Luxembourg, where the vast majority of the population enjoys high salaries, but it does so for the UK: here the well-paid employees are concentrated in the South, particularly in the City of London, whereas the North in particular is characterised by lower wages and higher unemployment. This becomes immediately obvious in the right panel of Figure 6, where the UK belongs to the group of very unequal clusters, while Luxembourg still enjoyed moderate levels of income inequality, although it had suffered from the most pronounced increase in personal income inequality since 1995 and exceeded the high-tech and industrial workbench countries, whose levels of personal income inequality remained moderate as compared to the other trade models.

Figure 6: *Development of wage-share and Gini index between 1994-2016. Source: AMECO for the wage share and Solt (2019) for inequality data.*



The consideration of inequality highlights important differences between the trade models that appeared to be similar in terms of their growth and employment dynamics (5.1) and foreign trade performance (5.2): for instance, while the industrial workbench economies still enjoy comparatively low levels of inequality, inequality is high in the countries following the primary goods model despite both models enjoying respectable growth rates of GDP per capita. Here, the low unemployment rates and the less volatile development dynamics associated with the focus on industrialisation inherent in the industrial workbench model seem to be important parts of the explanation. In addition, while the UK at first sight seems to be similar to the countries following a high-tech trade model, the focus on the production of high-tech products comes with significantly lower levels of inequality than the focus on flexible labour markets and a concentrated financial sector in the UK.

4. DISCUSSION

In this paper, we complement the literature on growth models in Europe by systematically analysing one component of aggregate demand that has featured particularly prominently in the literature so far: international trade. Building on the four theoretical dimensions – natural endowments, technological capabilities, labour market characteristics and regulation – we have delineated a typology of

trade models in 22 EU countries. Based on 20 variables, we have used a hierarchical cluster analysis to identify six trade models in the EU: the 'primary goods model' (Latvia, Estonia), the 'finance model' (Luxembourg), the 'flexible labour market model' (UK), the 'periphery model' (Greece, Portugal, Spain, Italy, France), the 'industrial workbench model' (Slovenia, Slovakia, Poland, Hungary, the Czech Republic), and the 'high-tech model' (Sweden, Denmark, Netherlands, Belgium, Ireland, Finland, Germany and Austria).

This typology complements previous findings from the existing literature. As expected, our results align well with existing typologies of growth models (e.g., Gräbner et al., 2020a), which underlines the observation that trade models and growth models are closely related and subject to a process of co-evolution. Most strikingly, the countries that follow the high-tech model in our case are almost identical to those that Gräbner et al. (2020a) consider as core countries, and the periphery in their study is almost the same as in our analysis of trade models. This suggests that trade models strongly relate to the more general positioning of a country within the political economic environment of the EU. We also find some similarities to the results of Esping-Andersen (1990), although our focus on trade patterns differs from their focus on welfare regimes. The flexible labour market model resembles the liberal regime (United States, Canada, Australia) in Esping-Andersen (1990) with respect to their composition and welfare state characteristics. Furthermore, the high-tech model shares some similarities with the social democratic regime of Esping-Andersen (1990) but also includes conservative countries such as Germany and Austria.

Our trade typology also complements the literature on technological capabilities and regulation. One result that stands out is that the high-tech model is characterised by a large stock of technological capabilities and that it seems to provide institutions and a political setting ensuring stability even in times of economic turmoil, as indicated, for instance, by the relatively stable GDP growth and unemployment rates during and after the 2008/2009 crisis. At the same time, the high-tech model shows one of the highest wage shares and the lowest income inequality of all the trade models in Europe. Thus, lower inequality does not necessarily hamper economic performance or trade, and there is an alternative to wage moderation when it comes to achieving international competitiveness and economic prosperity. A possible explanation is the relationship between

economic growth and the economic complexity of a country. According to Hidalgo and Hausmann (2009), economies that produce and export more complex goods also follow a sustained growth path that leads to higher prosperity than in countries that produce simpler products. In order to facilitate the development of a more complex product pool, the state has an essential role to play when it comes to fostering collective knowledge, human capital accumulation and setting the legal and institutional framework in a way that allows for improving an economy's capabilities for innovation (Felipe et al., 2012; Mazzucato, 2013). Our results indicate that labour market institutions, an active government and investments in R&D may play an important role in achieving these goals.

Finally – and obviously – this paper leaves room for further research. One possible extension would be to analyse how trade patterns have changed over time. In developing our trade models in the EU, we have used data from 1994 to 2016. Due to the introduction of the euro during this period, it is reasonable to assume that some economies changed their trading strategies as well as their institutional settings. Unfortunately, most of the relevant OECD data are only available after a country has joined the OECD. Consequently, available data are very limited for new OECD countries. Further research on the development of trade models on the basis of improved data availability could provide a better picture of how trade models change over time. And while another interesting task would be to analyse political developments in the context of trade models, we hope that in its present form, the paper has already helped to highlight some important differentials in trade patterns among European economies in the recent past.

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Disclosure statement

There is no potential conflict of interest.

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APPENDIX

A. Data Sources

Data used for the clustering		
Indicator	**Unit**	**Source**
Employment in agriculture	Share of total employment	World Bank (Indicator: SL.AGR.EMPL.ZS)
Oil exports[6]	Share of total exports	The Atlas of Economic Complexity
Primary goods	Share of total exports	The Atlas of Economic Complexity
Natural resources rents	Share of GDP, current prices	World Bank (Indicator: ny.gdp.totl.rt.zs)
Share of manufacturing	Share of GDP	World Bank (Indicator: NV.IND.MANF.ZS)
Gross domestic expenditure on research and development	Percent of GDP	World Bank (Indicator: GB.XPD.RSDV.GD.ZS)
Government expenditures on education	Percent of GDP	Eurostat (Indicator: gov_10a_exp)
ICT capital share in GDP	Percent of GDP	Jorgenson and Wu
Employment in the industrial sector	Percent of total employment	World Bank (Indicator: sl.ind.empl.zs)
Economic complexity index	Index	The Atlas of Economic Complexity
Coordination of wage-setting	Index	Visser (2016) (ICTWSS Data base, version 5.1)
Strictness of regulation on dismissals and the use of temporary contracts.	Index	OECD
Unemployment benefit net replacement rates for single earner in initial phase of unemployment	Percent	OECD (Dataset: NRR)
Average wages per year	PPP Dollar	OECD (Indicator: AV_AN_WAGE)
Adjusted wage share	Percent of GDP	AMECO

[6] This comprises the products within the following SITC V2 categories: 28, 32, 35, 68, 97, 5224, 5231, 5232, and 5233.

Corporate Tax[7]	Tax revenue as percent of GDP	OECD
Taxes on estates and other wealth taxes[8]	Tax revenue as percent of GDP	OECD
Share of financial sector in gross output	Percent of all sectors	EU KLEMS
Foreign direct investment (FDI)	Percent of GDP	World Bank
De jure component of the KOF econ index	Index	Gygli et al. (2019)
Data used for analyzing development trajectories		
Growth of real GDP per capita	PPP	World Bank, own calculations (Indicator: NY.GDP.PCAP.PP.KD)
Unemployment rate	Percentage of labour force	AMECO
Current account balance	Percent of GDP	AMECO
External balance	Percent of GDP	World Bank (Indicator: NE.RSB.GNFS.ZS)
Wage share	Percent of GDP	AMECO
Gini index	Index	Solt (2019)

The raw data has been published (Gräbner-Radkowitsch et al., 2019)]. The code used to create the results and figures in the paper is available via Github: https://github.com/graebnerc/trade-typology.

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[7] This comprises the following OECD tax codes: 1120, 1200, 6100, 1300 and 5125.

[8] Other wealth taxes comprise the following OECD tax codes: 4200, 4500 and 4600.

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*Bojan Matkovski**
*Danilo Đokić***
*Luna Vodana Jović****

HOW CEFTA INFLUENCED THE COMPETITIVENESS OF AGRI-FOOD TRADE IN THE WESTERN BALKANS

ABSTRACT: *The regional integration with the CEFTA significantly influenced the liberalisation of the market, which led to an increase in exports of agri-food products in the Western Balkan economies. The main objective of this paper is to examine the impact of the CEFTA on the export of agri-food products of Western Balkan economies on the global and regional markets. In this context, comparative advantages have been analysed, and the gravity model based on panel data has been estimated. According to the results, all the Western Balkan economies have comparative advantages in exporting on the international market. Results of the gravity model estimation showed that free trade agreements with the CEFTA positively affected the intensification of agri-food product exports. Western Balkan economies have similar economic development and competitiveness levels. Thus, reintegrating the market established by CEFTA affected the export of agri-food products.*

KEY WORDS: *CEFTA, agri-food trade, Western Balkans, revealed comparative advantages, gravity model.*

JEL CLASSIFICATION: Q17, Q18, F15.

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* University of Novi Sad, Faculty of Economics in Subotica, Serbia, email: bojan.matkovski@ef.uns.ac.rs (corresponding author)
** University of Novi Sad, Faculty of Economics in Subotica, Serbia, email: danilo.djokic@ef.uns.ac.rs
*** University of Novi Sad, Faculty of Economics in Subotica, Serbia, email: lunavodana4@gmail.com

1. INTRODUCTION

The Central European Free Trade Agreement (CEFTA) was initially a free trade agreement between Central European economies. The agreement was signed between Poland, Hungary, and Czechoslovakia in Krakow on December 2, 1992. As Kupich (1999) noted, the intensification of cooperation within the CEFTA was intended to prepare the Central and Eastern European economies for European Union (EU) integration. Therefore, CEFTA should not be understood as an end in itself, but rather as a means to the strategic goal of European integration. In the meantime, Slovenia, Romania, Bulgaria, and Croatia joined the agreement and have left it by joining the EU. Today, all the members of the CEFTA agreement are Southeast European economies, i.e. the economies of the Western Balkans (Serbia, North Macedonia, Bosnia and Herzegovina, Albania, and Montenegro) and Moldova.

The CEFTA is crucial for the economies of the Western Balkans for several reasons. The first reason is economic. As Kikerkova (2009) noted, this agreement has significantly affected trade growth between the Western Balkan economies in just two years. Furthermore, the CEFTA is essential for strengthening cooperation among CEFTA parties that have often conflicted in the relatively recent past. Also, this agreement is important from the perspective of European integration. By means of strong regional cooperation, the CEFTA can play an indirect role in the elimination of political disagreements between these economies. As Petreski (2013) emphasised, strengthening cooperation, reducing non-tariff barriers, the mutual attraction of foreign investments, harmonisation of laws on public procurement, and other joint activities can bring significant benefits to Western Balkan economies and accelerate the European integration process and increase global market presence.

Geographical proximity, as well as cultural similarity, generally affect deeper connections. The Western Balkan economies have specific characteristics that give them good preconditions for regional cooperation (The World Bank, 2008):

- Most Western Balkan economies were part of the former Yugoslavia single market, so significant benefits can be gained from reintegration, for example of supply chains;

- The Western Balkan economies are generally small, so many benefits can be realised through participation in a larger regional market;
- Numerous geographical and ethnic factors lead to the growth of interdependence of these economies: language similarity, common ethnic minorities, geographical specificity of Croatia that surrounds Bosnia and Herzegovina;
- All Western Balkan economies strive for EU integration, which means they have the same long-term regulatory framework.

The main **goal** of this paper is to determine the impact of the CEFTA on the agri-food trade competitiveness of Western Balkan economies. This impact will be examined through analysis of the comparative advantages and estimation of the gravity model. Based on this goal, two **hypotheses** are created:

- *CEFTA significantly improved export flows of agri-food products in Western Balkans;*
- *CEFTA significantly influenced the comparative advantages of the export of agri-food products in the Western Balkans.*

It is indeed rare to find this methodology used to achieve such a research goal and test these hypotheses in the context of the agri-food sector of the Western Balkan countries. The above methods provide a broader picture of the effects of CEFTA on the foreign trade positions of the analysed sector. This is the reason for this study, as there is a lack of papers analysing trade and competitiveness in the agri-food sector compared to trade and competitiveness in the industrial sector. On the other hand, the main motivation is to fill the gap in the literature on the effects of trade agreements on the above sector. With its originality in research and defined policy implications, the paper will undoubtedly contribute to filling the gap in the literature.

The paper is divided into several sections. After the introduction, a detailed review of the literature is presented. This is then followed by an explanation of the basic methods of this research and the databases used. Next, the research results are divided into three parts: global competitiveness, trade and comparative advantages, and gravity model estimation. The discussion and conclusion are the last two sections of this paper.

2. LITERATURE REVIEW

The analysis of competitiveness is very complex because it can be conducted using different approaches, and this is confirmed by the numerous definitions of competitiveness (there is no universal definition), defined levels and forms of competitiveness, and different ways of measuring and expressing it. This is one of the main disadvantages of competitiveness analysis; the problem of defining the meaning of the term and the wide varieties of competitiveness determinants in space and time (Siudek & Zawojska, 2014). In the literature, competitiveness is generally divided into micro and macro levels at the company or country level, but some authors include the term meso competitiveness to describe regional competitiveness or the position of some part of the industry in revealing the competitiveness of an economy (Jambor & Babu, 2016). It is more common to look at competitiveness from new perspectives that go beyond traditional ways of viewing the Gross Domestic Product (GDP) to analyse the position of an economy in international comparison (Aiginger et al., 2013). New approaches to measuring competitiveness are becoming more common as economies become more integrated in the world market of developed globalisation (Önsel et al., 2008). Competitiveness is often connected with the term comparative advantages, although these two terms should not be mistakenly equated, because they have some differences (Frohberg & Hartmann, 1997). Competitive advantages are based on comparative advantages, but many other factors determine the competitiveness of a country (Bhawsar & Chattopadhyay, 2015). The strength of comparative advantage is that it takes into account the intrinsic advantage of a particular export commodity and is consistent with changes in the relative factors and productivity of the economy (Maryam et al., 2018).

One of the indicators used in analysing the competitiveness of the agri-food trade is the index of revealed comparative advantages (RCA) on the global market (Balassa, 1965), which can be employed to reveal strong and weak points of development of the agri-food sector in different economies. Also, the index can show comparative advantages of some sectors of an economy compared to other economies while those sectors could have negligible impact on the domestic economy (Hinloopen & Marrewijk, 2001). According to Bojnec and Fertő (2018), the duration of the comparative advantages of economies can also be measured by the RCA index within regions with trade agreements or trade unions. Costinot et al. (2012) made a theoretically consistent alternative to RCA by putting

productivity differences at the forefront of the analysis of a central question in international economics. In the literature, more alternative indexes of comparative advantages have also been used in recent studies (Yu et al., 2009). Other indexes employed in the literature are the net trade index, the index of current competitiveness, productivity, Grubel-Lloyd index, the global index of competitiveness, and many others. French (2017) concluded that certain indexes could be usefully employed for certain tasks, as no single ideal index is appropriate for all tasks. According to Mizik (2021), the choice for measuring competitiveness depends on the available datasets, as well as on the choice of the researcher.

A gravity model is often used in the literature to describe the effects of foreign trade liberalisation and integration through the application of free trade agreements. The model was initially derived from Newton`s law of gravity, and was introduced in research on the international economy in 1962 (Tinbergen, 1962). The equation of the gravity model was defined as empirically complete at that time, although some indications of the gravity model of international trade can be found as early as the 18th century (1776) in the works of Adam Smith through his research on the bilateral volume of trade as a function of the size of an economy and the distance between economies. These were considered as elements of and reasons for the growing wealth of nations spilling over into foreign economies through international trade (Elmslie, 2018). In the equation of the gravity model, trade between two economies is considered to be proportional to the GDP of economies and inversely proportional to their territorial distance, these being the main factors of a model. More frequent use of this model, which is considered an empirical success although it initially had theoretical shortcomings (Bergstrand, 1985), brought new variables other than GDP and distance into research on international trade between economies. The variables are political, institutional, geographical, historical, communicational, and cultural. These factors can either improve or limit trade while reducing or creating trade barriers between economies (DeRosa, 2008; Trivić & Klimczak, 2015), and these factors are of particular interest when specific attributes of the Western Balkans and its trade are considered. Although traditional models neglected the influence of certain variables on trade, the gravity model allows us to see the influence of geographical distance, which reduces trade, as well as comparative advantages, which promote trade (Eaton & Kortum, 2002).

Anderson and van Wincoop (2003) developed a method that consistently and efficiently estimated the gravity model and concluded that national borders reduce trade between industrialised countries by moderate amounts of 20-50%. A wider range of possible uses of the model resulted in its application in the trade analysis of inter- and intra-trade between regions, with special utilisation in questioning the effects of free trade through preferential bilateral agreements (Nguyen, 2019) and customs unions (Urata & Okabe, 2010) that have impacted the development of regionalism (Martinez-Zarzoso, 2003). The effects of free trade agreements can also be noticed in agri-food trade at a regional level (Grant & Lambert, 2005).

Arkolakis et al. (2012) investigated how micro-level data, as part of a new and richer quantitative trade models, showed larger gains from trade but concluded that this is not the case. They suggested, however, that these data should be used in combination with trade models. A significant contribution to theoretical and empirical gravity modelling was provided by Head and Mayer (2014), who facilitated the diffusion of best-practice methods by illustrating their application and concluded that estimation of the gravity model was just a first step before a deeper analysis of the implications of the results (in terms of welfare). Additionally, Baier et al. (2014) developed an estimation of economic integration agreements on international trade flows to account for the endogeneity of such agreements. This type of modelling has led to larger and more precise estimates.

The index of RCA has been used in the literature to determine the export competitiveness of the agri-food sector of individual Western Balkan economies and at the regional level. It has been used in some research on export competitiveness in the Western Balkan market and CEFTA (Miteva-Kacarski, 2018; Marković & Marjanović, 2019; Matkovski et al., 2021) and in research on the export competitiveness of agri-food products of individual economies (Cvetković & Petrović-Ranđelović, 2017) and the whole region of the Western Balkans (Matkovski et al., 2016). Research by the authors Matkovski et al. (2016) showed that all the economies of the Western Balkan region, except Albania, have comparative advantages in the export of agri-food products.

Using the gravity model, some examples in the literature so far deal with the estimation of the effects of CEFTA on the trade of agri-food products in the

Western Balkans at the level of one economy or for the whole region. So far, research for Serbia has shown that trade liberalisation and CEFTA have had positive impacts on the agri-food sector and the trade of agricultural products, but there is certainly a place for further improvement of the economy's position as the spread of positive results was unevenly distributed. Results from research on the estimation of the gravity model for the period 2004-2012 showed that the market was characterised by an improved position of the Serbian agri-food trade and export growth in all the economies with whom Serbia signed free trade agreements (Dragutinović-Mitrović & Popović-Petrović, 2013). Furthermore, it was discovered that CEFTA had the greatest impact on intra-regional trade of the Western Balkan economies for the same period of observation because of the reduction in trade barriers. Western Balkan economies were in an inferior position compared to most EU economies because of the barriers still present in trade with the EU core and their much greater competitiveness (Dragutinović-Mitrović & Bjelić, 2015). According to the research of Matkovski et al. (2018a), in the 2005-2015 period, there was a deficit in the agri-food trade in all the Western Balkan economies, except for Serbia, while results of the estimations of the gravity model showed that CEFTA impacted unevenly on the individual exports of the economies of this region. The main trade partner of the Western Balkan economies was the EU, although intensified trade in agri-food was present inside the CEFTA region with similar tendencies in both export and import (Matkovski et al., 2018b). Also, Uberti and Demukaj (2019) analysed regional integration, trade, and development in the Balkans using a dynamic Poisson estimator in panel data. These authors indicated that the ability of CEFTA to take advantage of trade liberalisation depends on the supply-side environment and concluded that proactive policies for export promotion and industrial upgrading are fundamental.

To the best of our knowledge, there are no recent studies in the literature dealing with problematic effects of the trade in agri-food products in the Western Balkans that simultaneously evaluate the effects of CEFTA using the gravity model and comparative advantages. Therefore, our research will contribute to filling this gap.

3. MATERIAL AND METHODS

In line with the main goal of this research, to evaluate the changes in the export competitiveness of agri-food products in the Western Balkans influenced by CEFTA, we use an index of revealed comparative advantages and estimation of the gravity model. First, comparative advantages are calculated using the traditional RCA index, which was developed by author Balassa (1965) and is often used in determining comparative advantages in the agri-food sector (Mizik, 2021):

$$RCA_{ij} = \frac{\frac{X_{ij}}{X_{it}}}{\frac{X_{nj}}{X_{nt}}} \quad (1)$$

where: X is exports; i is country; j is sector; t is total exports; and n is the group of exporting economies. When RCA is greater than 1, there are comparative advantages of the analysed sector. An RCA greater than 3 means a strong level, an RCA between 2 and 3 means a significant level, while values of RCA between 1 and 2 represent a satisfactory level of comparative advantages (Matkovski et al., 2022).

The effects of trade liberalisation induced by CEFTA are estimated using the gravity model with panel data. Since Tinbergen (1962), a number of specifications of this model have been derived, and this paper uses a linear form of the model similar to that in the paper of Dragutinović-Mitrović and Popović-Petrović (2013) and Matkovski et al. (2018b):

$$ln\, X_{ijt} = ln\, \alpha + \beta_1\, ln\, Y_{jt} + \beta_2 \ln(Y_{jt}/L_{jt}) + \beta_3\, ln\, D_{ij} + \beta_4\, B_{ij} + \beta_5\, CEFTA_{ijt} + \beta_6\, SAA_{ijt} + \mu_{ij} + \lambda_i + u_{ijt} \quad (2)$$

where:

- X_{ijt} is a dependent variable that represents the export value of agri-food products of exported economy i to the economy j in period t;
- Y_{jt} is an independent variable that represents the GDP of the importer economy j in period t, while (Y_{jt}/L_{jt}) is an independent variable that represents the GDP per capita of the importer economy j in period t. These two independent variables together represent a factor of demand of the

importer economy j, and it is expected that these two variables have positive effects on the export of agri-food products;

- D_{ij} is an independent variable that represents the distance between the main economic centres of economies i and j. It is expected that this variable has negative effects on the export of agri-food products;
- B_{ij} is a dummy variable that examines the effects of the shared border of economies i and j. Since a shared border, as a rule, increases trade exchange, this variable has a value 1 for the economies that have shared borders with the Western Balkan economy and a value 0 for other economies. It is expected that this variable has positive effects on the export of agri-food products;
- $CEFTA_{ijt}$ is a dummy variable that examines the effects of CEFTA on the trade of agri-food products between economies i and j. This variable has value 1 if both economies are CEFTA members in time t. It is expected that this variable has positive effects on the export of agri-food products;
- SAA_{ijt} is a dummy variable that examines the effects of the Stabilisation and Association Agreement (SAA) on the trade of agri-food products between economies i and j. This variable has value 1 for economy i that signed SAA in time t. It is expected that this variable has positive effects on the export of agri-food products;
- μ_{ij} stands for individual effects in the panel model which cover the specifics of bilateral trade between economies i and j;
- λ_t stands for the temporal effects in the panel model that vary over time, but not in county pairs;
- and u_{ijt} is a stochastic variable of the model.

The data sample includes exports from five Western Balkan economies (Serbia, Bosnia and Herzegovina, North Macedonia, Montenegro, and Albania) to the 38 most significant trade partners (economies of the EU, CEFTA, Turkey, the Russian Federation, Switzerland, Kazakhstan, and Belarus) in the period 2005-2020. Thus, the estimated model covers 2,501 observations of the panel data (unbalanced panel data). The procedure of the model estimation was carried out using Gretl 1.10.0 and StataIC 13 software, while an empirical base was completed using the UN Comtrade Database (2021) for the values of exports, the World Bank (2021) for values of GDP and GDP per capita, the World Atlas (2021) for distances in kilometres between the main economic centres, and the European Commission (2021) and the CEFTA Portal (2021) for completing the dummy

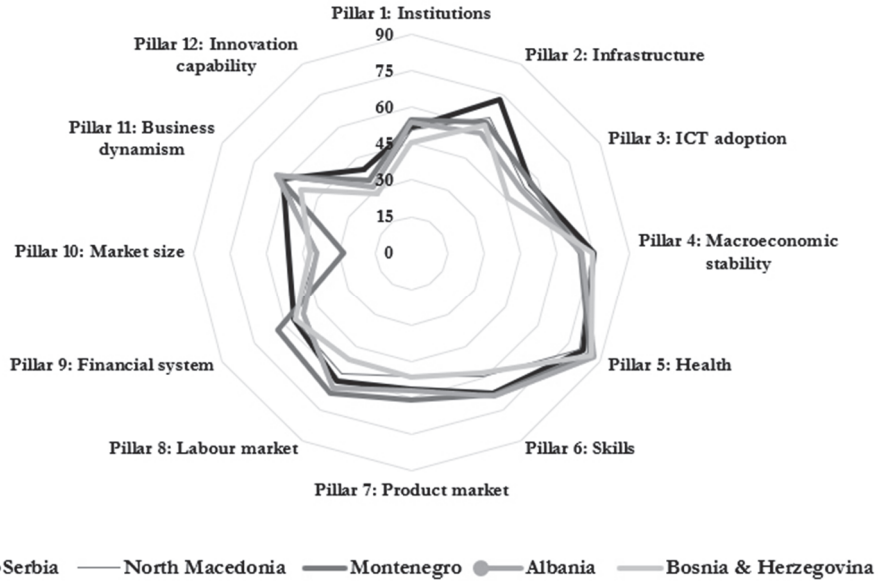
variables CEFTA and SAA. According to the Standard International Trade Classification – Revision 4, the concept of agri-food products (Matkovski et al., 2022) includes the following divisions and commodity groups: 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 11, 12, 21, 22, 261, 263, 264, 265, 268, 29, 41, 42, and 43.

4. RESULTS

4.1. Global competitiveness

Before analysing the competitiveness of the agri-food sector, the global competitiveness of the Western Balkan economies will be analysed using the Global Competitiveness Index 4.0 (GCI). Covering 140 economies, the GCI measures national competitiveness, defined as the set of institutions, policies, and factors that determine the level of productivity (World Economic Forum, 2021). This index was created on the basis of many indicators grouped into 12 pillars, and the results for Western Balkan economies are shown in Figure 1.

Figure 1. Global competitiveness index of the Western Balkan economies in 2018



Source: The authors' calculations on the basis of World Economic Forum, 2021

The first noticeable thing is that all the Western Balkan economies are at a similar level of competitiveness in terms of all indicators, which indicates the potential of creating a single market in this region as envisaged by the Action Plan for a Common Regional Market (CEFTA, 2021). Second, Serbia, which is also the best-ranked economy in the region (ranked 65th globally), stands out in terms of indicators related to infrastructure (Pillar 2) and market size (Pillar 10). Regional infrastructure projects mediated by the EU would significantly improve the position of other economies. Third, perhaps the biggest problem of the Western Balkan economies is the low level of innovation capability (Pillar 12) and the lack of quality institutions and administration (Pillar 1).

4.2. Trade and comparative advantages

The economic importance of the agri-food sector is reflected in the relatively high share of these products in total exports (Table 1). The largest share of agri-food products in total exports is evident in Serbia, which was 20.5% on average for the analysed period. The high importance of exports of these products is also observed in Montenegro and North Macedonia, where these exports averaged 14.9% and 14.7%, respectively. A slightly smaller share of exports of agri-food products is evident in Albania and Bosnia and Herzegovina, at 8.3% and 8.2%, respectively. The largest exporter of agri-food products from the Western Balkans is Serbia, with an average export value of more than 2.5 billion dollars in the analysed period. Furthermore, in the analysed period, all the economies recorded an increase in exports of agri-food products, with the average annual growth rate in Albania being the highest (11.2% on average per year). The growth of exports is undoubtedly a consequence of the changed conditions of foreign trade, i.e. the liberalisation of the market with the EU and CEFTA economies, which are the main foreign trade partners of the Western Balkans.

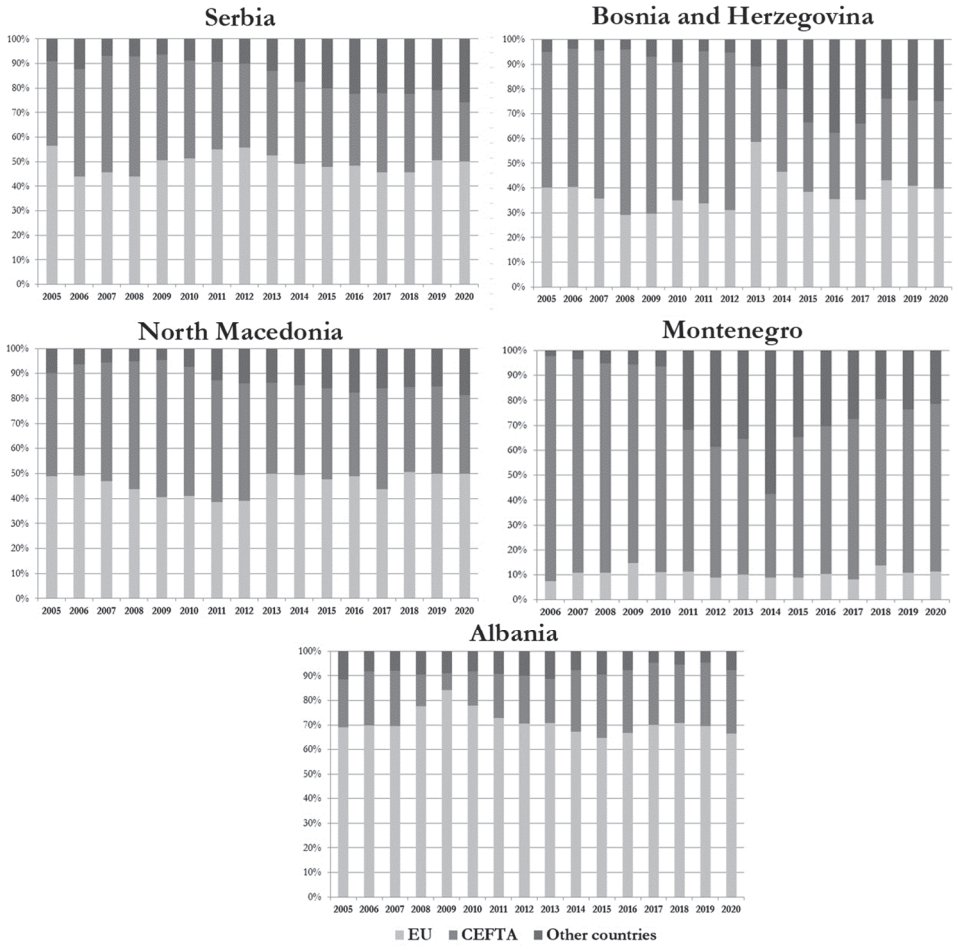
Table 1. Value of the agri-food exports in million USD and share of the export of agri-food products in total exports in the Western Balkans

	Serbia		Bosnia and Herzegovina		North Macedonia		Montenegro		Albania	
Year	Mill. USD	%	Mill. USD	%	Mill. USD	%	Mill. USD	%	Mill. USD	%
2005	922	**20.6%**	181	**7.6%**	345	**16.9%**			60	**9.1%**
2006	1,267	**19.7%**	217	**6.3%**	399	**16.6%**	51	**9.3%**	71	**8.9%**
2007	1,686	**19.1%**	272	**6.5%**	474	**14.1%**	56	**9.0%**	87	**8.1%**
2008	1,956	**17.8%**	344	**6.8%**	555	**18.4%**	64	**10.4%**	96	**7.1%**
2009	1,944	**23.3%**	333	**8.4%**	499	**18.5%**	60	**15.4%**	86	**8.0%**
2010	2,243	**22.9%**	407	**8.5%**	559	**16.7%**	67	**15.3%**	98	**6.4%**
2011	2,480	**21.1%**	471	**8.1%**	650	**14.5%**	79	**12.6%**	123	**6.3%**
2012	2,707	**24.1%**	456	**8.8%**	614	**15.3%**	82	**17.5%**	130	**6.6%**
2013	2,804	**19.2%**	504	**8.9%**	669	**15.7%**	82	**16.6%**	151	**6.5%**
2014	3,072	**20.7%**	481	**8.2%**	644	**13.0%**	128	**29.0%**	99	**4.1%**
2015	2,870	**21.5%**	492	**9.6%**	1,078	**24.0%**	64	**18.1%**	145	**7.6%**
2016	3,186	**21.5%**	553	**10.4%**	586	**12.3%**	60	**16.8%**	201	**10.3%**
2017	3,164	**18.7%**	636	**10.0%**	607	**10.7%**	59	**13.9%**	233	**10.1%**
2018	3,370	**17.5%**	548	**7.6%**	641	**9.3%**	59	**12.6%**	268	**9.3%**
2019	3,627	**18.5%**	485	**7.4%**	697	**9.7%**	58	**12.6%**	293	**10.8%**
2020	4,150	**21.3%**	518	**8.4%**	676	**10.2%**	58	**14.2%**	343	**13.7%**

Source: The authors' calculations on the basis of the UN Comtrade Database, 2021

The analysis of the geographical allocation of exports of agri-food products from the Western Balkans shows that the largest percentage of these products were exported to EU economies: in Serbia, this amounted to an average of about 49% of agri-food products annually for the period 2005-2020, while at the same time exports of these products from other economies to the EU were as follows: Bosnia and Herzegovina 38%, North Macedonia 46%, Albania 72%. Exports of agri-food products from Montenegro to EU economies accounted for about 10% of exports of these products. For Montenegro, the dominant market is CEFTA economies, with an average of 66% of these products being exported annually in the analysed period. In the remaining economies of the Western Balkans, the CEFTA market is also significant, with average exports to this market in the same period accounting for 36% of total exports of agri-food products from Serbia, 46% from Bosnia and Herzegovina, and 42% from North Macedonia (Figure 2).

Figure 2. Regional structure of export of agri-food products in the Western Balkans



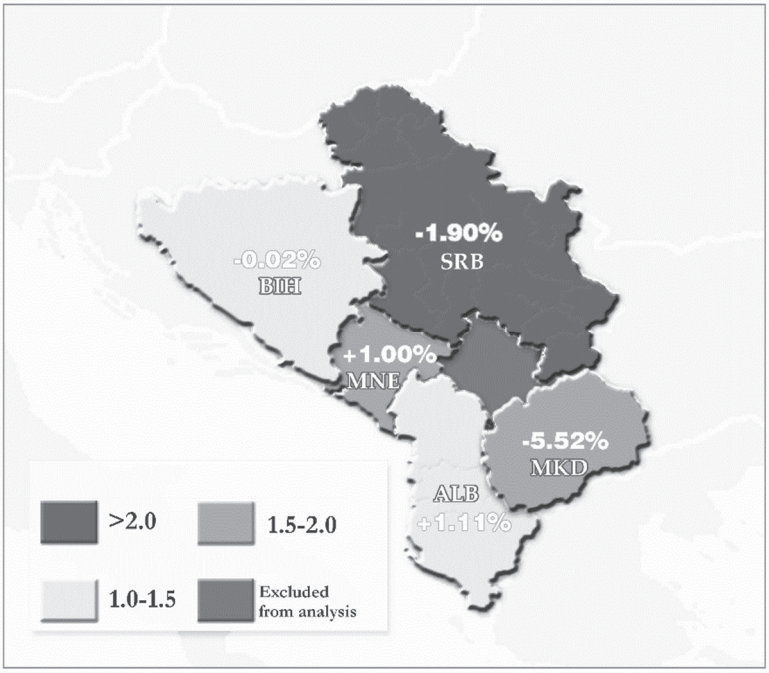
Source: The authors' calculations on the basis of the UN Comtrade Database, 2021

The percentage of exports of agri-food products to other Western Balkan economies is at a slightly lower level only in Albania, which is logical because of the large differences between the Albanian market and other Western Balkan economies, which were part of the former Yugoslavia. Foreign trade between Albania and other Western Balkan economies is low, primarily due to large language differences and historical circumstances affecting trade. The ability of

populations to communicate directly is namely a factor that influences the formation of foreign exchange between economies (Trivić & Klimczak. 2015). Regarding the commodity structure of exports from Western Balkan countries, products from the section 'food and live animals' dominate (Matkovski et al., 2022). According to this research, there are differences between countries, and the subcategory of vegetables and fruit is significant in the structure of exports in a large number of countries. For example, in Serbia, vegetables and fruit, along with cereals and cereal preparation, make up 47% of exports. For North Macedonia, the export of tobacco and tobacco manufactures is important, while for Montenegro, an important item of export is beverages.

Analysing the index of revealed comparative advantages, it can be noticed that in the analysed period, on average, all the economies have comparative advantages in the export of agri-food products, with average values higher than 1 (Figure 3). The highest level of comparative advantages is observed in Serbia, while the lowest level is in Albania. An unsatisfactory level of revealed comparative advantages in Albania is recorded for most of the years, but there is a slight increase at an average annual rate of 1.1%. In addition to Albania, Bosnia and Herzegovina has a low level of comparative advantages, while in Montenegro and North Macedonia, the RCA index is at a higher level, but North Macedonia also records the highest average annual rate of decline of 5.5% per year. As already mentioned, in some Western Balkans economies, there are negative tendencies in the trend of the index of revealed comparative advantages. One of the reasons may be inadequate reactions to the improving competitiveness required by the world market in regional and international integration and relatively poorer export performances (Matkovski et al., 2016). Additionally, previous research (Matkovski et al., 2022) showed that, although the section 'food and live animals' is dominant in the export of all Western Balkan countries, the comparative advantages of this section are achieved only by Serbia. Serbia gains the most significant comparative advantages in the export of cereals and cereal preparations and fruit and vegetables. North Macedonia also achieves a high level of comparative advantages in the export of cereals and cereal preparations, and also in the export of tobacco and tobacco manufactures.

Figure 3. Level of the revealed comparative advantages in the Western Balkans and its changes in the period 2005-2020

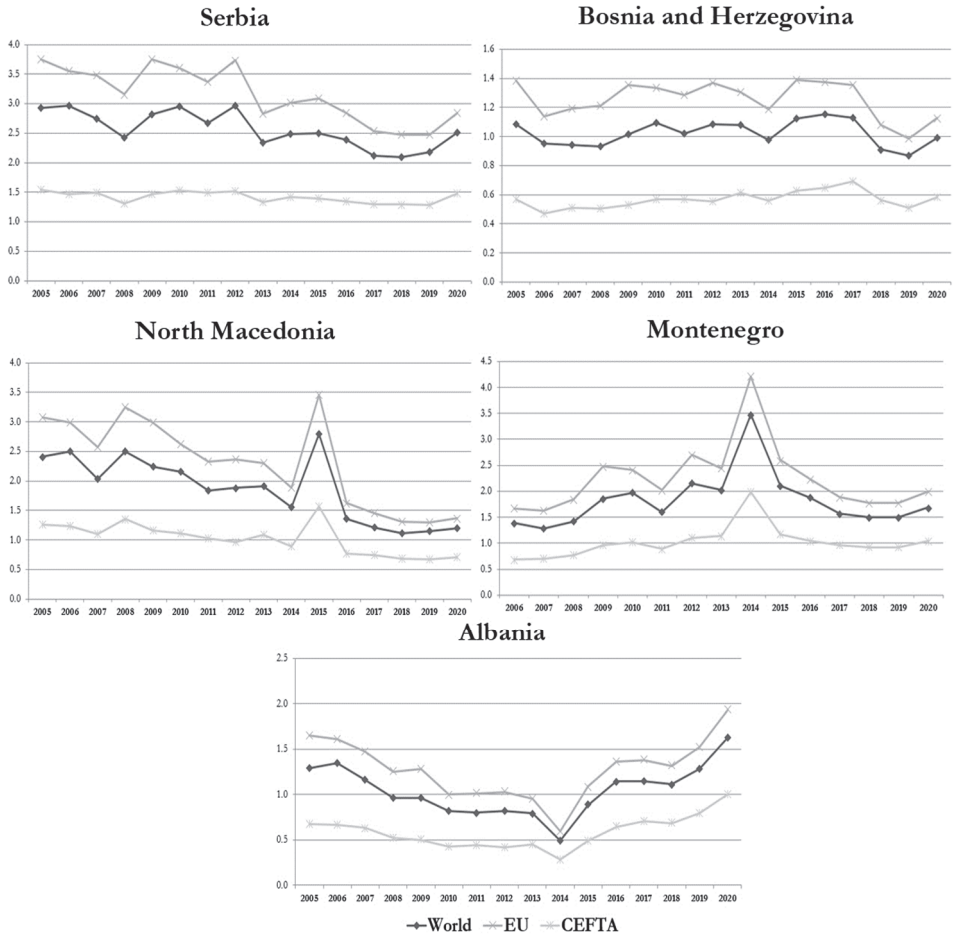


Source: The authors' calculations on the basis of the UN Comtrade Database, 2021

Note: SRB – Serbia; BIH – Bosnia and Herzegovina; MNE – Montenegro; ALB – Albania; MKD – North Macedonia.

Considering the differences in comparative advantages in the export of agri-food products by individual country (Figure 4), it can be concluded that all the Western Balkan economies have a high level of comparative advantages in the export of these products to the EU market. Serbia has strong comparative advantages, North Macedonia and Montenegro have significant comparative advantages, while the comparative advantages in the export of agri-food products from Bosnia and Herzegovina and Albania are revealed to be at a satisfactory level. Bearing in mind the method of calculation of RCA, it is quite logical that comparative advantages are realised at a higher level on the EU market, given that the share of agri-food exports to the EU is higher than the share of exports of these products in the CEFTA countries in total.

Figure 4. Revealed comparative advantages of agri-food products in the Western Balkans



Source: The authors' calculations on the basis of the UN Comtrade Database, 2021

In the export of agri-food products to the markets of other economies in the region (CEFTA), Serbia, North Macedonia, and Montenegro have a satisfactory level of revealed comparative advantages, while Bosnia and Herzegovina and Albania do not have comparative advantages in exporting these products to the region. The main reason for the lack of comparative advantages in the two latter economies, bearing in mind the method of calculating the index of revealed

comparative advantages, should be sought not only in the similar trade structure of these economies, but also in the previously mentioned changes in the regional structure of agri-food exports from these economies. Albania's lower trade with the economies of the region and lower levels of comparative advantages are due to various historical economic circumstances that have meant a closed market for years and have affected the somewhat lower level of foreign trade between these economies.

4.3. Estimation of the gravity model

The selection of an adequate model using panel data is a particular challenge in the procedure of estimation. The initial model specification is the random effects (RE) model, with the Breusch-Pagan test being used to analyse whether the ordinary least square method (OLS) or RE model was more suitable. The results of the Breusch-Pagan test showed that RE is preferred (Table 2).

The next step in the selection process was the choice between the fixed effects (FE) and RE models using the Hausman test. The results of the Hausman test showed that FE is preferred. However, the problem of estimation in the FE model is the impossibility of estimating the effects of distance and border, since they do not change over time. Additionally, an autocorrelation problem is detected in the estimated FE model, as the Durbin-Watson test show the presence of autocorrelation, since the test value is lower than the lower critical value (Table 2).

Table 2. Estimation of the gravity model of export of agri-food products in the Western Balkans using OLS, FE, and RE models

Variable	Dependent Variable: X_{ijt} ORDINARY LEAST SQUARE (OLS)			
	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
Constant	9.8931	1.0926	9.0547	<0.0001
Y_{jt}	0.740843	0.0393807	18.8124	<0.0001
Y_{jt}/L_{jt}	−0.28423	0.0834936	−3.4042	0.0007
D_{ij}	−1.75695	0.106002	−16.5747	<0.0001
B_{ij}	2.00608	0.198828	10.0895	<0.0001
$CEFTA_{ijt}$	0.848217	0.213595	3.9711	<0.0001
SAA_{ijt}	0.151389	0.121709	1.2439	0.2137

R-squared	0.314415	Adjusted R-squared	0.312766
F-statistic	190.6286	Prob(F-statistic)	0.0000
Total observations		2,501	

Dependent Variable: X_{ijt}				
Variable	**FIXED EFFECTS (FE)**			
	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
Constant	−24.4121	11.8192	−2.0655	0.0390
Y_{jt}	1.05999	0.707377	1.4985	0.1341
Y_{jt}/L_{jt}	1.10505	0.691899	1.5971	0.1104
$CEFTA_{ijt}$	0.0401595	0.176272	0.2278	0.8198
SAA_{ijt}	0.461989	0.0826077	5.5926	<0.0001
R-squared	0.837401	Adjusted R-squared		0.097271
F-statistic	62.61453	Prob(F-statistic)		0.000000
Durbin Watson (DW)	1.394027			
Total observations		2,501		

Dependent Variable: X_{ijt}				
Variable	**RANDOM EFFECTS (RE)**			
	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
Constant	4.46302	3.15189	1.4160	0.1569
Y_{jt}	0.881395	0.131076	6.7243	<0.0001
Y_{jt}/L_{jt}	0.651409	0.187159	3.4805	0.0005
D_{ij}	−2.87796	0.346289	−8.3109	<0.0001
B_{ij}	2.52479	0.733722	3.4411	0.0006
$CEFTA_{ijt}$	0.360814	0.168331	2.1435	0.0322
SAA_{ijt}	0.491333	0.0807794	6.0824	<0.0001
Hausman test	39.2055 (0.0000)	Breusch-Pagan test		7213.47 (0.0000)
Total observations		2,501		

Note: X_{ijt}– export of agri-food products; Y_{jt} – GDP of the importer; Y_{jt}/L_{jt} GDP per capita of the importer; D_{ij} – distance; B_{ij} – shared border; $CEFTA_{ijt}$ – effects of CEFTA; SAA_{ijt} – effects of Stabilisation and Association Agreement (SAA).

Source: The authors' calculations.

In order to eliminate the problem of inefficient estimation of regression parameters in the presence of autocorrelation in the FE model, and to control for the zero-trade observations and the bias of the OLS coefficients in the presence of the heteroscedasticity, the gravity model of exports of agri-food products was estimated with the Poisson pseudo maximum likelihood (PPML) method (Silva & Tenreyro, 2006). Additional research by Santos-Silva and Tenreyro (2010) showed that PPML is generally well behaved, even when the proportion of zeros in the sample is very large. Following the guide of Yotov et al. (2016), who concluded that PPML is a very attractive choice for this type of modelling, we present the results of our estimation in Table 3.

The results of estimating the gravity model of exports of agri-food products from the Western Balkans using PPML indicate that the impact of demand factors on exports of these products is significant and positive, as shown by a positive sum of the coefficient of elasticity Y_{jt} and Y_{jt}/L_{jt} as an approximation of demand. The results show that with the unchanged level of other factors, a one per cent increase in demand leads to an increase in exports of agri-food products from the Western Balkans of an average of 0.03% ($\beta_1 + \beta_2$). The distance between the main economic centres of the Western Balkans and their main foreign trade partners has a significant and negative impact on the export of agri-food products. In contrast, the shared border with some Western Balkan economies significantly and positively impacts exporting agri-food products.

Table 3. Estimation of the gravity model of export of agri-food products in Western Balkans using the PPML model

Variable	Dependent Variable: X_{ijt} Poisson Pseudo Maximum Likelihood (PPML)			
	Coefficient	**Std. Error**	**z**	**P>z**
Constant	2.330152	0.0748847	31.12	<0.0001
Y_{jt}	0.0548954	0.0031151	17.62	<0.0001
Y_{jt}/L_{jt}	-0.0216491	0.0065165	-3.32	0.001
D_{ij}	-0.1291506	0.0085491	-15.11	<0.0001
B_{ij}	0.1209605	0.0103676	11.67	<0.0001
$CEFTA_{ijt}$	0.0590485	0.0119684	4.93	<0.0001
SAA_{ijt}	0.0100566	0.0084705	1.19	0.235
R-squared	0.31546813	Pseudo log-likelihood		-6268.2651
Total observations		2,501		

Note: X_{ijt}– export of agri-food products; Y_{jt} – GDP of the importer; Y_{jt}/L_{jt} GDP per capita of the importer; D_{ij} – distance; B_{ij} – shared border; $CEFTA_{ijt}$ – effects of CEFTA; SAA_{ijt} – effects of Stabilisation and Association Agreement (SAA).

Source: The authors' calculations.

Regarding the effects of trade agreements (CEFTA and SAA) on agri-food exports to the Western Balkans, the results of the estimated PPML model show that only CEFTA had a significant and positive impact on agri-food exports of these economies. The CEFTA contributed to the growth of exports of agri-food products of the Western Balkan economies by an average of 6.08%. This result is expected, bearing in mind that in the analysed period there was a liberalisation of exports with the economies of the region (CEFTA from 2007) and that the export of agri-food products to the EU market was enabled even earlier with autonomous trade measures. In addition, it was previously mentioned that the economies of the Western Balkans are close trading partners, i.e. that all economies of the Western Balkans, except Albania, were part of the former Yugoslavia, so it is natural that a large part of exports are placed in these economies. It has been proven that geographical distance and border are important factors in foreign trade.

5. DISCUSSION

When it comes to the comparative advantages of the agri-food sector, the results of this research are in line with previous research on these topics. The results clearly indicate that Serbia achieves the best results, while Albania the worst (Matkovski et al., 2016; Matkovski et al., 2019). As far as econometric modelling using the gravity model is concerned, previous research also indicates a significant and positive effect of the CEFTA agreement on export flows of agri-food products (Dragutinović-Mitrović & Popović-Petrović, 2013, Matkovski et al., 2018a, Matkovski et al., 2018b). However, given the importance of agriculture and especially the agri-food sector for all the aforementioned economies of the CEFTA region, the current level of competitiveness at the overall regional level implies there is an need to improve this competitiveness (Birovljev et al., 2017). All of these economies face difficult situations because of the external pressures coming mainly from the EU. In order to improve competitiveness, productivity improvement is needed and recommended, as agricultural performance in the Western Balkans is at a lower level (Marcikić Horvat et al., 2020).

The research results showed that **Serbia** in the regional framework shows the best results in foreign trade in agri-food products and the highest level of comparative advantages. Additionally, previous research on the comparative advantages of the agri-food exports of Serbia indicated that there had been an improvement in comparative advantages of agri-food exports to the EU market, within the CEFTA region and to other significant trade partners. The global financial crisis in 2008 dampened this trend for a while, but this did not stop intensified trade in agri-food that CEFTA brought through trade liberalisation (Matkovski et al., 2017). According to Marković et al. (2019), to improve the competitiveness of Serbia's foreign agri-food trade, quantitative growth in export value should not be the only goal but also improving its value mainly through structural adjustments and product differentiation.

Bosnia and Herzegovina has relatively low export performance on the global market. Looking at the agri-food export and import trends of Bosnia and Herzegovina with CEFTA economies through their intra-industry foreign trade, Brkić et al. (2021) noticed how certain variables had a positive impact on intra-industry agri-food trade between Bosnia and Herzegovina and the economies of the CEFTA region in the period 2008-2018. These variables are the size of the

economies measured by GDP, ethnic origin and similarities, territorial borders between economies, and economic integration realised with trade liberalisation. Variables that had a negative impact on intra-industry agri-food trade were differences in productivity and GDP per capita. Changes in the share of agri-food foreign trade in total trade with the CEFTA region were identified after the accession of Croatia to the EU, and these were mostly noticed in the structure and geographical orientation of foreign trade of Bosnia and Herzegovina towards CEFTA economies with the markedly lesser importance of this region for its foreign trade (Brkić & Sušić, 2019).

The position of **North Macedonia** in the foreign trade of agri-food products with the CEFTA region was estimated as positive because of trade liberalisation, but still with a great dependency on imports with the accompanying foreign trade deficit in agricultural products. The causes for this can be found in insufficient competitiveness, problems with amounts of food produced, and low levels of production and export of products with more added value (Mojsovska, 2019), which is characteristic of production and industry for all the Western Balkan economies.

Exports of agri-food products from **Montenegro** are modest, given the low production potential, thus export levels are relatively low. The unsatisfactory development of the agricultural sector had a negative impact on Montenegro's competitiveness in agri-food foreign trade. Import dependency and food insecurity were rated as the largest compared to other CEFTA economies, leading to Montenegro's most unfavourable position among all these economies (Jovanović et al., 2015). Low productivity and neglected agriculture with abandonment of rural areas are the main reasons for the lack of comparative advantages in agri-food exports, but of more concern is the continuing high level of import dependency (Fabris & Pejović, 2012) mostly on the CEFTA region and EU. As a result, Montenegro's export trade is mainly oriented towards the CEFTA region, but of small value (Zekić & Matkovski, 2019).

As an economy with great agricultural potential, **Albania** has not made use of its opportunities to improve its export of agricultural products to CEFTA economies (although a delayed reaction that will improve its position is expected), but its level of exports remained constant after its original growth as a result of accession to the free trade arrangement. The main reasons behind this slower growth of

exports are the still existing administrative barriers, customs and other procedures and measures (Braha et al., 2017). Nevertheless, the importance of CEFTA to Albania as the former most isolated country in Europe cannot be neglected and this can be confirmed by the results that showed the positive effects on Albanian trade as a whole with the CEFTA region that was possible because of less protectionism in comparison to the years prior to CEFTA (Choi & Minondo, 2019).

There are a few threats to further integration of the Western Balkan region which are not in the scope of this research. First, European integration of the Western Balkan economies has slowed down significantly due to global crises caused by the COVID-19 virus. In addition to the health threat, the pandemic is a potential cause of political and economic crises. According to Bieber et al. (2020), greater regional cooperation is necessary to prevent new polarisation and tensions, and the EU should include the region in planning for post-COVID-19 reconstruction. Also, as Crescenzi et al. (2020) pointed out, increasing scepticism of individual EU member states about any future progress in the process of economic and political integration has emerged. Indeed, some economies insist on greater policy autonomy, and sometimes they also challenge the core values of the EU (for example, the critique of liberal democracy in Hungary and questioning centrally imposed fiscal constraints in Italy). Additionally, the migrant crisis has caused a rise in nationalism throughout the EU, especially in border states. In the face of all these crises, regional cooperation and coordination will be especially important in preventing new polarisation and tensions.

However, this research has some **limitations**. Limitations connected with using the RCA index are problems of its utility in comparative studies because it only shows the relative position of economies. At the same time, it is considered a good indicator of the comparative advantages of commodities. Furthermore, it has been highlighted that this index tends to address biased comparative advantages that are found. Owing to these limitations, results can often be inconsistent, especially for economies with a smaller share of exports on the global market. In addition, it is not easy to include all factors in the process of econometric estimation using the gravity model, so the model includes only the most significant factors that affect the export of agri-food products in the Western Balkans. Due to the problem of quantification, indicators that represent potential

trade barriers in agri-food chains are not included in the estimated model. Previous research has shown that these barriers are significant in cross-border regional trade within CEFTA (Krasniqi et al., 2019). Some authors have also argued that free trade agreements are endogenous (Baier et al., 2014). Therefore, this specification will be used in our future research in order to find more unbiased effects of CEFTA and other agreements on trade in agri-food products in the Western Balkans.

6. CONCLUSIONS

An intensification of the foreign trade in agri-food products and a partial change in the orientation of this trade is observed in all the economies of the Western Balkans, with an increase in exports of agri-food products and the analysis of the geographical allocation of exports showing that most of these products go to EU economies, followed by CEFTA economies. Considering the comparative advantages of agri-food products in the Western Balkan economies, it can be noticed that all the economies have comparative advantages on the international market. Serbia has the highest level of comparative advantages in this sector, while the most unfavourable situation is in Albania, which in most years does not achieve a satisfactory level of comparative advantages in exporting these products to the international market.

The econometric research results show the impact of the liberalisation of trade in agri-food products on exports in the Western Balkans by applying the gravity model. The estimated export model of agri-food products indicates a significant growth in exports with changing demand, a significant and negative impact of distance between economies, and a significant and positive impact of shared state borders on exports of these products. The regional integration with the CEFTA has significantly contributed to the intensification of exports of agri-food products in these economies.

The econometric research results clearly indicate this impact of the CEFTA on the intensification of exports of agri-food products. This is not surprising. The economies of the Western Balkans are natural trading partners. Most of these economies were part of the single market of the former Yugoslavia, and significant benefits can be achieved by reintegrating the market established by the CEFTA. Moreover, the Western Balkan economies represent economies with a

similar level of economic development, i.e. a similar level of competitiveness measured by GCI, so the placement of agri-food products here is easier than the placement on the much more demanding EU market. The EU market is highly demanding in terms of quality standards, but it is difficult to achieve the appropriate quantity and stability of supply for this market. For this reason, efforts in the economies of the Western Balkans must be directed not only towards the integration of the producers themselves, but also towards the fulfilment of the required standards of this market and the encouragement of exports of agri-food products of higher value. In this way, the economies of the Western Balkans could make greater use of the opportunities provided by liberalisation with the EU market.

Through successful testing of the main research hypothesis, the results indicate that CEFTA integration processes affect the export of agri-food products in the Western Balkans the most, and the hypotheses were confirmed. Namely, the research clearly showed that the liberalisation of trade in the Western Balkans had a significant impact on shaping the level of comparative advantages of agri-food products on the international market. Furthermore, the gravity model results indicate that CEFTA statistically significantly influenced the export of agri-food products in the Western Balkans.

The research results have certain **practical implications** for trade agreements for the export of agri-food products and changes in the level of comparative advantages, which is important for both macroeconomic and microeconomic aspects. Given that liberalisation also poses a threat to the agri-food sector, the research results may indicate economies where additional efforts are needed to improve competitiveness. The results of the research could be useful for agricultural policymakers in terms of more effective support to the agri-food sector, which would contribute to "favouring" domestic producers, and at the same time, increase competitiveness in the international market. That support should go in the direction of adapting to the current support within the Common Agricultural Policy of the EU, and when it comes to foreign trade measures, the rules of the World Trade Organization should be respected. **Future research** can be directed toward a more detailed review of the competitive positions of certain segments of agri-food products and analysis of factors influencing changes in the competitiveness of agri-food products in the international, regional and EU markets.

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*Sonja Avlijaš**

HOW REGIONAL INTEGRATION AGREEMENTS CAN FOSTER INCLUSIVE GROWTH: LESSONS FROM EXPORTING SMES IN THE WESTERN BALKANS

ABSTRACT: *Empirical evidence on regional integration indicates that CEFTA's Common Regional Market (CRM) could have spatially unequalising effects across the Western Balkans. Such an outcome would be in conflict with CEFTA's goal of inclusive regional economic integration. This article offers a roadmap to avoid that pitfall. Literature on the changing global economy in the digital era and ICT-led growth and literature on the political economy of trust and cooperation between smaller economic agents are brought into a conversation with bottom-up empirical insights from small and medium enterprises (SME) from the region. Empirical data are collected from in-depth interviews with 58 export-oriented SMEs in Bosnia & Herzegovina and Serbia. I find that smaller firms are immensely interdependent with the environments within which they operate and that their competitiveness also stems from their ability to successfully leverage on these communal resources and local public goods. Finding ways to preserve and enhance this collective infrastructure is often more of a priority for them than market expansion and technological progress. The paper concludes by arguing that designing (supranational) institutions which can facilitate local and translocal cooperation among competitive exporting SMEs would mobilise greater democratic support for the CRM project.*

KEY WORDS: *regional economic integration, political economy of local development, small and medium enterprises, local public goods, economic resilience*

JEL CLASSIFICATION: D22, D63, F15, F63, O35

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* Marie Sklodowska-Curie Fellow, University of Belgrade - Faculty of Economics and Business, email: sonja.avlijas@ekof.bg.ac.rs

1. INTRODUCTION

This paper is interested in how regional integration agreements such as CEFTA can foster inclusive growth. It examines strategies that successful, export-oriented small and medium enterprises (SMEs) in Bosnia & Herzegovina (B&H) and Serbia use to overcome the constraints associated with their domestic institutional environments. Using as a starting point the insight that neither politically captured and institutionally weak states nor unregulated free markets can guarantee socially and environmentally sustainable growth, the paper suggests that the architects of regional integration agreements should pay attention to the strategies of resilient and resourceful firms on the ground and seek to reinforce them.

The paper's focus on SMEs is particularly important not only because of their fundamental role in the Western Balkan (WB) economies, but also because most existing analyses of CEFTA have primarily looked at the macroeconomic and aggregate effects of deeper economic integration among the WB countries (e.g. its effects on trade and employment) while disregarding other equally important aspects, such as the industrial structure of the WB economies and the impact that improved SME productivity can have on developmentally oriented and inclusive growth.

Scholarly concerns over the challenges of inclusive growth in the context of regional integration in Europe have primarily stemmed from the experiences of the EU single market. The process of economic and social convergence between the EU's southern periphery and its core, where the southern member states were initially growing faster and converging during the 2000s, ended up increasing competitiveness of the core while diminishing competitiveness of the South in the aftermath of the 2008 financial crisis (Scharpf, 2021). There is also growing empirical evidence that digitalisation has reinforced the already unequalising effect of deeper economic integration around the world, especially through the so-called winner-takes-most dynamics of concentration of market power and resources by larger corporations (OECD, 2018).

Based on what we know from the literature, deeper economic integration of the WB, initiated by the Common Regional Market (CRM) action plan which was

launched by CEFTA[1] Parties in 2020, could have an asymmetric impact between areas that are thriving and those that are falling behind, especially if the largest firms from the region (including those in foreign ownership) outcompete smaller (often domestically owned) economic agents. This should be an important policy concern, given the ongoing effect of rising inequalities and geographic cleavages between areas that are thriving and those that are left behind on the destabilisation of political and socio-economic processes around the world. The coronavirus pandemic, the geopolitical turmoil caused by Russia's invasion of Ukraine, and the climate crisis have also raised further policy concerns over geographic and socioeconomic inequalities. Moreover, the civil war and disintegration of Yugoslavia during the 1990s was at least partially triggered by the growing geographic and socio-economic inequalities (Allcock, 2002). Therefore, discussions on spatial inequalities continue to dominate political agendas across the region to this day. Studies on the effect of the CEFTA agreement on the region also show cross-country variations in trade-creating effects, despite these countries being at similar levels of economic development (Uberti & Demukaj, 2019; Matkovski et al., 2022). These insights highlight the importance of asking whether the CRM might benefit some economic actors and regions more than others.

A growing body of social science research is attempting to understand how greater inclusiveness can be ensured in the context of deeper economic integration. To find answers to this question, this paper examines how competitive smaller economic agents manage their internationalising businesses in the context of the WB region's specific challenges. I analyse SME strategies of resilience and resourcefulness under market and government pressures in order to improve our understanding of how this segment of the economy can be better supported by policy. Such a grounded approach to understanding the needs of exporting SMEs in the region can generate new grassroots insights and perhaps inspire the introduction of new features into the CRM that could support smaller productive economic agents in a way that would produce a more inclusive scenario for further regional economic integration.

[1] CEFTA – The Central European Free Trade Agreement – is an international trade agreement between Albania, Bosnia and Herzegovina, Moldova, Montenegro, North Macedonia, Serbia, and UNMIK (on behalf of Kosovo).

The paper is based on interviews with 58 domestic SMEs in B&H and Serbia which are already exporting goods and/or services, and thus have credible levels of international competitiveness. Since SMEs contribute to more than half of value added and employment in both countries (European Commission, 2019a; European Commission, 2019b), they are important economic agents whose perspective should be taken on board. Moreover, SMEs contribute to almost 40% of total exports in Serbia, and so they represent an important part of the country's export-led growth model.[2] Therefore, failing to take into account the exporting SMEs as an important part of the economic structure of the WB will likely lead to the CRM struggling with its aim of spreading its benefits onto the broader population.

These SMEs were interviewed as part of my Horizon 2020 Marie Sklodowska-Curie research fellowship titled "Southeast Europe's emerging growth advocates: Domestic firms, technology and economic governance in institutionally weak states – SEEGROW". The project engages with the literature on political economy, institutional economics, management, collective action, and governance literatures to study the agency of smaller economic agents in the era of ICT-led growth in peripheral economies where adequate state and policy support is not available to them.

The interviews examine the concerns of these more vulnerable economic actors who have the potential to benefit from the innovation-driven CRM as well as to significantly contribute to its better implementation, but who also face the threat of being weakened by it because they have fewer resources to invest in their workers and technology in comparison to large (often multinational) companies. While the traditional Schumpeterian view of technological progress holds that those firms which cannot keep up with the competitive demands of "the economy" should perish through the process of so-called creative destruction, there is a growing recognition in the literature that this view of the economy is too simplistic. Smaller firms have also recently been identified as essential for the transition to a more sustainable and digital future because of their greater flexibility, specialisation, ability to adapt and find innovative solutions, as well as their resourcefulness and resilience amid the growing uncertainty of today's world. Their experiences and organisational knowledge are thus immensely

[2] Data on SME exports are not available for B&H.

valuable although still underappreciated by the market dynamics and policy makers (European Commission, 2020).

The paper is structured as follows. I first discuss literature on the winner-takes-most dynamics of deeper economic integration versus factors that can level the playing field for smaller economic actors. I then present the findings from interviews with SMEs in B&H and Serbia and put them into a conversation with the existing literature to produce novel insights that are relevant for the WB. The concluding section offers some policy implications.

2. LITERATURE REVIEW

2.1. CEFTA: Between captured states and unregulated free markets

Most political economy analyses of the WB region since the onset of transition have focused on formal institutional reforms and the strengthening of state capacities as key preconditions to growth. This focus on the relationship between state institutions and economic performance is embedded in North's path-breaking recognition that well-designed institutions serve an economy by facilitating cooperation and reducing transaction costs for economic actors (North, 1990). Yet, since the 2008 crisis, Europeanisation-oriented political economy scholars have become increasingly concerned about the role of business capture by political parties and elites in shaping trajectories of growth at the European periphery, and the economic, political, and social consequences of these developments (Besimi & Monastiriotis, 2019; Bartlett, 2021). Observed from this perspective, CEFTA and its CRM initiative have the potential to diffuse state monopoly over economic governance by creating supranational institutional regimes that can strengthen the position of the most competitive and the most productive economic agents against those who are the most politically entangled with the state.

While state capture by political parties may indeed be generating obstacles to the development of WB and its deeper regional integration, we also know from the abundant empirical evidence collected over the past 30 years that the market mechanism has its own ways of concentrating power by favouring those with more resources and by dispossessing those with a weaker bargaining position. There is growing evidence that the networked economy of the digitalised era has

further strengthened these unequalising dynamics of the market, not the least through monopolisation of the digital marketplaces by big tech companies (Atal, 2021; Berlingieri et al., 2017 in OECD, 2018). The winner-takes-most dynamics of greater global economic integration has also led to an increase in within-country inequalities. Rajic (2021), for example, warns of the limitations of locally implemented policies for the revival of the United Kingdom's old industrial regions in the context of oligopolistic market power of larger firms from the more developed regions. Thus, within the context of regional integration, it is expected that bigger and better resourced firms will tend to have disproportionate market power and disproportionate access to talent and technologies since they have more resources at their disposal than the smaller economic actors. This concern is additionally pertinent in the context of post-socialist economies which have developed strong economic dependencies on foreign direct investment (FDI) and large multinational corporations over the past two decades (Avlijaš et al., 2021; Bohle & Greskovits, 2012; Bohle & Regan, 2021; Nölke & Vliegenthart, 2009). It is therefore clear that we cannot expect the market to resolve the unequalising effects of economic integration and that we need institutional innovation to help address these challenges.

In sum, while markets and technology can diffuse state power through greater regional economic integration, which is especially relevant in the context of captured states and the removal of the high regulatory burden of exports for all economic agents, they also reproduce a language of power unless greater intentionality, which aims to weaken their winner-takes-most dynamics, is introduced into its design. When a CRM initiative is implemented in the context of high existing inequalities and different levels of resourcefulness of different economic players, which is the case among CEFTA Parties, it may perpetuate and even intensify these inequalities. This paper suggests that one way to counteract some of these capital concentrating tendencies is to pay greater attention to SMEs and search for policies that can boost their collective productivity and their contribution to inclusive growth.

2.2 Opportunities and policy challenges associated with the rise of exporting SMEs

There are also factors offsetting the power concentrating dynamics of globalisation and its winner-takes-most dynamics. The policy turn towards a greater inclusion of smaller economic actors could be related to the broader

attempt to address the secular stagnation of core capitalist countries since the 2008 crisis (Baccaro et al., 2022). Henrekson and Jacobsson (2001) also show how Sweden ended up being dominated by large corporations to a greater extent than perhaps any other OECD country. Private ownership became very concentrated until the beginning of the 1980s, and it had to be reformed towards greater flexibility of ownership structure and firm size to resolve the issue of its productivity slowdown. The more recent case of Korea also offers an important lesson. Their model of economic development which is led by large firms (*chaebols*) has been losing its competitiveness more recently and generating massive social and economic costs, as the largest part of the population remains excluded from the dominant economic model and much potential for innovation and many skills are lost in the process (Jones & Lee, 2018). Even Schumpeter worried that capitalism's tendency to continually make itself more efficient would lead towards growing monopolies of large corporations and destruction of entrepreneurs who provide capitalism with its institutional and political basis (Henrekson & Jacobsson, 2001). Moreover, the earlier transition literature also emphasised the quintessential role of entrepreneurship for a successful transition to capitalism (Roland, 2000), although this debate has been increasingly replaced by contributions which emphasised the key role of FDI in Eastern European growth models.

Digitalisation, which has led to a strong concentration of corporate power, has also resulted in the proliferation of the more decentralised and fragmented global value chains (GVCs). Smaller firms from around the world have been given an opportunity to plug in to GVCs and obtain some value for themselves, while also using them to upgrade their skills and technologies (Harvie & Charoenrat, 2015). This growing trend has increased the benefits of specialisation and niche markets, and augmented the ability of smaller firms to capture more of the value that is generated in the global economy. Therefore, the thinking about economic upgrading and development is slowly shifting from being based on economies of scale and towards capturing benefits of small-batch production via decentralised GVCs. The fact that hyper-consumption has led to a global environmental crisis is also perhaps starting to push consumers away from mass production and towards demanding custom-made, better quality products.

GVCs have changed the bargaining power of smaller economic actors because information and communication technologies (ICT) have radically reduced the costs of coordination and remote communication. ICT has also facilitated remote monitoring of product and service quality, thus allowing firms in various sectors to export their know-how despite operating in captured states. As shown by Udovički (2018) and Udovicki et al. (2019), SMEs from Serbia have substantially benefited from the digitalisation of GVCs in both the industrial goods and tradeable services sectors.

It would, however, be unsettling to draw from these insights a functionalist conclusion that ICT is automatically transforming these countries' growth dynamics towards greater economic and political independence of domestic SMEs. Udovicki et al. (2019) also argue that the skills and capabilities of the internationalising SMEs in Serbia come from industrialisation which took place during the socialist Yugoslav era. This is an important insight which indicates the perhaps obvious, but like the glasses on the bridge of one's nose, easy-to-forget reality that business inputs, i.e. labour, skills, and know-how, generally come from the collective resources that a society has at its disposal and that had to be built up at some point in time. Technological advantages and emerging trends in the global economy cannot be capitalised upon by individual firms if these firms cannot draw upon labour, capital, and the broader societal know-how, which then allow them to produce products and services that are in demand.

There is also an emerging literature, currently spread out across various disciplines, that focuses on how value added can be diffused more broadly across society in ways which would lead to more local development, a reduction of regional inequalities, and the winner-takes-most dynamics of globalisation. Much of this literature is concerned with the dynamics of economic governance among smaller economic agents. Carter (2018) shows how French winemakers organise themselves politically to capture greater international market value for their products, concluding that markets are not only socially but also politically embedded. Gartzou-Katsouyanni (2020) focuses on how countries with small firms and small farms, notably Greece and Italy, can economically improve their international competitiveness through collaborative efforts. One of Gartzou-Katsouyanni's conclusions is that cooperation in low-trust environments can be enhanced not only through local leadership, but also through institutions that

foster inter-firm cooperation. These empirical studies are in line with a renewed theoretical interest in business-centred explanations of developmental outcomes as opposed to statist ones (Puente & Schneider, 2020). Moreover, Farrell (2009: 224) shows that exogenous changes can affect institutional rules because they can change incentives for firms to trust and cooperate with one another. We can therefore expect that smaller economic agents who face new exogenous circumstances would try to experiment with institutional rules and attempt to bend them in order to benefit from these new opportunities. Entrepreneurs are therefore not only rule takers, as the traditional entrepreneurship-oriented institutionalist literature suggests (Baumol, 1990).

When it comes to the WB in particular, earlier literature on the productivity constraints that SMEs in the WB faced focused on the types of state reforms that were necessary to improve their regulatory and bureaucratic environment (Bartlett & Bukvič, 2002; Bartlett, 2003). Bartlett and Bukvič (2002) also tackled the question of social and civic capital, but from the perspective of how macro-level bribery and corruption reduce trust and social ties between entrepreneurs. While some of these old formal and informal barriers to SME development remain to this day, the empirical findings from this article show that the SMEs' increased opportunities for internationalisation have fostered new coping strategies among these firms that have traditionally been constrained by weak policy support and institutional capture.

Furthermore, we now face significantly higher interpersonal inequalities in the WB region than 30 years ago, along with the lower availability of public goods and ample instances of de-development due to long-term anaemic investment (and even disinvestment) in public and social infrastructure. Therefore, as the empirical section of this article shows, exporting SMEs in traditional sectors can act as important stakeholders that can initiate and lead local developmental coalitions because of their high levels of interdependency with their local environments. Their role in the building of communal capacities and local public goods should therefore not be neglected by policy makers. The same policies that can support SME productivity can also foster broader societal gains and more inclusive growth.

Existing policy solutions generally seem to be stuck in the old paradigm–focused on increasing the efficiency of smaller entrepreneurs to make them increasingly corporate-like, rather than drawing on the diversity of values and experiences that they can bring to the table. For example, although the EU's new SME strategy professes strong interest in social inclusion and broader social gains from progress, its policy recommendations remain focused on SMEs in the top tiers of innovative activities, such as those in the defence and space sectors (European Commission, 2020). Their focus seems to be on the reskilling of the population to adapt it to this innovation-driven era, along with vague policy tools such as the building of the so-called networking hubs for SMEs and knowledge hubs where educational materials and information can be shared. We do not learn anything about how traditional SMEs that are excluded from the hi-tech sectors, and where the majority of the broader population works, can be included in these processes.

Moreover, the overall approach to resolving the ongoing secular stagnation of growth in Europe seems to be permeated with techno-optimism, and the ability of top-down innovation to resolve all our social challenges. This optimism comes across as puzzling, given the plethora of existing empirical evidence which shows that digitalisation in the modern era has tended to deepen inequalities. The reskilling paradigm is also contradictory since we have evidence from countries such as Korea where massive investments in education, without concurrent efforts to diffuse social gains of their developmental model more broadly into the society, has led to massive inequalities and social exclusion of youth, and even educated youth (Jones & Lee, 2018). The EU agenda is also permeated with optimism that people can be quickly reskilled to adapt to the needs of the "new" economy, rather than thinking about ways in which new technologies can also become more responsive to societal and environmental needs.

It is becoming increasingly clear from the academic literature that the ability of firms to expand and capture greater economic value is also dependent on their ability to strategically use their embeddedness within their social and political environments. But we still understand very little about what this strategic use implies for smaller economic agents, apart from having the general idea that this is about navigating relations between institutions, business owners, and workers. What works in some contexts may not work in others, and so we need more granular research to throw light on the types of incentives of economic actors that

are on the ground in specific environments and that could be leveraged upon to capture greater collective value for peripheral European regions, including CEFTA Parties. The empirical section below contributes to the accumulation of that knowledge.

3. WHAT THE EXPORTING SMES TELL US: QUALITATIVE DATA ANALYSIS

This paper applies abductive analysis, a method based on pragmatist Charles S. Peirce's approach to social enquiry (Tavory & Timmermans, 2014). It starts by surveying the literature, followed by the collection and analysis of empirical data to enrich it. Two components of the research–the theoretical and the empirical–thus enter a balanced and recursive conversation to amplify each other and increase our understanding of the phenomenon of interest. This is a different logic of enquiry from the standard deductive method of comparative research, where expectations are formulated in advance based on what we know from the literature, often at the expense of paying attention to the empirical reality that goes beyond existing classifications. It is also different from the inductive method, where, devoid of theory which would act as a signpost to frame the elaborate empirical findings, the researcher can get lost in the details of an overly descriptive account that offers little new theoretical insight. Abductive analysis is an important methodological innovation for social enquiry that focuses on understanding the new economy that is driven by ICT and knowledge inputs. We cannot assume that a novel interpretative framework can be generated purely from dialogue with private sector enterprises in the European periphery, since they are also captured by certain "old" discourses and may find it difficult to see the bigger picture within which their businesses' threats and opportunities are unfolding in an era where the economic gestalt is rapidly changing. On the other hand, given the rapid changes that are taking place in the world economy in the context of digitalisation, limiting our empirical analysis to confirming what we already know from theory would also be insufficient. The two need to be combined to generate new insights. The analysis of empirical data is additionally enriched by insights from strategic documents, mostly from the European Commission and the OECD, which offer a better sense of new policy directions and ideas that are becoming increasingly disseminated around the world.

Moreover, scholarship has become increasingly aware that theories which are developed in advanced capitalist economies are not fully suited to the context of

non-core countries in the global peripheries and semiperipheries, given their weaker institutional settings and issues such as state capture. This is echoed by the growing realisation within the economic discipline that context matters, and that there is no one-size-fits-all policy. This is why abductive research is an important method for the WB region, which can be considered as Wallerstein's semiperiphery–more developed than the global South, but less developed than the core countries (Wallerstein, 1979). Using the abductive method allows for the tweaking and re-interpretation of existing theories by checking them against the grounded reality of life in the context of interest.

3.1 Data collection

The data that are analysed in this paper are collected from SMEs. SMEs are economic actors with more limited resources than the large, often foreign-owned firms. While SMEs have fewer resources at their disposal everywhere, limitations in financial, technological, and human resources for smaller economic actors in the WB are even more conspicuous than in the more advanced economies. The data were collected via semi-structured in-depth interviews which I conducted with owners and directors of 58 mostly domestic and export-oriented SMEs, 28 of which were in B&H and 30 in Serbia. The interviews took place between June and December 2021. Firms from the Federation of B&H and Republika Srpska, the two constituting entities of B&H, are equally represented in the sample.

The interviewed firms were not selected according to their sectors of operation. Firm representativeness by sector of operation was not of interest to the SEEGROW project, given the high sectoral fragmentation of businesses in the WB. Instead, the interviewed firms are a combination of exporters of smart services, manufacturers of products sold to other businesses, and products sold directly to end consumers. Eight of them (five from B&H and three from Serbia) also worked with imports or had at least partial foreign ownership or both. While SMEs with such characteristics were initially not planned for inclusion in the sample, I discovered that they could offer important insights on how business relations in the two countries worked, given the region's high dependency on imports as well as high levels of foreign ownership. One of the aims of the SEEGROW project was to explore different perspectives on what it takes to be internationally competitive within broader SME business subtypes, i.e. to explore causal mechanisms and generate new insights; judgemental sampling was used as

the best method for this purpose (Gilbert, 2005). I also took care to include some female-run businesses, although they make up a very tiny portion of exporting SMEs in the region. This was relevant because we know that female-owned firms generally operate with fewer resources, and so their perspective can offer important insights on resourcefulness.

Given the low trust of the private sector and especially smaller economic agents in formal institutions in the countries where the fieldwork was conducted and their lack of trust that somebody would be doing genuine research that fulfils all EU ethics criteria, rather than perhaps spying on their business operations, most of the firms were identified through word of mouth and personal recommendations. While low trust made the fieldwork particularly challenging, it was also a very informative experience because it allowed me to have a better understanding of the low trust business environment within which these firms operate. Despite personal recommendations and contacts, effort was made to ensure a geographically spread-out sample of businesses. The interviews were conducted in a semi-structured fashion and usually lasted about one hour to allow the business owners and directors enough time to gain trust in my intentions and articulate their predominant concerns through relaxed and open conversation. The findings from the interviews are presented in a fully anonymised way, adhering to all EU ethical standards and guarantees that were offered to the research participants.

3.2 Data analysis and discussion

While a wide variety of sectors were covered, from IT, creative industries, and consulting services to the different types of manufacturing, a surprising consistency of concerns emerged throughout the interviews. There was also consistency in how these firms were investing their own resources (time, skills, and money) to resolve some of these issues, whether alone or through seeking collaborations with others.

As expected, regulatory issues facing SMEs when dealing with customs and government bureaucracies in the region are still an important concern. The research participants were naturally very keen to reduce their cost of doing business by reducing government regulatory pressures and deepening economic integration between the WB economies. However, since much of the earlier

research covering business in the region has focused on the regulatory environment, and since the key focus of the CRM is on the removal of these barriers, this paper focuses on other important themes emerging from the interviews that can offer useful insights for CEFTA stakeholders.

The interviewed firms did not seem very concerned about market access and business volume. They were certain that the EU was increasingly turning towards the WB to purchase cheaper goods and services, especially as the post-pandemic rift with China has been widening. While access to finance and technology were important to the research participants, they also perceived them as solvable and moderate challenges.

Most of the research participants were predominantly preoccupied with how their local socio-economic environments were conditioning their competitiveness and how their ability to do something about it was limited. They felt a strong interdependency of their businesses with the availability of suitable human resources and communal infrastructure, and this emerged as an important theme throughout the interviews. The interviewed SMEs were therefore worried about the general crisis of production inputs, many of which are traditionally considered as public goods. Their predominant concern was about significant labour and skill shortages that the region is experiencing due to high emigration and low fertility rates, which is consistent with findings of other studies on the region (World Bank, 2019). They worried about how the region could capture more value from these growing exporting opportunities without the right kinds of skills of the general population. Therefore, they often referred to human resources as the weakest link from the perspective of their business competitiveness. The conversations also showed that they understood that the market itself cannot produce people's capabilities and that broader public social investment in skills and human resources and other coordination efforts were necessary to underpin firms' and countries' competitiveness. Such firm-level insights are compatible with the broader, macro-level take from the political economy literature which argues that welfare states underpin countries' growth strategies (Avlijaš et al., 2021).

Inadequate collective and communal public goods were a preoccupation which also prompted them to reflect on the broader societal trends of social and

environmental decay that the region has been experiencing since the 1990s war and the subsequent onset of transition. Many of the interviewees also demonstrated concrete efforts and further plans to invest personal resources (time, skills, and money) to mitigate some of these negative societal challenges that their communities were grappling with. This indicates that they were not simply complaining "for the sake of complaining", but that they saw their business model as interdependent with their local environments and felt that they should try to do something about it, however limited their individual efforts may be.

They also did not nurture expectations that adoption of new technologies would miraculously rescue them from these broader developmental challenges. For example, while several of the interviewed SMEs contemplated greater automation of their work processes as a solution to shortages in the low-skilled labour force that they were facing, they argued that their niche specialisations and custom-made production processes were not conducive to as much automation as the production processes of the bigger firms whose business models were based on economies of scale. As a furniture exporter from central Serbia stated: "We got some offers to digitalise our production processes, but they don't understand that this doesn't really work for small batches of luxury furniture. We have to adjust the machines way too frequently to gain any time advantage from investing in automation" (interview 20).

Many also worried about how to keep loyal employees, especially in administration, even at the expense of not adopting cost saving technologies that their workers would resist, such as enterprise resource planning software, since they were dependent on employees who were hard to find and even harder to motivate, and it was difficult to maintain their loyalty. Even in the most innovative niche of the IT sector, where the interviewed firm is exporting high value artificial intelligence-based software, the owner pointed out that the key competitive edge of their business was their ability to adapt software to the humans who were using it, which required a lot of people skills and understanding of the firm's specific processes, rather than simply software design (interview 5).

These examples illustrate the research participants' awareness that societal problems cannot be a mere appendix to technological progress, and that the two must be connected and developed hand in hand to realise not only local development, but even their own business success.

A big concern was also the lack of a broader spectrum of skilled workers that these firms needed to develop their business, whether these are machine operators, crafts(wo)men, engineers, marketing experts, managers of complex projects, or those who know how to manage other people. The participants were also concerned that some of the old skillsets from socialist Yugoslavia were almost dying out, from handymen who know how to weld the types of factory constructions using skills that they could only learn during the Yugoslav era when big infrastructure projects were implemented (e.g. interview 42) to engineers who could not adopt systems thinking because they never had an opportunity to work on more complex projects that only big, often state-run infrastructure projects provided to the previous generation of the socialist era (e.g. interview 19). These insights in particular echo the findings of Udovicki et al. (2019), discussed in the literature review, that industrial capabilities from socialist Yugoslavia, where people had the opportunity to adopt a broader range of skills from large-scale government-funded international and domestic projects, remain an important source of competitiveness for exporting SMEs today.

The smaller businesses in sectors such as high-end handmade fashion and design were specifically worried about the disappearance of craftspeople who knew how to make things by hand, whether sweaters or shoes (e.g. interview 21). A textile manufacturing firm from central Bosnia stated the following: "We don't have anywhere to send our workers for training even if we pay for it; some skills are just lost forever, and there is nothing we can do about it" (interview 33). A furniture maker from B&H was adamant that the region needed to focus on recovering its crafts and manual skill sets which were widespread in socialism but have been massively devalued since the 1990s (interview 55). He also did not think that there was a future in mass production and exports of low-price products in the WB since there were not enough workers to fill these roles, from low-skill factory workers to those who could manage larger scale operations and various challenges with the workforce. Instead, he argued that it only made sense to invest in one's own design, including the nurturing of manual and crafts-

oriented skill sets, to climb up the value chain with better quality products. Another furniture maker from B&H also stated that they were not able to deliver the quantities required by the EU market, nor were they interested in expanding their business operations to a mass scale (interview 38).

Even firms from creative industries such as film production and advertising were increasingly concerned about labour shortages and believed that the currently dominant outsourcing-driven labour-intensive business model which focused on exporting relatively low-cost services to foreign production firms would run out of steam rather soon in Serbia. This is because the cost of domestic labour was growing while there were not enough people with the specific skill sets that were needed for such work projects (interviews 12 and 14). "This is why I am turning away from the outsourcing grind, and towards creating my own content which would not be so labour intensive. But it is much harder to create your own product" (interview 12).

Apart from participants' concerns about the human resources that they needed for their business operations, they were also concerned about the wider social environment within which their workers and they themselves lived. Participants were troubled by the general social decay and apathy that they were operating within because they saw it as very demotivating for the future of their business. An exporter of food products from central Serbia who had invested in top-notch production technology to improve the speed of their production so that he could deliver larger batches of their product to supermarkets around Europe said that he had to get the people who sold them the machines to come six times to attempt to train his workers. "My key machine operator, I begged him to learn about the machines, I wanted to pay for his English classes, I promised him promotions, but he is not motivated beyond the basics. I don't know what it is, some kind of a collective depression" (interview 16). He went on to lament that he spent most of his time handling human resources, from low-skill to high-skill workers, although as CEO he felt that he should be primarily focusing on market expansion. This finding echoes Telford (2022), who discusses how working people in a decaying and deindustrialising area of the UK have lost their *raison d'être* due to neoliberalism and marketisation that have destroyed the communal fabric and thus inhibit the area's revival, and Rajković (2018), who discusses the

loss of collective meaning for Serbian workers as their city deindustrialised following a failed privatisation effort.

On a positive note, there was a strong awareness that a more developed or a more functional municipality meant that more people were likely to stay there, and that local development increased the resilience and resourcefulness of their own businesses. This came along with an awareness, especially in the poorer regions, that everybody was "emigrating to Germany". The owner of a luxury furniture firm in central Serbia mentioned that he was trying to get a few company owners together to form a team of people whom they would pay to apply for project-based funding and government donations that could bring more resources into their local community (interview 20). Other participants also pointed to the importance of public infrastructure in the localities where their businesses were based, because when they bring in clients, they need to have a decent environment within which they can present their businesses (e.g. a good road, a stable electricity supply, and even a good restaurant).

Research participants also expressed concerns about the growing cost of energy, which was making them consider investments in renewables and energy efficiency enhancing technologies as a lot more profitable than investment in labour saving technologies, given their niche and custom-made approaches to production. This indicates that they recognised their business interest in the green growth agenda, and that this was where application of technological solutions made more sense to them than trying to resolve societal and human constraints by technological means.

A participant from B&H saw an important role for the local industrial zone that he was a part of to absorb workers from the highly polluting large plant that they perceived as useless for the community as well as harmful for health of the general population (interview 40). I also came across a less straightforward example in which a firm owner thought he was doing something to address the problem of energy shortages in the town by building a mini-hydro power plant on a local river, thus presenting a highly contentious environmental issue from the perspective of a win-win solution for the community (interview 37). This example illustrates that multistakeholder socio-environmental governance is already taking place in local communities, but also warns that private sector leaders need

to obtain support from the local community, and not just politicians, for true win-win communal solutions to environmental problems.

There was also political awareness among the smaller firms that they were of no interest for the state apparatus, because state-level corruption is organised in such ways that it is easier to "chip in" when there are larger scale and larger value programmes and firms involved (e.g. see interviews 19 and 21). This motivated some of them to look for ways to cooperate at the local level and capture some of the collective resources for their own communities through supporting local development projects, rather than through getting the attention of central authorities. This finding ties into Franičević and Bartlett (2002) who argue that SMEs in the WB were neglected by policy makers due to their overly centralised approach to economic governance. It also echoes Yadav and Mukherjee (2016) who argue that SMEs in corrupt autocracies have a latent common interest in policies that demand anti-corruption measures and more transparent business-government practices.

When it came to taking action with regard to skill and labour shortages, some research participants saw their role as community leaders who could build local resources, often through organising and investing in local skills training centres (e.g. see interviews 3 and 31). Another firm from an area in central Bosnia with traditionally low female employment was proud of their innovation to start hiring young women and giving them an opportunity to gain skills and financial independence, showing how labour shortages were leading to some gender progressive employment strategies as well (interview 38). Interviewee 3, an IT firm from Serbia, also stated that they would love to participate in technological projects that could improve developmental conditions in Serbia, but they did not know how to approach the matter on their own. Instead, they were doing what they could by helping people with low earnings to learn programming and thus obtain better wages. Others saw an important agenda for local SMEs in ensuring decent working conditions and respectable wages for their workforce (e.g. interviews 47 and 55).

Many of the research participants also emphasised the importance of gaining experience outside their place of origin, either through having studied or lived abroad, or through their connections with diasporic communities and foreign

clients. A packaging firm from central Bosnia told a story of long-term collaboration with a firm from central Serbia through which they developed machines which helped them both sell more of their products in the international markets (interview 37). Interviewee 5 was entertained by the idea that it was easier to find foreign customers and collaborators through LinkedIn, then to access domestic firms which could benefit from their products. They also observed that once their success was proven abroad, they started getting invitations from Serbian firms for collaboration, leading them to conclude that trust is easier to establish between domestic agents once there was an external mechanism of quality control.

Other interviewees also emphasised the important role of foreign institutions in supporting their business competitiveness. For example, interviewee 17 discussed that their business was saved by the university where they obtained their PhD. The university purchased some of the business's technological products during the hard times until the interviewee found a way to sell them to others. And according to the interviewee, the hard times had nothing to do with the quality of their product, but with the sheer time it took from product development to finding a market for it. An IT firm working with the German market explained that benefiting from Germany's industrial zone programmes and being invited to participate in their industrial strategy projects helped them immensely to understand how production factories work and to then develop their own business products for manufacturing (interview 1). Therefore, even top-tier innovators who were not as constrained by their geographic communities because they can hire globally and also sell globally recognised that they were saved in hard times by supportive communities and that resilience which comes from such support was an essential ingredient of their ability to innovate (see interviews 5 and 17). They emphasised the importance of the skills that they obtained through these networks, which were not only helping them to access foreign markets, but to also bring innovations into their local communities. Many therefore understood the business value of inter-firm and multistakeholder cooperation both locally and translocally. But it was also clear that they had too few incentives in their local low-trust environments to pursue the strategies that they were able to pursue with international collaborators. This also echoes Farrell's (2009) observations that trust is not an abstract feeling, but that it is embedded in specific incentives that actors have to collaborate with one another.

In sum, the interviewed SME owners and directors generally believed that their survival and independence lay in continually becoming better at what they made and finding their global niche markets, while also working on improving their embeddedness in and interconnectedness with their local communities. Thinking about win-win business solutions from the perspective of social and environmental governance adds further insight into Farrell's (2009) observations that changes in the bargaining power of stakeholders (in this case due to labour shortages, the environmental crisis, and general decay of local public goods) can change incentives among businesses and lead them towards seeking more cooperative business strategies. And indeed, we are seeing a very different business context emerging in the WB due to these communal shortages in comparison to the one we saw in the earlier years of transition to capitalism when there was an excess of cheap labour and capabilities left over from socialist industrialisation. Many research participants also saw value in cooperation with firms and other stakeholders outside their communities and in translocal and international networks which provided them with opportunities to strengthen both their resilience and capacities for innovation. This indicates that their increasing internationalisation can be leveraged as a tool that can also strengthen local forms of cooperation that can steer their communities towards pro-developmental outcomes.

4. CONCLUDING REMARKS AND POLICY IMPLICATIONS

This paper demonstrates that the ability of smaller economic actors in the WB to be internationally competitive and capture more value from the global economy is contingent upon the communities within which they operate. Business strategies which are meant to mitigate the problems of labour shortages, skills absence, a general lack of motivation of the workforce, and labour's capacity to adopt new technologies are a key preoccupation for these firms. While they are also concerned about issues such as the regulatory burden and access to new markets, to finance and to new technologies, much of their distress is related to figuring out how to manage relations with their employees and their wider communities. They are therefore mostly concerned about nurturing specific skills and loyal human resources, rather than about digitalisation and cheap labour, which they find to be more relevant for larger manufacturing enterprises. They also worry about their communal infrastructure, sustainability and stability of

their energy supply, and availability of the raw materials (such as timber) they use for their production.

The empirical section of this paper discusses some of the strategies these firms use to mitigate such challenges. By showing that they invest their own resources (time, skills, and money) into resolving them indicates the importance of these issues for their business operations, which extend beyond "complaining about life".

The identified strategies also indicate that the changing exogenous conditions, such as growing labour shortages, more complex demands of the international markets, and environmental constraints, are changing incentives for smaller economic agents and making them more focused on issues such as business sustainability, which they perceive as deeply interwoven with the socio-economic environment within which they operate. Therefore, this paper indicates that collective resilience and resourcefulness are an essential part of value capture in the WB region and that smaller firms have a rational incentive to collaborate with their communities and other firms to strengthen their businesses.

These observations further indicate that access to new markets and technologies is not enough for firm upgrading and development to take place in a region. In other words, techno-optimism does not miraculously produce modernisation. It cannot compensate for the absence of communal capabilities and public goods which have been decaying in both B&H and Serbia since the early 1990s due to low public investment in infrastructure, welfare, and environmental protection. Public goods must be considered as a wider part of the ecosystem within which all firms, but especially SMEs in peripheral areas, need to maintain their competitiveness. Therefore, inclusive economic governance requires threading the needle between encouraging investments in economic upgrading and fostering collective multistakeholder efforts to provide public goods.

Beyond needing their governments to step up with the provision of communal infrastructure, investment in education, environmental protection, and other aspects of local development, SMEs should be recognised as important stakeholders in efforts to repair and rebuild communal capabilities and public goods, which is an important component of inclusive growth. Focusing on small Greek firms, Gartzou-Katsouyanni (2022) shows that inter-firm cooperation is

an important tool to this end. She identifies that a small group of local actors can play a key role in catalysing emergence of innovative, cooperative economic activities at the level of an entire community. While cooperation cannot be enforced from above, policy makers can directly affect the extent to which institutions facilitate or constrain inter-firm cooperation, for example by subsidising the upfront costs of cooperative efforts and discouraging opportunistic behaviour by new entrants (Gartzou-Katsouyanni, 2022: 9). Encouraging the establishment and participation of SMEs in translocal networks is an additional policy tool that can expose them to the more successful examples of inter-firm cooperation outside their environments and thus spur their own cooperation (Gartzou-Katsouyanni, 2022: 12). These translocal experiences could build upon the already positive experiences that the interviewed SMEs have with their international collaborators.

Therefore, to avoid the winner-takes-most dynamics of deeper regional integration that we have seen elsewhere, a much more granular approach to economic governance of the CEFTA common market is needed, one that is informed by a fine-grained understanding of the bargaining power of the smaller economic actors, their incentives, and their dependencies on the communal infrastructures within which they operate. Given the specific constraints of the WB region, where investment in human resources has lagged behind the EU, along with strong emigration trends, communities where these interdependencies are particularly pronounced could perhaps be the pioneers of pro-social business practices in the WB because of the greater incentives and pressures of their SMEs for cooperation with their communities. This potential is also highlighted by the fact that many of the research participants believe that the WB does not have much capacity for mass production and businesses that are based on economies of scale.

Economic governance needs to be taken seriously if CRM is to bring prosperity to a broad range of WB peoples. Dialogue with the private sector and allowing other stakeholders, including citizens, to provide input on the effectiveness of the actions taken, which are key "solid governance" tools of the CRM 2021-2024 Action Plan, promote a very functionalist and simplistic worldview where governance is the equivalent of communication. It fails to account for the fact that governance is politics, and that politics depends on a complex web of domestic

and foreign stakeholders with different agendas and different organisational cultures, all of whom participate in the daily governance of their economies and in the sharing of the collective resources that are at their disposal as production inputs. While it cannot be the ambition of one initiative to change the entire socio-political landscape of the WB, by recognising what could go wrong with the CRM, and by identifying the changing incentives of smaller economic actors in the region and scaling their already existing strategies of resourcefulness and resilience, institutional change towards a more inclusive growth model in the region could become scalable from the bottom up.

A lot is at stake. Exporting SMEs are some of the most politically independent actors that exist in the region, and so their alienation can be very costly to both the CRM as well as to the general population's economic independence and social fabric. It is not enough for the CRM to focus on the removal of the regulatory burdens and technological innovation if it aims to bring about greater social cohesion and reduce existing socio-economic inequalities. Finding ways to preserve and enhance the collective infrastructure and public goods that surround SMEs in the region, paying attention to their resourcefulness strategies, and facilitating connections between the more competitive SMEs and their communities could mobilise greater democratic support for the CRM initiative and lead to its more successful implementation.

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*Radovan Kovačević**

THE EFFECTS OF FDI NET INFLOW ON THE CURRENT ACCOUNT OF SOUTHEAST EUROPE COUNTRIES – A PANEL CAUSALITY ANALYSIS

ABSTRACT: *This paper examines the relationship between the current account (CA) and the foreign direct investment (FDI) net inflow in the Southeast Europe (SEE) countries. The panel data framework of five SEE countries for the period 2000-2020 are used. Our research has three main findings. First, using the vector autoregressive VAR(2) model, a long-run relationship between the CA and the net FDI inflow is identified (a 1% increase in the net FDI inflow leads to a 1.011% increase in the CA deficit). This suggests that FDI stock will put upward pressure on the CA of the SEE countries in the long run. Second, applying the panel VAR model Granger causality test, we found that there is a two-way directional Granger causality. Third, our results from the vector error correction (VEC) model suggest that about 26% of the dynamics of the CA deficit adjusts to the long-run equilibrium path with the net FDI inflow each year.*

KEY WORDS: *Southeast Europe, foreign direct investment, current account, vector autoregressive model, vector error correction model, Granger causality*

JEL CLASSIFICATION: C22, F21, F32, F40

* University of Belgrade - Faculty of Economics and Business, email: radovan.kovacevic@ekof.bg.ac.rs

1. INTRODUCTION

The purpose of this paper is to examine the relationship between foreign direct investment (FDI) net inflow and the current account (CA) in the balance of payments for the SEE countries. The following countries are included in the analysis: Albania, Bosnia and Herzegovina, Montenegro, Serbia, and North Macedonia. These countries, according to the UN classification, form a group of SEE countries, and are defined based on geographical location. According to the same source, SEE countries are also classified as economies in transition. [1] The three main types of foreign capital inflows into SEE countries determine the balance of payments financial account. These are FDI, portfolio investment, and external debt. The transition processes in these countries have imposed a stronger role for FDI and portfolio investment than for the previously dominant role of foreign borrowing. All types of international capital flows are associated with changes in the CA balance. An increase in the CA deficit involves both an increase in national investment and a fall in national savings. The external borrowing due to increasing investment opens up the possibility for an increase in production and exports.[2] Problems arise at the time of reversal in capital flows because the reduction in capital inflows is associated with a sharp reversal in CA balance. This includes large macroeconomic costs.[3] Despite the fact that the Covid-19 pandemic is disrupting international production networks, the OECD (2020)

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1 For UN country classification see https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2022_ANNEX.pdf (Statistical Annex of *World Economic Situation and Prospects 2022*). According to the UN classification, the countries of the Commonwealth of Independent States and Georgia, belong to the group of countries in transition, which includes the SEE countries.

2 In periods of strong investment demand, when volume investments exceed domestic savings, foreign capital inflows are needed to finance the CA. In the literature, this is known as t*he intertemporal current account model* (see Obstfeld & Rogoff, 1995; Bergin, 2006). Bosworth and Collins (1999) concluded that a significant part of capital inflows to developing countries during the period 1979-1995 was used to finance CA deficits, that is, to finance investments.

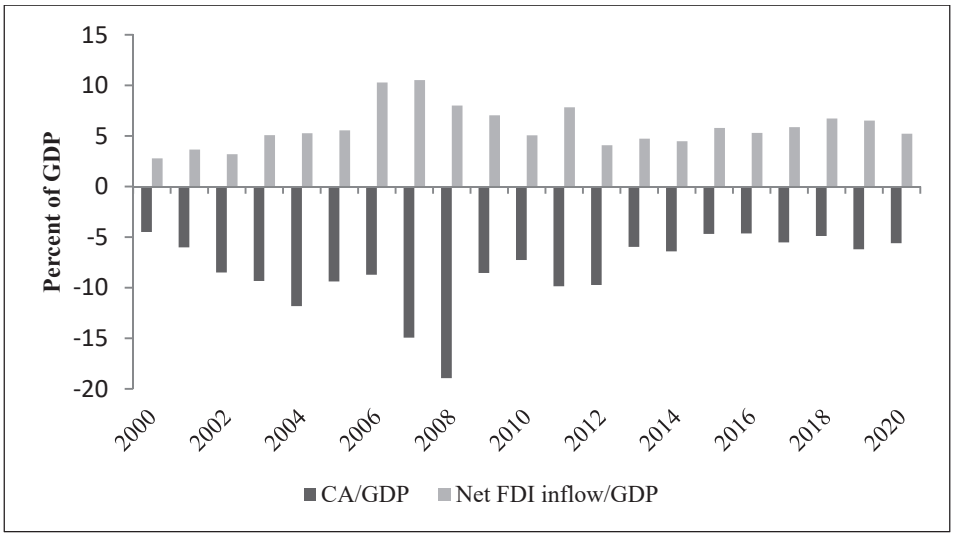
3 For output costs due to a sudden stop (the capital flow reversals that force the country to restore the balance between exports and imports), see Hutchison and Noy (2006). For consequences of the reversal in capital flows in emerging markets since 1991, see Eichengreen, B., and Gupta, P. (2016). The extreme shock (COVID-19 pandemic) led to a sharp reversal in capital flows in the short term. The portfolio investment outflow from emerging markets has exceeded $100 billion since January 21, 2020 (IMF, 2020, p. 11).

estimates that FDI will continue to play a key role in financing the development of the SEE countries.

The growing financial integration in the world was accompanied by an upward trend in the CA deficit of SEE until the outbreak of the global economic crisis in 2008. This was followed by a trend of sharp reduction of this deficit until 2015, with a gradual increase after that year (Figure 1). The sharp decline in the CA deficit was primarily caused by a deep recession and reflects a sharp reduction in domestic demand. Since 2010, the CA deficit in the SEE as a group is less than 10% of GDP (10% in 2011 and 2012). CA deficits before the outbreak of the global crisis in 2008 were financed by growing inflows of foreign capital as transition processes in these countries increased the opportunities for profitable use of foreign funds. Often, the foreign capital inflow was higher than the CA deficit, which affected the growth of foreign exchange reserves in most countries (Lane, 2013).

An important component of capital inflows into SEE is the net FDI inflow, and many countries believe that FDI has become a significant component of economic development (Campos & Kinoshita, 2008). Because the business environment has a strong impact on FDI inflows (Vučkovic et al., 2020; Borojo & Yushi, 2020), countries seek to facilitate investment in their economies in different ways. Along with the improvement of the investment environment, fiscal and financial incentives are used to attract FDI, and employment subsidies are approved in some countries. Subsidies of this type can also have negative effects. One of them is that once they are introduced, they are difficult to abolish because their users lobby to keep them (World Bank, 2020, p. 175).

Figure 1: Current account balances and net FDI inflow for SEE countries



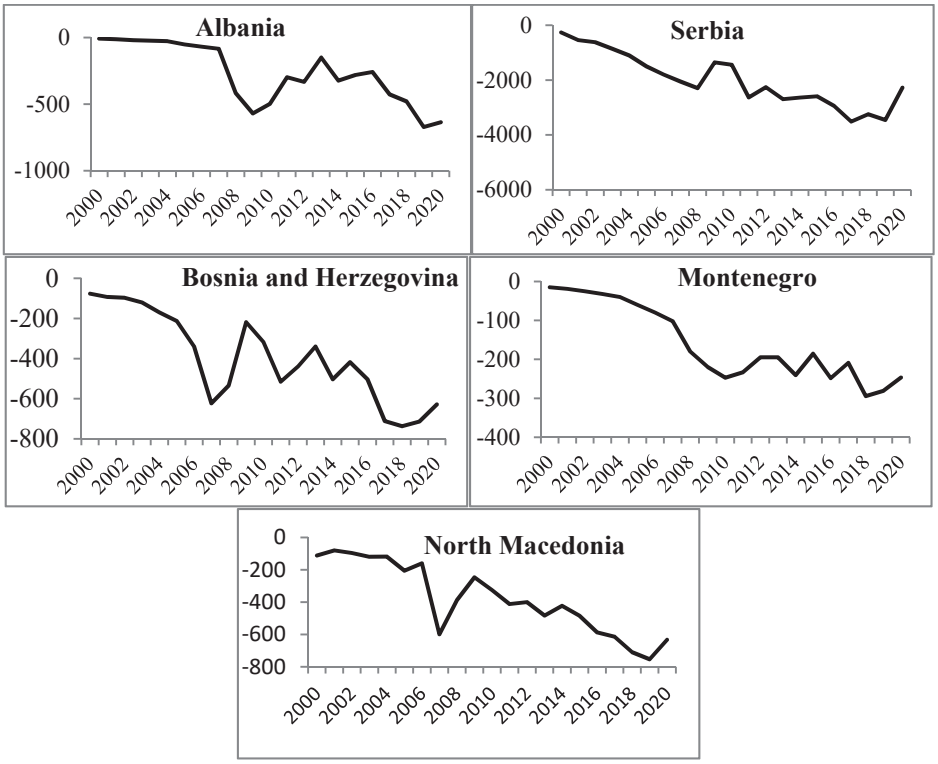
Note: Foreign direct investment refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Data are in current U.S. dollars.

Source: Own elaboration based on data of the World Bank. https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart Accesed 23/05/2022.

On the other hand, FDI inflows, motivated by lower labour costs and economies of scale, increase the country's participation in international trade. For production purposes, raw materials and intermediate goods are imported directly, and often through local component suppliers. The final products are then exported. Some studies show that FDI strongly influences exports (Vukšić, 2005; Apostolov, 2016), while in other studies there is no convincing evidence that FDI influences export (Christova-Balkanska, 2009; Estrin & Uvalic, 2013). However, the possible withdrawal of capital during a crisis or the downward phase of the business cycle may harm the CA balance (Bedir & Soydan, 2016). The FDI inflows in the privatisation process in most SEE countries have contributed to the deterioration of the CA, as part of the privatisation proceeds have been spent on imports of goods. Calvo et al. (1996) prove that an increase in the CA deficit is one of the less desirable macroeconomic effects of large capital inflows into debt countries. The persistence of the CA deficit raises the question about its sustainability in the case of sudden reversals of capital flows (Aristovnik,

2006). In most SEEs, the FDI stock generates increasing dividend payments to a foreign resident, which increases the liability in the primary income account (Figure 2).

Figure 2: Primary income account of selected SEE countries - payments, in millions of dollars



Note: Primary income payments refer to employee compensation paid to nonresident workers and investment income (payments on direct investment, portfolio investment, other investments).

Source: Own calculation based on The World Bank data, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart (Accessed 23/05/2022).

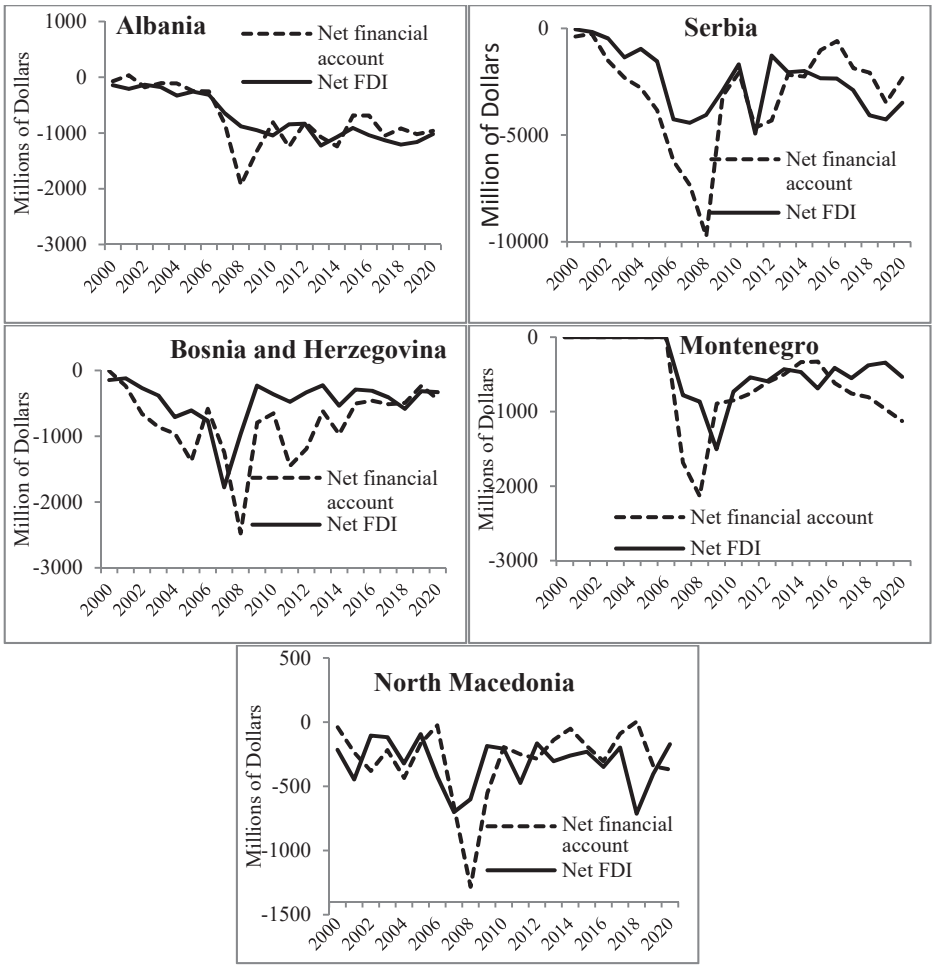
Figure 2 shows an increase in payments in the primary income account of SEE countries until 2008. Since the reduction of payment amounts in 2009 and 2010, the payment trend in SEE countries has been increasing again. A part of this income is reinvested (retained earnings) in the countries where it was created,

thus increasing the financial account balance.[4] The increase in the stock of FDI in these countries increases the dividend payouts to foreign investors, which increases the negative current account balance.[5] Other types of foreign capital inflows into SEE also contribute to the negative balance in the primary income account. Given the importance of FDI in total foreign investment in SEE countries, Figure 3 provides a comparative overview of the financial account balance and the net FDI balance (net FDI inflow minus net FDI outflow) for SEE countries. Coordinated development of these two variables can be observed in all SEE countries. This means that the net financial inflow to SEE countries largely depends on the net inflow of FDI. This confirms the important role of the net FDI inflow for the balance of payments stability of these countries.

[4] Dividend reinvestment is an internal generation of financial resources to finance additional investments in expanding the production of a foreign branch of a multinational company (Nguyen, 2016). Most emerging markets have a negative balance of primary income (Behar & Hassan, 2022).

[5] The dividends and reinvested earnings based on FDI stock in Serbia amounted to 2.7% and 3.3% of GDP in 2020 and 2021, respectively (author's calculation according to NBS data, https://nbs.rs/sr/drugi-nivo-navigacije/statistika/platni_bilans/ (The dividends and reinvested earnings data);
https://www.nbs.rs/export/sites/NBS_site/documents/publikacije/ioi/izvestaji/ioi_05_2022.pdf (GDP data, Table B, p. 82) (Accessed 22/06/2022). The growth of the CA deficit during the crisis can lead to the instability of the exchange rate due to the possible sudden capital flight (Gervais et al., 2016)

Figure 3: Net financial account and net FDI for SEE countries, in million dollars



Note: 1) The negative values of the financial account balance and the FDI account indicate a net inflow of capital into the country; 2) The net financial account shows net acquisition and disposal of financial assets and liabilities. It measures how net lending to or borrowing from nonresidents is financed and is conceptually equal to the sum of the balances on the current and capital accounts. Data are in current U.S. dollars (According to the World Bank methodology).

Source: Own calculation based on the World Bank data, https://data.worldbank.org/indicator; Data for Serbia for the period 2000-2006 from https://nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/platni_bilans (Accessed 23/03/2022).

The research question addressed in this paper is whether net FDI inflows cause CA imbalances in SEE. The main research hypothesis of this study is that net FDI inflow in SEE countries may harm the CA balance through the primary income account. The process of hypothesis testing begins by examining whether a long-run relationship between FDI and the CA in SEE countries exists, with the intention of revealing the direction of causality between these two variables. The empirical research is conducted using the vector autoregressive (VAR) model. As a first step, unit root tests have been applied to test the stationarity of the panel time series. The results indicate that the time series has one unit root each. In trying to determine whether the time series are cointegrated, the Johansen cointegration test will be used. Then, the direction of causality will be tested using the Granger causality test in the VAR model. Finally, we estimate the relationship between the CA and the net FDI inflow in the VEC model. This study aims to contribute to the literature by examining the relationships between the CA and FDI net inflow in terms of the implications of net FDI inflows on the CA in SEE. The remainder of this paper is organised as follows. Section 2 provides the theoretical and empirical literature on the relationship between the CA and FDI. Section 3 discusses the data and research methodology. The fourth section presents the empirical results and discussion. Finally, the fifth section contains the conclusion and policy recommendations.

2. LITERATURE REVIEW

In this part of the paper, we provide an overview of relevant research for countries at a similar level of economic development as SEE countries, measured by per capita gross national income (GNI). (UN methodology cited in footnote 1). SEE countries, according to per capita GNI as of 1 July 2021, belong to upper-middle-income economies. The existing literature does not pay enough attention to the study of the causality relationship between FDI inflows and the CA, nor does it adequately examine the impact of FDI inflows on the primary income account. In the available studies, there are mixed results about the directions of influence between FDI and the CA. The published papers can be divided into two groups. One contains papers that investigate the relationship between certain types of capital inflows and the CA for groups of countries. The second group comprises empirical research on the relationship between FDI and the CA for individual

countries. The literature review presents research findings for countries at a similar level of development as SEE.

Lau and Fu (2011), examining four emerging markets, concluded that Granger causality exists from a financial account (FA) to a CA. These authors also concluded that causality runs from the CA to FDI and portfolio investment in Indonesia, and from the CA to portfolio investment in the Philippines. Lyroudi et al. (2004) examined the effects of FDI on the rate of growth in a panel of countries in transition using Bayesian analysis. The findings of this study show that there is not any significant relationship between FDI and economic growth. The paper does not point out the effect of FDI inflows on the CA, although one might intuitively expect it to be unfavourable.

Bayraktar-Saglam and Yalta (2015) examined the causality between the CA and international capital flows for emerging countries in the period 1980-2012 by applying the heterogeneous panel Granger causality framework. In addition to total capital flows, the links between different types of capital flows (FDI and portfolio investment) and the CA were examined. These authors found that causality between foreign capital flows and the CA is highly heterogeneous.

Ercegovac and Beker Pucar (2021) investigated the mutual relationship between FDI and the external balance of selected emerging European economies. The research hypotheses are tested using a robust micro panel model in the period before and after the structural break caused by the global financial crisis (GFC). The results obtained show that substantial FDI inflows are significantly related to the negative trade balance. This conclusion also applies to the countries of the Western Balkans. This resulted in the recommendation that attracting greenfield investments in particular should be primarily focused on exports in order to stabilise the trade balance.

The second group of results consists of papers that investigate the relationship between FDI and the CA for individual countries. Seabra and Flach (2005) examined the existence of causality between FDI and profit remittance in Brazil using the Granger causality test procedure. Quarterly data for the period 1979-2003 were used in the research. The findings of this study show that FDI causes repatriation of profits, as well as that there are significant negative long-term effects of FDI-stimulating policies for the Brazilian economy.

Garg and Prabheesh (2015) on the example of the Indian economy concluded that there is no causal link between the CA and the FA, but that there is causality from non-debt flows to the CA, through the real effective exchange rate. They also noted that the volatility of capital flows may worsen the CA balance, which led to the recommendation that the stability of the financial sector should be strengthened before full capital account convertibility is introduced. Mukherjee et al. (2014) also analysed the relationship between FDI and India's CA. The empirical testing was conducted on quarterly data in the period 1990-2011. Their research found that there is a unique long-term relationship between FDI and the current account balance, with two endogenous structural breaks. It was also found that there is a one-way causality from the FDI to the current account at a significance level of 5%. Despite believing that FDI is beneficial as a source of financing the CA deficit, these authors, nevertheless, concluded that FDI can also lead to a balance of payments problem. They believe that the large foreign exchange outflow based on the repatriation of profits has increased the concerns of economic policymakers in the CA balance. Kaur et al (2012) analysed the relationship between FDI and the CA in India. Using the Toda-Yamamoto Granger causality technique (Granger causality technique) for the period 1975-2009, they showed that FDI and the CA are cointegrated in the long run. They also established the existence of unidirectional causality from FDI to the CA. These findings were confirmed by an additional analysis of the relationship between FDI and the components of international trade (exports and imports).

Ersoy (2011) analysed the relationships between the components of the FA and the CA of Turkey in the period 1987-2010 using quarterly data. The findings of this study show that there is a one-way causality that runs from FDI to the CA. These findings, according to the author, suggest that capital inflows affect the formation of the CA deficit and that the sustainability of this deficit in Turkey requires better management. Karahan and Colak (2020) investigated the direction of the causality between the FA and the CA in Turkey. The research is based on quarterly data using the vector error correction (VEC) model. The empirical results confirm that the FA causes the CA, with the authors concluding that capital inflows in Turkey can worsen CA performance. Yalta (2011) found that FDI in the case of Turkey leads to an increase in imports and profit remittances outflow, which leads to the destabilisation of the CA.

3. THE RESEARCH METHODOLOGY AND DATA

3.1. Methodology and Empirical strategy

To study the relationship between the CA and FDI net inflow, we use a VAR model (panel data) with two-time series: CA and net FDI inflow. There are numerous approaches to VAR analysis in the literature (for details, see Lütkepohl, 2005). To test for Granger causality between two variables, we will first estimate the VAR model of order p based on the bivariate panel series. The VAR model of dimension *k* and order *p* can be described as follows:

$$x_t = A_1 x_{t-1} + A_2 x_{t-2} + \ldots + A_p x_{t-p} + B y_t + \varepsilon_t \quad (1)$$

where

$x_t = (x_{1t}, x_{2t}, \ldots, x_{kt})'$ is a k x 1 vector of endogenous variables,
$y_t = (y_{1t}, y_{2t}, \ldots, y_{dt})'$ is a d x 1 vector of exogenous variables,
$A_1, \ldots, A_p$ are k x p matrices of lag coefficients,
B is a k x d matrix of exogenous variable coefficients,
$\varepsilon_t = (\varepsilon_{1t}, \varepsilon_{2t}, \ldots, \varepsilon_{kt})'$ is a k x 1 random component of the model, with $E(\varepsilon_t) = 0$. Thus, it is a vector of innovations.

If time series have a unit root, it is necessary to examine whether there is cointegration between them. Based on the Granger representation theorem (Johansen, 1991), two variables that possess a unit root are cointegrated only if there exists a VEC representation of that time series.

If we denote the vector of time series (px1) which contain a unit root by X_t, then the VEC model of X_t, according to Hoffman, L.D. and Rasche, H.R. (1997, p. 1-2), can be presented as:

$$\Delta X_t = \mu + \alpha\beta' X_{t-1} + \sum_{j=1}^{k} \Gamma_j \Delta X_{t-j} + \varepsilon_t \quad (2)$$

where Γj are (pxp) coefficient matrices (j=1, ..., k), μ is a (px1) vector of constants that includes any deterministic components in the system, and α and β are (pxr) matrices. 0 < r < p, where r is the number of linear combinations of the elements of X_t that are affected only by transitory shocks. The term $\beta' X_{t-1}$ is the error correction and represents mean-reverting weighted sums of cointegrating vectors

and data from the period t-1. α is the matrix of error correction coefficients. In the absence of cointegration, the VEC model is a VAR in the first differences, and the number of independent permanent shocks is equal to the number of variables (p). Because the time series in this paper (each individually) have one unit root, i.e. they are integrated I(1), we will apply the Johansen cointegration test. This test determines the number of cointegration relations (the cointegration rank). The output of the Johansen cointegration regression shows the long-run relationship and co-movement of variables.

In the next step, we will apply the VEC model. Since the VEC includes the number of identified cointegration relations in the specification, it also restricts the long-term behavior of endogenous variables in the direction of convergence to their cointegration relationship, allowing for short-run adjustment dynamics. The cointegration term is known as the error correction term (this parameter contains cointegration information) since the deviations from long-run equilibrium are corrected gradually through several series of smaller short-run adjustments. To simplify, let us consider a system of two variables with one cointegration equation, and without lags. The cointegration equation in this case is:

$$x_{2,t} = \beta x_{1,t} \tag{3}$$

and the corresponding VEC model is:

$$\Delta x_{1,t} = \alpha_1\left(x_{2,t-1} - \beta x_{1,t-1}\right) + \varepsilon_{1,t} \tag{4}$$

$$\Delta x_{2,t} = \alpha_2\left(x_{2,t-1} - \beta x_{1,t-1}\right) + \varepsilon_{2,t} \tag{5}$$

In the simplified model, the expression on the right side of the equation represents the error correction term. If x_1 and x_2 deviate from the long-run equilibrium, the error correction term will be different from zero, and each variable adjusts to restore the long-run equilibrium. The coefficient α_i measures the speed of adjustment of the *i*-th endogenous variable in the equilibrium direction.

The Granger causality test will be applied in the estimated VEC model (Granger, 1980). This concept does not mean that one variable directly affects another, but only that there is causality in the sense that the future values of one variable can

be predicted more accurately if the lagged values of the other variable are used (x Granger causes y if the lagged values of x can improve the explanation of y). Thus, this concept measures the connection between variables but does not imply that y is the result of x. According to IHS Global (2017), the bivariate regressions in the panel take the form:

$$x_{i,t} = \alpha_{0,i} + \alpha_{1,i}x_{i,t-1} + \cdots + \alpha_{k,i}x_{i,t-k} + \beta_{1,i}y_{i,t-1} + \cdots + \beta_{k,i}y_{i,t-k} + \varepsilon_{i,t} \quad (6)$$

$$y_{i,t} = \alpha_{0,i} + \alpha_{1,i}y_{i,t-1} + \cdots + \alpha_{k,i}y_{i,t-k} + \beta_{1,i}x_{i,t-1} + \cdots + \beta_{k,i}x_{i,t-k} + \varepsilon_{i,t}\,, \quad (7)$$

where t denotes the time dimension of the panel and i represents a cross-sectional dimension.

Then, we will perform the Granger causality test in a panel data model using a method that assumes that all coefficients are same across all cross-sections, ie the joint hypothesis is (IHS Global, 2017, p. 1011):

$$\alpha_{0,i} = \alpha_{0,j},\ \alpha_{1,i} = \alpha_{1,j}, \ldots, \alpha_{l,i} = \alpha_{l,j}, \forall_{i,j} \quad (8)$$

$$\beta_{1,i} = \beta_{1,j}, \ldots, \beta_{l,i} = \beta_{l,j}, \forall_{i,j} \quad (9)$$

Finally, the adequacy of the model will be tested.

3.2. Data Analysis

The following SEE countries are included in the paper: Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, and Serbia. The empirical analysis in this paper is carried out by using the annual data for SEE countries for 2000-2020. Natural logarithms of the CA and net FDI inflow are denoted as LCA and LFDI, respectively.[6] The data are drawn from the World Development Indicators

[6] According to the World Bank methodology, foreign direct investment refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy. Ownership of 10 percent or more of the ordinary shares of voting stock is the criterion for determining the existence of a direct investment relationship.

database of the World Bank.[7] The data on FDI net inflows are based on the sixth edition of the Balance of Payments Manual (IMF, 2014). The FDI net inflows are the value of inward direct investment made by non-resident investors in the reporting economy.

4. EMPIRICAL RESULTS AND DISCUSSION

In this study, two second-generation panel unit root tests were used for checking the stationarity of time series LCA and LFDI: the Bai and Ng (2004) – PANIC test and the Pesaran (2007) – CIPS test[8]. The intercept and trend were applied as deterministic components. The tests were conducted at the level of each variable and its first difference. The findings indicate the presence of a unit root in the levels of both variables in both tests, at the significance level of 5%. Then we proceeded to check the stationarity of the first difference of a time series, and we found both variables are stationary at the first difference. For this reason, the next step was to apply the Johansen cointegration test within the VAR model. Before that, we started with the VAR (2) model to choose the optimal lag length. The results are given in Table 1.

[7] Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart 23/05/2022.

[8] The second generation of panel unit root tests assumes the existence of a cross-sectional dependence between individual panel units, which is a more realistic assumption for analysing the relationship of macroeconomic variables in a panel of open countries.

Table 1: VAR Lag Order Selection Criteria

Lag length	LogL	LR	FPE	AIC	SIC	HQ
0	-172.7000	NA	0.740548	5.375384	5.442288	5.401782
1	-129.6440	82.13748	0.222693	4.173663	4.374375	4.252857
2	-120.6656	16.57558	0.191156	4.020480	4.355001*	4.152470
3	-112.8813	13.89207	0.170326	3.904039	4.372368	4.088825*
4	-111.7741	1.907686	0.186537	3.993050	4.595188	4.230632
5	-104.0846	12.77639*	0.167018*	3.879527*	4.615473	4.169905
6	-101.8709	3.541991	0.177225	3.934489	4.804243	4.277663
7	-99.72159	3.306593	0.188739	3.991434	4.994997	4.387404
8	-96.78306	4.339990	0.196562	4.024094	5.161466	4.472860

Note: * indicates lag order selected by the criterion. LR- sequentially modified LR test statistic (each test at 5% level); FPE (final predictor error); AIC-Akaike information criterion (Akaike, 1974); SIC-Schwarz information criterion (Schwarz, 1978); Hannan-Quinn information criterion (Hannan-Quinn, 1979).

Source: Author's calculation.

In Table 1, it can be seen that the three information criteria indicate that the optimal lag order should be five, and the SIC criterion suggests two as the optimal lag length for the Johansen cointegration test. However, for lag five there is autocorrelation in the VAR model. That is why we opted for the two lag lengths, according to the SIC information criterion. Starting from the VAR optimal lags, according to the Johansen test, we chose the deterministic components of the VAR model. We made the selection according to the values of the AIC and SIC criteria. The results are given in Table 2.

Table 2: Selection of Cointegrating Relations by Model

Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
Model	1	2	3	4	5
Akaike Information Criteria by Rank (rows) and Model (columns)					
0	3.991594	3.991594	4.024698	4.024698	4.068355
1	3.848849*	3.857364	3.871252	3.869060	3.891279
2	3.930104	3.918904	3.918904	3.935374	3.935374
Schwarz Criteria by Rank (rows) and Model (columns)					
0	4.213799	4.213799	4.302455	4.302455	4.401663
1	4.182157*	4.218448	4.260111	4.285695	4.335690
2	4.374514	4.418866	4.418866	4.490887	4.490887
Number of cointegration relations selected by the model (significance at the 0.05 level**)					
Test Type					
Trace	1	1	1	1	2
Max-Eig	1	1	1	1	2

Note: *Suggested cointegration model. ** Critical value according to MacKinnon-Haug-Michelis (1999).

Source: Author's calculation.

Based on the AIC and SIC criterion (minimum value), model 1 suggests a single cointegration relationship, where the cointegration equation includes neither an intercept nor a trend.

Having decided for model 1, using the Johansen cointegration test, we estimated the long-run relationship between the variables in the environment of the VAR (2) model. The Breusch (1978) and Godfrey (1978) autocorrelation test in the VAR model of order 2 was applied, and it was concluded that there is no autocorrelation at lag one, but that it exists at lag two. The distribution of estimated residuals in the VAR (2) model, according to the results of the Doornik-Hansen (2008) normality test, does not deviate significantly from the normal distribution. The results of the Johansen cointegration test are given in Table 3. The trace statistics test and the max-eigenvalue test reveal that there is one cointegration equation with a 0.05 significance level.

The long-run relationship between the CA and the net FDI inflow can be assessed through the estimation of unrestricted cointegrating coefficients, normalised by $\beta' S_{11} \beta = I$, where S_{11} is defined in Johansen (1995). Each variable is considered individually as an independent variable (the model is estimated twice.) Table 4 shows the long-run parameter estimates. In Relation 1, LCA is a dependent variable, and in Relation 2, the dependent variable is LFDI net inflow. Due to the normalisation procedure, the estimated coefficients have inverted signs, which should be taken into account in conducting their analysis.

Table 3: Johansen Cointegration Test

Trace Test				
Hypothesised no. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
H_0: r=0; None*	0.206763	21.53410	12.32090	0.0011
H_0: r=1; At most 1	0.007605	0.687060***	4.129906	0.4666
Maximum Eigenvalue Test				
	Eigenvalue	Max-Eigen Stat.	0.05 Critical Value	Prob.**
H_0: r=0; None*	0.206763	20.84704	11.22480	0.0008
H_0: r=1; At most 1	0.007605	0.687060***	4.129906	0.4666

Note: * Denotes rejection of the hypothesis at the 0.05 level. ** MacKinnon-Haug-Michelis (1999) p-values. *** The estimated statistics are less than the corresponding critical value; thus a null hypothesis that one cointegration vector exists is accepted.

Source: Author's calculation.

In Relation 1 (Table 4), in which the normalisation is performed on the LCA, a coefficient of LFDI (-1.011) means that an increase in the balance of LFDI (surplus) of 1% leads to an increase in the CA deficit of 1.011% (an increase in net FDI inflows leads to an increase in the CA deficit). Relation 2 shows that an increase in the CA deficit of 1% leads to an increase in the net FDI inflow of 0.988%. Both coefficients are statistically significant and have the expected sign.

According to the sixth edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6)[9], the CA balance is affected

[9] See https://www.imf.org/external/pubs/ft/bop/2007/bopman6.htm

by the trade balance (goods and services), the primary income account balance, and the secondary income account balance. As mentioned in the introduction, the inflow of foreign direct investments affects one part of the trade balance and the other part, as one of the components, the balance of the primary income account. Therefore, the CA balance is influenced by several factors, with the net inflow of FDI being only one of them. For this reason, the obtained econometric results of the link between LCA and LFDI should be viewed as indicative in terms of the direction of causality, with the limited significance of the obtained quantitative values.

Table 4: The Estimation of the long-run relationship between variables LCA and LFDI

	LCA	LFDI
Relation 1	1.000	-1.011 (-156.607)
Relation 2	-0.988 (-157.049)	1.000

Note: t-statistics in parentheses.

Source: Author's calculation.

To verify that LCA and LFDI are endogenously or exogenously determined, we need to apply an appropriate test in a VAR environment. We can now test the following hypothesis: H_0: LFDI does not cause LCA (the hypothesis states that previous movement of LFDI does not affect LCA); H_1: LFDI causes LCA. The test results are given in Table 5.

Table 5: VAR Granger Causality/Block Exogenity Wald Tests

Dependent variable	Chi-sq statistics	Df	Prob.
LCA	18.2816	2	0.0001
LFDI	27.6912	2	0.0000

Source: Author's calculation.

Based on the obtained Chi-square statistics (significant at the level of 1%), the null hypothesis that LFDI does not cause LCA is rejected, and the alternative hypothesis that claims that LFDI causes LCA is accepted. For LFDI as a

dependent variable, the null hypothesis that LCA does not cause LFDI is also rejected (the estimated test statistic is statistically significant). Therefore, the results of the Granger causality test indicate that the variables LCA and LFDI are both endogenous. It shows that a two-way causal relationship between LCA and LFDI exists. Now that the cointegration relationship between variables has been found, in the next step, we will examine the short-run dynamics of their adjustment using the VEC model. Since the variables are cointegrated in the long run and endogenously determined, the VEC model is estimated by taking the variables LCA and LFDI as dependent variables. The lag interval specification in the VEC model refers to lags of the first difference terms, so the VEC model in this paper is a restrictive two-lagged VAR model. Table 6 gives the results of the estimated VEC (1) model.

Table 6: Vector Error Correction Estimates

Variables	**Δ (LCA)**	**Δ (LFDI)**
	Estimate	
Error Correction	-0.265 (-2.875)*	-0.416 (-4.329)*
ΔLCA_{t-1}	-0.080 (-0.791)**	-0.551 (-5.259)*
$\Delta LFDI_{t-1}$	0.330 (2.892)*	0.162 (1.372)**
Summary statistics of estimated equations		
R-squared	0.234135	0.276831
Adj. R-squared	0.217486	0.261110
Sum sq. resids	36.85490	39.38977
S.E. equation	0.632927	0.654331
F-statistic	14.06284	17.60893
Log likelihood	-89.82196	-92.98155
AIC	1.954147	2.020664
SC	2.034795	2.101313
Mean dependent	0.066938	0.043979
S.D. dependent	0.715497	0.761216

Note: t-statistics in (). * Indicates a significance level of 1%. ** Indicates no statistical significance.

Source: Author's calculation.

Table 6 shows that the estimated speed of the adjustment coefficient (error correction term) for the ΔLCA variable is statistically significant at the 1% level. It indicates that every year about 26% of the dynamics in the CA deficit are adjusted to the path of the long-run equilibrium relationship with net FDI inflows. The estimated adjustment coefficient has the expected negative sign, which allows the equilibrium error to pull the variables in the direction of their long-run equilibrium. The estimated coefficient of the first lag of the first difference in the ΔLCA time series is not statistically significant. This means that current changes in the ΔLCA variable cannot be explained by the first-order lag of this variable. Additionaly, the short-run variations of the ΔLCA variable are affected by a first-order lag of ΔLFDI (the estimated coefficients are statistically significant at 1%). The estimated adjustment coefficients show that previous changes in ΔLFDI affect changes in the ΔLCA, thus indicating the existence of Granger causality from FDI to CA.

The estimated speed of adjustment coefficient (error correction term) for the ΔLFDI variable is also statistically significant at the 1% level. It indicates that every year about 41% of the dynamics in the net FDI inflows are adjusted to the path of a long-run equilibrium relationship with CA. The estimated coefficient of the first lag of the first difference in the ΔLFDI time series is not statistically significant. However, the short-run variations of the ΔLFDI variable are affected by a first-order lag of ΔLCA (the estimated coefficients are statistically significant at 1%). The obtained value adjustment coefficients show that previous changes in ΔLCA affect changes in the ΔLFDI, which actually means that there is Granger causality from CA to FDI.

The limitation of the results in Table 6 is the relatively small R-squared value. This means that there are other factors that affect the current account, but these are not included in this analysis. Despite this, the results obtained in Table 6 show that the net FDI inflow significantly affects the CA deficit in SEE countries. The increase in the primary income liability, due to profit repatriation, can increase this impact. This effect is certainly enhanced if foreign portfolio investments are involved, as well as intercompany loans. To ensure CA sustainability in SEE countries, it is important to attract export-oriented FDI. It is equally essential for all SEE countries to keep the trade deficit under control.

To check the validity of the main results, we performed a diagnostic test. The results are presented in Table 7.

Table 7: VEC Model Residual Tests

	Lag	Df	Test Statistic	P-value
Serial Correlation LM Test	1	4	10.5116*	0.0326
	2	4	22.9334*	0.0001
Residual Normality Test (Doornik-Hansen)		4	36.4474**	0.0000
White Heteroskedasticity Test (Includes Cross Terms)	1	27	119.305***	0.0000

Note: * LM-Stat.; **Jarque-Bera; *** Chi-sq.

Source: Author's calculation.

The null hypothesis of no autocorrelation of the residuals at lag one and two is rejected. However, the null hypothesis is not rejected at lag three. The VEC model assumes that the residuals are normally distributed. To check this, we used the VEC Residual Dornik-Hansen test, which indicates a deviation from the normal distribution. Furthermore, the White (1980) heteroskedasticity test shows that there is a residual heteroskedasticity. Including more variables in the model would improve the quality of the diagnostic findings of the assessed model. Nevertheless, the results of the estimated model are indicative and suggest that policymakers in SEE countries should monitor the impact of FDI on the primary income account and the CA account in the macroeconomic context. They should consider policies that stimulate foreign investors to export from SEE countries and to reinvest a certain proportion of their income in those countries. In addition, the increase in repatriation income from FDI may generate strong pressure on the foreign exchange market in SEE countries. Therefore, SEE countries need to have a sufficient amount of foreign exchange reserves to assure foreign investors that they can move their capital out of the country if they so decide.

5. CONCLUSION AND POLICY RECOMMENDATION

We find that FDI net inflow has a negative effect on primary income accounts and the CA in SEE countries. However, FDI inflows in many countries are an

important source of financing for CA deficits. The existing literature indicates that FDI inflows, through an increase in aggregate demand, may contribute to an increase in the CA deficit. This happens when the growth of aggregate demand leads to an increase in imports of goods and services. It is also possible that FDI inflows affect the increase in host country exports, so the net effect on the trade balance may be positive. However, the increase in FDI stocks implies an increase in dividend repatriation in the long run, increasing the CA deficit. If this impact is stronger than the possible positive effect on the trade balance, FDI inflows will lead to an increase in the CA deficit. Therefore, policymakers need to know the direction of conditionality between FDI and CA. The previous studies on the CA of SEE countries focus on the relationship between the financial account balance and the CA balance, whereas this paper pays attention to the relationship between FDI and the CA, which adds to the literature. Also, we provide new insights into the primary income account of SEE in the context of FDI inflows.

The results of the study in this paper show that an increase in net FDI inflows of 1% leads to an increase in the CA deficit of SEE of 1.011%. This finding confirms the results of research by Seabra and Flach (2005), Mukherjee et al. (2014), and Kaur et al. (2012). The Granger causality in our study was tested using the panel VEC model, and the test result indicates a two-way Granger causality between FDI net inflow to the CA balance. For SEE policymakers, the more important finding is that FDI net inflow affects the CA deficit. The transition of SEE countries towards an open market economy has enabled a significant inflow of FDI, which is linked to the privatisation process. The funds obtained from the sale of domestic companies to foreign residents were partly spent on the import of capital equipment, raw materials, and consumer goods. This consumption has directly affected the trade balance in SEE, which has contributed to the deterioration in their CA balance.

The inflow of greenfield investments has also contributed to the increase in the stock of FDI in SEE countries, which has negatively affected the primary income balance due to dividend repatriation. However, reinvested earnings make up a large share of the foreign investment income in SEE, thus reducing CA tensions

in these countries.[10] In this way, foreign companies expand production volume without additional external borrowing. This reduces the pressure on the primary income account and the CA in host countries. In cases where the FDI net inflow is directed to export-oriented manufacturing, host countries can realise an increase in exports. This has a favourable effect on the trade balance, resulting in a beneficial effect of FDI on the CA of a host country through these channels. In a situation where the SEE countries have a CA deficit, it seems that FDI plays an important role in CA sustainability. However, the other side of FDI in the host economy is reflected in potential dividend repatriation, which impacts negatively on the primary income account and the CA balance. Depending on the balance of these opposite FDI effects, each country will face either a negative or a positive FDI contribution to the CA balance.

The other forms of international capital in the SEE also affect the primary income account balance, and thus the current account balance. However, unlike portfolio investments and short-term and medium-term debts, FDI is more stable during a crisis and global economic turmoil. FDI may not be withdrawn from the host country as quickly as the other two types of international capital mentioned above. Therefore, FDI has a stabilising effect during the crisis.

Our findings have some policy implications. Namely, policymakers in SEE host countries should make more efforts to channel new FDI into export sectors, as it would have a positive effect on the CA balance. Also, it is necessary to continuously improve the investment environment and facilitate business in the country to encourage foreign investors to reinvest more of their dividends. Our results indicate not only the consequences of FDI net inflow on payments in the primary income account (liability) but also draw attention to the risks that may arise in the host SEE countries in the case of a crisis and sudden reversals of capital flows.

The limitation of this study is that it examines the impact of FDI net inflows on the primary income account and the CA without more detailed consideration of

[10] According to the BPM6 balance of payments methodology, reinvested earnings are entered twice and with opposite signs. Once in the primary income account (outflow) and the second time in the financial account (inflow). In this way, reinvestment has a neutral effect on the overall balance of payments.

other components of the financial account that also impact on the primary income account and the CA. Therefore, future research should examine the impact of individual components of the financial account on the primary income account and the CA balance. Comparing the individual impacts of various types of capital inflows for each country would provide a clearer picture of the proportional contribution of FDI to the CA imbalance. A more detailed analysis could reveal to what extent and in what direction FDI net inflow affects the country's trade balance, and thus the CA balance. Another line of research could be, for example, an analysis of the impact of FDI on exports by sectors, which could suggest measures to attract more FDI in competitive export-oriented industries in SEE countries. It is also important to examine how the structure of FDI affects the outflow of funds in the primary income account, as well as the issue of sectoral profitability of FDI. On the other hand, it would be interesting to analyse the role of FDI for domestic companies in SEE and the effects of these connections on the exports of domestic companies. It could contribute to a more complete understanding of the impacts of FDI on the CA and the primary income account of SEE countries.

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*Adeyemi Adebayo**

WHAT DO STATE-OWNED DEVELOPMENT FINANCIAL INSTITUTIONS (SODFIS) IN SOUTH AFRICA DO?

ABSTRACT: *This study explores the model of state-owned development financial institutions (SODFIs) in South Africa and how South African SODFIs contribute to national, continental, and international developmental agendas by providing necessary support towards financing domestic and international projects, thereby mitigating seven categories of market failures. It analyses relevant documents and the latest annual/integrated reports of the SODFIs, making it possible to highlight their modus operandi and the instruments employed in fulfilling their mandates. Analyses indicate that although SODFIs in South Africa mitigate market failures by adequately contributing to national, continental, and global developmental agendas, they do not fund state-owned enterprises (SOEs), leaving out an important aspect of public socioeconomic cooperation. This study thus highlights the importance of funding SOEs partly through SODFIs rather than directly from the national budget and discusses implications for theory and practice.*

KEY WORDS: *agenda 2063, development financial institutions, national development plan (NDP) 2030, sustainable development goals (SDGs) 2030, state-owned enterprises (SOEs)*

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* University of South Africa, Department of Auditing, College of Accounting Sciences, email: adebaao@unisa.ac.za

1. INTRODUCTION

State-owned development financial institutions (SODFIs) are financial institutions that offer subsidised, long-term financing for industrial and infrastructural development. They are usually owned by states and are different from multilateral institutions such as the World Bank, the European Bank for Reconstruction and Development, the African Development Bank, and the International Monetary Fund (World Bank, 2014). These SODFIs are often mandated to promote local industrial and infrastructural development (Vandone et al., 2020). Hence, they normally play the vital role of providing capital to domestic firms at subsidised rates as well as providing low-cost export-related insurance products and financing throughout the production chain (Bird, 2020) and directly supporting infrastructural development. Thus, they are often likened to national champions (Lazzarini et al., 2015). Their importance tends to explain why the number of SODFIs around the world is increasing in contemporary times (Bernier et al., 2020). They are an equally important mechanism in solving market imperfections resulting from a lack of financing for profit-oriented projects or those generating positive externalities. In this context, Musacchio et al. (2017) note that these SODFIs assist in alleviating capital scarcity and promoting entrepreneurial goals by boosting industries, whether new or existing, in states with massive capital constraints. Thus, their lending extends to organisations that are not necessarily interested in certain projects should long-term, subsidised funding from SODFIs not be available. Aside from lending to private individuals and organisations, SODFIs in some states also lend to state-owned enterprises (SOEs). In this regard, Leutert (2020) notes that the China Development Bank and the Chinese policy bank, the Export-Import Bank, have facilitated SOE business abroad by financing SOEs with instruments including export buyers' credits and concessional loans.

Interestingly, despite the importance and tensions relating to public accountability in this organisational field, there is a paucity of empirical research on SODFIs, especially in Africa generally and in selected African states with developed SODFI/SOE sectors. In this context, a majority of what has been done in this field covers European states generally and some individual European, Asian and American states (Lazzarini et al., 2015; Clifton et al., 2014). Thus, observers and commentators are not able to relate and compare events regarding SODFIs in Europe, Asia, and America with those in Africa. In addition, SODFIs

are very useful in Africa, considering that Africa is in dire need of infrastructural development, for which SODFIs are useful in financing. Furthermore, much of what has been done is more of a descriptive or theoretical nature rather than empirical studies on SODFIs' activities and how they operate in terms of discharging their developmental, financial, and, in some cases, insurance functions (Vandone et al., 2020; Eslava & Freixas, 2018). Also, Vandone et al. (2020) note that despite the increasing activities and the role of SODFIs, aside from a few exceptions (Lazzarini et al., 2015; Yeyati et al., 2007), SODFIs have not received the attention they deserve in the academic literature, and thus remain an under-analysed phenomenon. This prompts authors to study firm-level characteristics and activities of contemporary SODFIs in Europe. Irrespective of this paucity of research, SODFIs continue to increase in number and remain important developmental and financial players in many states, both developing and developed. In this regard, Musacchio and Lazzarini (2014) identified more than 286 development banks throughout the world, with most of them situated in South and East Asia (29.7%), Africa (24.5%), and Latin America and the Caribbean (17.8%). This observation regarding the percentage of SODFIs in Africa indicates that Africa offers a rich context for studying SODFIs.

This paper answers the question of the nature and role of the various SODFIs in South Africa, especially regarding mitigating market failures by contributing to national, continental, and international developmental agendas. In the continent of Africa, South Africa offers an empirically sound context for exploring this question for several reasons. The first is that South Africa has the highest number of SODFIs/SOEs in Africa (USA, 2020). Secondly, South Africa has the different varieties (Musacchio et al., 2017) of SODFIs discussed in the next section. Thirdly, South African organisations are exemplary in terms of reporting adequacy (Prinsloo & Maroun, 2020).

The findings of an analysis of relevant documents and the latest reports of the SODFIs in South Africa indicate that in line with mitigating market failures, SODFIs in South Africa are adequately contributing to national, continental, and global developmental agendas by addressing and alleviating seven categories of market failures: information asymmetry and credit rationing; information externalities and latent capabilities; coordination problems; lack of public goods; lack of technical assistance; lack of strategic trade; and lack of competition in

developmental project markets. However, their activities do not extend to financing SOEs, which is an important aspect of financing developmental agendas and projects that have been explored by SODFIs in several countries, including China and Singapore.

This paper contributes to the literature in three primary ways. The first highlights the importance of SODFIs in mitigating market failures and assisting with financing developmental agendas. The second positions SODFIs in South Africa within the body of the existing literature on SODFIs, which has almost entirely focused on developed countries, and the third indicates the importance of partly financing SOEs through SODFIs as a way of curtailing fruitless and wasteful expenditure. An important contribution for practice is that this paper is a pointer to developing economies, especially African countries, contemplating establishing SODFIs. It furnishes them with information on different categories of SODFIs and the market failures they may help to mitigate.

This study proceeds thus: following the introduction, the next section discusses SODFIs in detail. Section 3 describes the history and rationale of SODFIs in South Africa, while the following section describes theories applicable to SODFIs. Section 5 presents the methodology and method before the analysis and presentation of results in section 6. Thereafter, the policy and practice implications of this study are presented in section 7, before section 8 concludes by providing avenues for further research, taking into account the relevant practice and policy implications described in section 7.

2. SODFIs

There are different kinds of financial institutions in the public arena, one of which is the SODFI. There are also the state-owned banks, SOBs. Although SOBs are owned and, in most cases, controlled by states, they are different from SODFIs. In this respect, Vandone et al. (2020) submit that SOBs differ from SODFIs along two dimensions: the first is that they normally do not have explicit public service obligations and the second is that they usually operate more like private banks (POBs) and offer an array of banking and financial services targeting retail and corporate customers. These services include deposits and accounts, credit cards, loans, stock market services, insurance, asset management, among others. SODFIs may be classified into supranational/transnational and national,

meaning that they differ along the line of their ownership. Supranational SODFIs are usually owned by a combination of many states, while national SODFIs by individual states. These SODFIs further vary along the lines of their mandates and funding, as discussed in section 3 and indicated in Tables 1, 2, and 3.

Since there are different kinds of SODFIs, as noted above, it follows that the mechanisms used by each SODFI in discharging its mandates vary. However, on a general note, these mechanisms include subsidised interest rates, credit guarantees, medium-to-long-term credit, equity, technical assistance (Musacchio et al., 2017), and the variants of public-private partnerships (PPP) (Adebayo, 2018), indicating that SODFIs usually have a broad mission of promoting development. Accordingly, in fulfilling their mandates, SODFIs invest in states (or continental states if supranational) by promoting developmental projects in states, especially where socioeconomic ties exist between the owning and target states (Vandone et al., 2020). The mode of operation of SODFIs is usually contingent on their mandates and size. While some are established to fulfil certain direct policy objectives, others have the autonomy to proceed as they deem fit as per their circumstances. In terms of size, large SODFIs usually have broad and flexible mandates. This category of SODFIs can finance financial intermediaries that on-lend (second-tier lending) to end customers or directly support end customers, such as start-ups, individuals, households, small and medium enterprises, large private corporations, SOEs, and other financial institutions (first-tier lending) (Vandone et al., 2020). Hence, there are different mechanisms employed by SODFIs backed by certain motivations and/or objectives (Lazzarini et al., 2015) – confirming that SODFIs have different instruments with which they fulfil their mandates, including loans, guarantees, mezzanine finance, risk-sharing instruments, and equity (Vandone et al., 2020; Eslava & Freixas, 2018). In addition to this, some SODFIs are also involved in offering non-financial related services, including advisory and training services, as well as administrative and technical services. Although development banks target large industries, there is serious discussion regarding the model of operation of different varieties of SODFIs and the reasoning behind adopting such a model (Lazzarini et al., 2015).

2.1. SODFIs and SOEs

The key difference between SOEs and SODFIs is that the former represent enterprises owned by states, while the latter represent development financial

institutions owned by states, with it being recognised that they often come under the umbrella term SOEs. Both SODFIs and SOEs are established to fulfill state mandates, such as correcting market failures (Clarke, 2015; Putniņš, 2015). SOEs that are properly organised sustainably deliver public goods and services, reducing issues of asset specificity (Bakre & Lauwo, 2016; Williamson, 1985) since investments in assets by states are usually highly specified and only useful for certain tasks or under certain circumstances, which SOEs can better utilise due to their expanded socioeconomic mandates. Additionally, profit-oriented SOEs often contribute to the national budget, easing fiscal pressure on their owning states (Huat, 2016). Moreover, states may use SOEs as vehicles for intervening in costly or difficult voluntary exchanges, which usually involve externalities such as monopolies over technical efficiency and neighbourhood effects (Friedman, 1962). The important role of SOEs in states implies that they should have access to timely funding. In some states, SODFIs provide this funding to SOEs (World Bank, 2014). While this provision is in use in several states, such as China and Singapore, it is not in use in other countries where SODFIs do not have the mandate to support SOEs that are required to generate their own funds or are funded directly from state budgets (Thomas, 2012). In addition to financing private firms, SODFIs in some states also deploy equity financing to support SOEs. As a result, SOEs have access to the necessary funding to carry out their mandates. Hence, there are numerous state-backed financing alternatives available to SOEs in several states by national SODFIs, making it possible for SOEs to have the required funding for their operations, depending on specific contexts (Fine & Bayliss, 2020). Since SODFIs are state-owned, lending to SOEs should be one of their main priorities, rather than lending to private individuals and organisations, especially where the motive of SODFIs is not to generate profit, but rather to ensure that revenues cover expenses, which is often the case, especially in African states. In addition to ensuring that SOEs, which are usually present in different state sectors, have the required funding for their activities, SODFIs will also ensure that SOEs are equipped to contribute to national, continental, and global developmental agendas pursued by different states at the local level, for example the National Development Plan (NDP) 2030 in South Africa; at the continental level, for example Agenda 2063 in Africa; and at the global level, for example the sustainable development goals (SDGs) 2030. An important factor here is that SODFIs funding SOEs may reduce fruitless and

wasteful expenditures by SOEs as SODFIs are more equipped and better able to monitor and recoup loans than owning states.

2.2. SODFIs and developmental agendas

The economic consequences of World War II and the subsequent Marshall Plan of the United States were among the catalysts of worldwide SODFIs (Min-Ji, 2015). Thus, the main socioeconomic argument for SODFIs and SOEs is generally outlined around market failures (Clarke, 2015; Putniņš, 2015). The underlying argument is that public policy institutions are objectively and practically better placed to mitigate market failures, such as asymmetry of information, externalities, latent capabilities, coordination problems, and strategic trade, as well as to ensure the functioning of existing markets relative to private sector enterprises (PSEs) (Aiken & Hage, 1968). Thus, SODFIs are known for funding projects that are highly risky and are not appealing to PSEs if PSEs cannot ascertain the flow of economic value returns from such projects. In addition, the non-availability of collateral and guarantees, as well as the lack of or no record of yielding investments, often characteristic of high-tech industries, R&D investments, start-ups, or new industries, results in a lack of PSE funding for such categories of projects (Mazzucato & Penna, 2016; Mazzucato, 2013). SODFIs address these issues by providing credit guarantees, direct and indirect loans, equity tools, and mezzanine financing, so that firms have access to the necessary growth capital (Musacchio et al., 2017; Mazzucato & Penna, 2016). Further, SODFIs are useful in providing long-term "patient" capital for promoting strategic investments for the purposes of economic development, including the provision of infrastructural projects such as housing or for socially challenging issues such as climate finance and food security plans (Vandone et al., 2020). Thus, financial assistance from SODFIs tends to overcome the failure created by lack of funding from PSEs for the reasons highlighted above. Because the majority of SODFIs were established near the end of WWII, they play a countercyclical role in times of crisis by assisting in the maintenance of growth and employment in times of recession – in this case, these banks disintermediate their credit activities, as seen in the response to the recent global financial crisis (Vandone et al., 2020). In addition to ensuring the proper functioning of the financial markets in their states, SODFIs are also useful in supporting innovative activities. In this regard, Mazzucato and Penna (2016) highlight the importance of SODFIs in stimulating innovation and responding to major challenges requiring public and

private responses. Furthermore, Mazzucato (2013) notes that many of the innovations in the US were supported by the state.

The fact that Africa is lagging in terms of development, especially infrastructural development (Metcalfe & Valeri, 2019), means these SODFIs are especially useful in Africa. Several African states and even the continental body (African Union) have been seeking solutions to developmental problems. Thus, African states are formulating several developmental agendas locally while also keying into several other continental and international developmental agendas. SODFIs/SOEs are an important instrument in achieving national, continental, and global developmental goals, especially in developing states, including African states (South Africa, 2012). In this regard, SODFIs employ direct lending as a means of financing developmental projects; others employ credit guarantees (without direct lending) in pursuing the same end; while others provide financial cover; some are involved in PPP; and some contribute directly by engaging in infrastructural development. Taken together, these SODFIs' contributions promote states' developmental agendas, which are critical in mitigating infrastructure deficits. The fact that most states use SODFIs to compete with PSEs to facilitate the sustainable delivery of public goods and services confirms this important contribution of SODFIs to their owning states. In addition to their important role in delivering public goods and services, SODFIs are also leveraged to assist countries achieve national, continental, and global developmental agendas. In this context, South Africa's developmental agenda – the NDP 2030: Our Future-Make it Work – was adopted in 2012, a year before the African Union's Agenda 2063: The African We Want and three years before the United Nations' SDGs 2030. The NDP 2030 prioritises job creation, the elimination of poverty, the reduction of inequality, and growth of an inclusive economy by 2030 (South Africa, 2012). The NDP 2030 notes that SODFIs and SOEs are important in attaining the developmental goals pursued by South Africa through the NDP 2030 (South Africa, 2012). Agenda 2063 identifies eight critical enablers for African transformation, as well as 16 objectives that provide the roadmap for achieving the Pan-African vision for Africa within 50 years (from 2013 to 2063). In addition to encapsulating Africa's aspirations for the future, Agenda 2063 identifies key flagship programmes which should accelerate Africa's socioeconomic growth and development, facilitating the necessary transformation of the continent (Africa Union, 2015).

Following from the above, the empirical analysis in this study rests on the comparative analysis of the five SODFIs in South Africa – the Development Bank of South Africa (DBSA), the Export Credit Insurance Corporation of South Africa (ECIC), the Industrial Development Corporation (IDC), the Independent Development Trust (IDT), and the Land and Agricultural Development Bank of South Africa (LandBank). The comparative analysis and resulting evidence of the impacts of SODFIs on national and transnational development agendas from the analyses and interpretation of results in section 6 permitted the documentation of policy and practical implications intended to assist practitioners and policymakers make better informed decisions on SODFIs and SOEs, presented in section 7.

3. HISTORY AND RATIONALE OF SODFIS IN SOUTH AFRICA

There is no commonality in the origins and target sectors of SODFIs in South Africa. Patterns indicate that SODFIs in South Africa were created as policy instruments when the need arose to solve certain issues for which the SODFIs were thought to be solutions. The need to promote economic growth and industrial development led to the establishment of the IDC in 1940 (IDC, 2021a). Similarly, the need for the then South African government to drive financial and non-financial investments in the socioeconomic infrastructure sectors led to the establishment of the DBSA in 1983 (DBSA, 2021a). The rationale behind the establishment of the LandBank in 1912 is closely related to that of DBSA and IDC in that the LandBank was established for the purposes of promoting and financing development in the agricultural sector of the country (LandBank, 2021a). However, the rationale behind the establishment of the ECIC and the IDT differs from that of the three SODFIs discussed above. In this regard, the IDT was established in 1990 for the purposes of supporting education, housing, health services, and business development projects in previously disadvantaged and mainly rural areas (IDT, 2021a), whereas the ECIC was established in 2002 for the purposes of providing political and commercial risk insurance to South African exporters of capital goods and related services (ECIC, 2021a). Aside from the IDT, whose rationale for establishment has changed considerably, it may be argued that the other four SODFIs have maintained their modus operandi, such that no significant alteration has been made to their mandates. The IDT was established with a R2 billion government grant for the purpose of focusing on

implementing socioeconomic development initiatives aimed at uplifting poor communities in 1990. In 1997, a cabinet resolution was passed for the IDT to no longer be a civil society-based institution funded by grants and it thus began operating as a government support agency. In 1999, the IDT was listed as a schedule 2 public entity in terms of the Public Finance Management Act (PFMA) of 1999, focusing on social infrastructure (IDT, 2019). Schedule 2 SOEs are expected to raise money to finance their operational activities and programmes of expansion (Thomas, 2012), while schedule 3 SOEs are not expected to be profit-making. The PFMA was enacted for the purpose of regulating financial management in the national and provincial governments in order to ensure that all revenue, expenditure, assets, and liabilities are efficiently and effectively managed (Bekker, 2009; South Africa, 1999).

Table 1 indicates that all SODFIs in South Africa are schedule 2 enterprises, except for ECIC, which is a schedule 3 enterprise. The profit-orientation of schedule 2 enterprises appears to differentiate schedule 2 SODFIs and SOEs from other entities contained in the PFMA (Thomas, 2012). A distinguishing factor between schedule 2 major public enterprises (MPE) and schedule 3B national government business enterprises (NGBE) is that of reporting. Due to their size, the level of state investment, and the importance of schedule 2 entities to the state, they are expected to submit a three-year Statement of Corporate Plan (SoCP) to the accounting officer in addition to submitting an annual budget. This accounting officer is the head of department (HOD) in the case of a government department or the chief executive officer (CEO) in the case of a constitutional institution (South Africa, 1999). Thus, the accounting officer is distinct from the political head, who is the executive authority (South Africa, 2000). In this regard, the accounting officer implements the policy choices and outcomes formulated by the executive authority by taking responsibility for delivering the policy choices and outcomes (South Africa, 2000). The SoCP provides projections of expected revenue, expenditure, and activity plans for the next three years. In addition to the SoCP, SOEs under the Department of Public Enterprises and schedule 3B NGBEs are expected to prepare a five-year Statement of Strategic Intent (SoSI), which is used by the government in communicating policies to the relevant shareholders of the various SODFIs (Balbuena, 2014). This SoCP, together with the SoSI, forms part of the accountability and monitoring documents used by the government and the shareholding departments to track

the affairs of the SODFIs and SOEs (Ossafrica.com, 2008). In addition, all schedule 3B NGBEs are expected to prepare and submit an annual performance plan (APP), an annual plan that translates the SoSI into yearly achievable objectives.

The shift in the establishment rationale of the IDT does not significantly alter its target sectors. The focus of the IDT has not shifted from health services, education, housing, and business development in rural South African communities. The ECIC covers political, commercial, and contractors' risks in addition to providing export credit, investment insurance, small and medium insurance, as well as bond insurance. The ECIC has exposure in ten countries: Ghana (21.75%), Zambia (19.91%), Zimbabwe (12.78%), Mozambique (11.17%), Tanzania (9.14%), Iran (8.82%), Liberia (5.71%), Angola (3.23%), Lesotho (2.04%), and Sierra Leone (1.96%) (ECIC, 2021a). The DBSA targets economic and social infrastructure development in South Africa as well as in emerging economies and sub-Saharan Africa. The IDC target projects are geared towards the achievement of the NDP 2030. Furthermore, it targets industrial capacity in terms of fulfilling policy objectives, as well as the mining, agriculture, manufacturing, tourism, and telecommunications investments in South Africa and the rest of Africa. The LandBank targets the agriculture sector only in South Africa. A unique feature of the SODFIs in South Africa is their focus on different sectors and operations, ensuring that all the different kinds of SODFIs are represented in South Africa.

Table 1: History and rationale of state-owned development financial institutions in South Africa.

	DBSA	ECIC	IDC	IDT	LandBank
Yr. Est.	**1983**	**2001**	**1940**	**1990**	**1912**
Enabling Acts	Development Bank of Southern Africa Act, 1997 [No. 13 of 1997] and the PFMA, 1999	Export Credit and Foreign Investments Insurance Act (1957, as amended) and the PFMA, 1999	Industrial Development Corporation Act 22 of 1940 and the PFMA, 1999	Trust Property Control Act [No. 57 of 1988] and the PFMA, 1999	Land and Agricultural Development Bank Act, 2002 and the PFMA, 1999
Est. By	Govt. of South Africa	Govt. of South Africa	Govt. of South Africa	Govt. of South Africa	Govt. of South Africa
Current Mission	To advance the development impact on the African continent by expanding access to development finance and effectively integrating and implementing sustainable development solutions	To provide export credit and investment insurance solutions in support of South African capital goods and services by applying best practice risk management principles	To grow sustainable industries, support entrepreneurs, and improve lives	To manage and deliver integrated social infrastructure programmes on behalf of government on time, cost effectively, and through a people-centred approach.	Work with all stakeholders to build an adaptive and competitive agricultural sector that drives environmental, social, and economic growth and development, and contributes to food security
Rationale for Est.	Drive financial and non-financial investments in the social and economic infrastructure sectors	Provide political and commercial risk insurance to South African exporters of capital goods and related services	Promote economic growth and industrial development	Support education, housing, health services, and business development projects in previously disadvantaged and mainly rural areas.	Promote and finance development in the agricultural sector of the economy of the country
Ownership	National Treasury	Department of Trade and Industry	Department of Economic Development	Department of Public Works	National Treasury
Schedule	Schedule 2	Schedule 3	Schedule 2	Schedule 2	Schedule 2
Target Sectors	Economic infrastructure and social infrastructure (emerging economies and sub-Saharan Africa)	Political, commercial, contractors' risk cover. Export credit insurance; investment insurance; small & medium insurance and bond insurance (South Africa and Africa)	NDP; industrial capacity of policy objectives; mining; agriculture; manufacturing; tourism; telecommunications (investment in South Africa and the rest of Africa)	Education; housing; health services; business development; rural communities (focus only on South Africa)	Agriculture (South African commercial and emerging farmers)

Source: Author's own elaboration.

4. THEORETICAL UNDERPINNING OF THE ROLE OF SODFIs

Three theories or views are applicable to the characteristics displayed by SODFIs: industrial policy, social, and political (Musacchio et al., 2017). These theories account for the purpose for which SODFIs are established and the role SODFIs are meant to play (Musacchio & Lazzarini 2014). Each of these theories illustrates a distinct perspective on the role of the state in addressing market failures using SODFIs. Furthermore, individual theories sustain the disparity in expectations concerning the financial instruments that are suitable for achieving the specific mandates of SODFIs and, subsequently, how SODFI performance is to be measured. For the purposes of this study, the industrial policy view is more applicable.

4.1. Industrial Policy theory of SODFIs

Under the industrial policy theory of the role of SODFIs, the idea is that SODFIs were created as a means of responding to capital market failures by providing necessary financing for business activities and industrialisation (Armendáriz de Aghion, 1999; Gerschenkron, 1962). This theory rests on the belief that industrialisation coupled with general entrepreneurial activity result in economic growth and improve citizens' welfare. Here, entrepreneurial activities are believed to be constrained by a lack of access to finance for the infrastructure necessary to support industrialisation (Musacchio et al., 2017; Gerschenkron, 1962). Investors are not usually willing to undertake many of the projects necessary for innovative industrialisation due to the presence of information asymmetries and the high risks usually involved in such projects. There might be willing investors, but these investors may be constrained by the level of high interest rates demanded by lenders, if available, on funding such projects. In this regard, SODFIs provide interest rates that are lower than market rates to subsidise the cost of the projects. In this industrial policy view, intervention by the government is argued to be positive considering that developing capabilities through the private financial system is very risky or too difficult to realise as a result of the initial capital requirements for projects requiring research and development. Thus, SODFIs indirectly contribute to industrialisation by promoting infrastructural development through funding capital-intensive infrastructure projects, including constructing roads and waterways (Jaiswall, 2016). Further, SODFIs' investment leads to improved innovation, which may not be promoted by PSEs. In addition,

SODFIs promote the development of projects requiring the connection of different sectors and/or actors (Vandone et al., 2020; Eslava & Freixas, 2018), such as those seen in highly technical infrastructure projects and those that require the development of local capabilities. Furthermore, SODFIs and other SOBs have assisted in creating "national champions" – large companies carrying national flags abroad – through their role in supporting strategic trade by providing massive subsidies and market protection (Lazzarini et al., 2015).

5. METHODOLOGY AND METHOD

This study utilised the comparative analysis methodology. This permitted the comparison of the five various kinds of SODFIs in South Africa to indicate that they were established to fulfil different mandates and, in some instances, use different instruments in fulfilling their mandates. The comparative study approach is an interdisciplinary research approach (Harrison & Callan, 2013) that focuses on comparing elements that are both similar, on one hand, and different, on the other (Adebayo & Ackers, 2021). In order to fulfil the objective of the study, the content analysis method was used. Hence, in addition to the initial literature review that pointed to some relevant documents, this study gathered data using content analysis. This content analysis, modelled around a similar study by Musacchio et al. (2017), involved scrutinising SODFIs' documents, including their latest annual/integrated reports, documents available on their websites, as well as available oversight documents, as a way of understanding the context of the study and gathering the required information. Thus, the reports of these SODFIs and other relevant documents obtained from the websites of the SODFIs and oversight departments were examined for relevant information. The information thus obtained includes the objectives the SODFIs are pursuing in the 21st century. As in the study by Musacchio et al. (2017), in order to document a broad idea of what the SODFIs do, this study segments their programmes and activities into two parts – the first details their engagement with the private sector and the public sector, and the second details the extent of their focus on domestic and international projects.

6. ANALYSIS AND INTERPRETATION OF RESULTS

The analyses presented in this section consider the activities of the SODFIs in line with their objectives and mandates, their role in mitigating identified market failures, and the tools with which they mitigate market failures.

6.1. Contemporary objectives of SODFIs in South Africa.

As indicated in section 5, the programmes and activities of the SODFIs are segmented into two parts. The first details how they engage with the private sector relative to the public sector, and the other illustrates the extent to which they concentrate on domestic versus international projects. As a way of fulfilling their mandates of supporting the public and private sectors domestically and internationally, these SODFIs use a set of instruments depicted in Table 2, which include different types of credit guarantees, grants, equity investments, loans, and technical assistance. As we will observe below, an important element that Table 2 illustrates is the combination of instruments used by South African SODFIs nationally and internationally, and how this simply differentiates the sophistication of the SODFIs in terms of national and international operations while also contextualising the discussion around Table 3. Different patterns emerge in examining Table 2 consistent with the objectives of the SODFIs, sustaining the earlier indication that SODFIs differ with regard to mandates and size. Notably, the IDT only focuses on domestic development by utilising direct grants received from the government to cover certain domestic infrastructural, social, and industrial development in rural South African communities (IDT, 2019). Thus, it does not use any of the instruments used by SODFIs depicted in Table 2 since it does not focus on domestic and international private sectors or international public sectors.

Table 2: Programme and services comparison of the SODFIs

	DBSA	ECIC	IDC	IDT	LandBank	Key	
Domestic (Private)						**Yes**	**No**
Loans to large companies	■	■	■		■	■	
Loans to SMEs	■	■	■		■	■	
Loans to individuals	■	■	■		■	■	
Credit guarantees	■	■	■		■	■	
Leasing and securitisation	■	■	■			■	
Equity for large companies	■	■	■		■	■	
Equity for SMEs	■	■	■		■	■	
Venture capital			■			■	
Grants			■		■	■	
Technical assistance/consulting	■	■	■		■	■	
Domestic (Public)						■	
Infrastructure	■	■	■	■	■	■	
Social development	■	■	■	■	■	■	
Industrial development	■	■	■	■	■	■	
International (Private)						■	
Loans	■	■	■			■	
Grants	■					■	
International (Public)						■	
Infrastructure	■	■	■			■	
Social development	■	■	■			■	
Industrial development	■	■	■			■	
Loans	■	■	■			■	
Grants	■					■	

Source: Author's own compilation with insight from Musacchio et al. (2017).

6.2. The role of South African SODFIs in addressing market failures.

It was noted in section 1 that one of the reasons behind the establishment of public enterprises generally (including SOEs, SODFIs, and sovereign wealth

funds, SWFs) is to address market failures. Along these lines, Stiglitz (2002) asserts that a lack of adequate government intervention often leads to market self-regulation. This self-regulation can be likened to individualism under the capitalist system (Keynes, 1926). Furthermore, it has been argued that there are several common factors that drive market failures (Putniņš, 2015; Stiglitz, 2002, 1985). These factors, as Putniņš (2015) and Stiglitz (1985) assert, include: inadequate supply of public goods; failure of competition; failure of information; unemployment, inflation, and disequilibrium; negative externalities; and incomplete markets. Musacchio et al. (2017) further note that market failures for which SODFIs are useful include information externalities, asymmetry, credit rationing, problems of coordination, technical assistance, and social as well as environmental impact. It is these latter sets of market failures that SODFIs are particularly useful in mitigating.

The market-oriented failures, in addition to the tools with which SODFIs mitigate them, are discussed below. Although the programmes and activities of most of the SODFIs discussed earlier cover the market failures, due to limitations of space only one example of each is provided along with the discussion of each market failure. Table 3, extracted from Table 2, however, presents a complete picture of the instruments employed by each of the SODFIs in mitigating market failures.

The first market failure identified by Musacchio et al. (2017) for which SODFIs are useful in addressing – information asymmetry and credit rationing – manifests itself in terms of lack of investment funding for investors. This stems from the inability to fully assess expected returns and/or difficulty in ascertaining the characteristics of products/services, the industry, and/or firms for which funding is sourced. This is often seen in emerging industrial arenas as well as in high-tech spaces. Thus, there is usually a lack of funding in such instances considering that most markets are already saturated and private funding is highly competitive. A solution here is that SODFIs often intervene by extending loans to organisations to access the required capital for their operations. An example here is a project funded by the DBSA. This project, involving the Port Namibe and the rehabilitation of Port Sacomar in southern Angola, was to enable Angola to diversify its economy and reduce its dependency on oil. The DBSA contributed a total of USD100 million towards financing the project. The total project cost is USD600 million and is funded under a Japanese backed export credit agreement

structure, backed by Japanese banks, the Japan Bank for International Corporation and Sumitomo Mitsui Banking Corporation (DBSA, 2021c). The DBSA's 15% contribution to the project as upfront risk capital unlocked 85% of funding towards the construction of the ports (DBSA, 2021c). This project also highlights the importance of collaboration in project financing, as noted earlier in relation to PPP being one of the instruments employed by SODFIs and in the discussion on industrial policy theory in section 4.1.

Information externalities and latent capabilities represent the second market failure for which SODFIs are useful. Information externalities entail public investment returns resulting from information and knowledge production and dispersion. Funding, in terms of research and information platforms, is required in order to generate and publish new information (Mazzucato, 2013). PSEs are not usually interested in funding such information generation for new knowledge, shifting the focus to states. In this instance, SODFIs assist with grants for funding geared towards increasing efficiency in the development of products. The results of such research are made publicly available, enabling firms to indirectly benefit from funding. Furthermore, SODFIs provide funding to cover the costs incurred by firms to improve their own efficiency towards generating a competitive advantage. These funds primarily benefit only private firms (Musacchio et al., 2017; Mazzucato, 2013). In this regard, Mazzucato (2013) notes how the US government funded most of the innovative R&D investment projects enjoyed by PSEs. An example in the African context is the Green Tourism Incentive Programme (GTIP) that the IDC has been financing on behalf of the Department of Tourism since 2017. The GTIP, which is in its 6th application window, assists small and privately-owned micro-tourism enterprises to adopt responsible tourism practices through implementing solutions for the sustainable management and use of electricity and water resources by providing grants for energy and water efficiency audits. Since its inception, the programme has assisted 167 tourism enterprises with these audits and approved grant funding for 85 establishments across all provinces to enable them to significantly cut energy- and water-related costs (IDC, 2021b). Although this project directly benefits PSEs, it also has implications for citizens in terms of corporate environmental sustainability.

The third market failure entails coordination problems. These coordination problems set in when private investment is needed to develop local industry. An example here is that developing a country's mining industry may be constrained by lack of physical supporting infrastructure, including roads and ports (Musacchio et al., 2017). In this regard, even though SODFIs may intervene by providing the necessary funds, there is also the need for proper coordination for such funds to yield positive results. An instance of this is a water collection, treatment, and supply project financed by the ECIC. The ECIC supplied steel and provided professional engineering services to Global Innovative Consulting Limited, Ghana, for the delivery of a storm drainage project in Ghana to the tune of USD5.6 million (ECIC, 2021c).

Another market failure addressed by SODFIs is the lack of public goods. In this regard, projects financed by SODFIs often generate social-environmental impacts that may be considered a public good. PSEs are often not interested in pursuing projects for which there will be no flow of economic gains or for which the extent of economic gains may not be ascertained. SODFIs usually step in since they are owned by states, whose core mandate is to ensure the availability of public goods and services. This is usually present in projects related to establishing different forms of energy sources. Since developing renewable energy sources is highly costly compared with using non-renewable energy sources, there is usually little incentive for the exploration of alternative energy sources by PSEs (Musacchio et al., 2017), prompting SODFIs to offer subsidised financing in terms of loans, venture capital, and/or grants to address such issues. Social-environmental activities of SODFIs include programmes aimed at supporting education, housing, health services, employment, transportation, and many more. An SODFI mitigating this market failure is the IDT in South Africa. The IDT has in the last few years been involved in landmark developmental projects, including constructing courts in the Limpopo, Mpumalanga, and Gauteng areas and schools in the Eastern Cape, the Northern and Western Cape, Free State, Gauteng, and KwaZulu-Natal areas. It has also developed correctional facilities in the Free State and Mpumalanga areas, a library in the Gauteng area, an airport in the Northwest area, and health and life facilities in the KwaZulu Natal, Limpopo, and Mpumalanga areas (IDT, 2021b).

The fifth market failure that SODFIs address is a lack of technical assistance. Technical assistance is useful in overcoming a deficiency of local capabilities useful in developing highly specific technical projects (Williamson, 1991). SODFIs that are more focused on entrepreneurship and capacity development are particularly useful in mitigating this market failure. In this regard, in addition to providing funding, the DBSA and the ECIC have been increasingly involved in the provision of consultancy services to investors and buyers. Aside from this, technical assistance increases firms' returns. Technical assistance also improves firms' efficiency and productivity (Musacchio et al., 2017). An example is the Mulembo Lelya Hydro Power Plant project in Zambia. The project involves exploiting the hydropower potential of the Mulembo and Lelya Rivers on the border of the Central and Eastern Provinces of Zambia to meet some of the anticipated energy demand within Zambia, the DRC, and the Southern Africa Power Pool (SAPP). This project required project preparation funding for the completion of the feasibility study. The DBSA secured a USD2 million project preparation grant for the project. The DBSA further assisted MLHEPL with the procurement and appointment of the technical, legal, and financial advisors on the project and is a key standing member of the Project Steering Committee (PSC) for the project (DBSA 2021d).

Table 3: Market failures and state-owned development financial institution mitigating tools.

	DBSA	ECIC	IDC	IDT	LandBank
Reducing information asymmetry/credit rationing	Direct lending; credit support; equity; grants; loans; technical assistance	Lending; credit guarantees; securitisation; loans	Lending; grants; credit guarantees; venture capital; equity; technical assistance; loans; seed capital	Uses grants for operations	Loans; credit facilities; grants; technical assistance;
Dealing with information externalities/latent capabilities	Credit support; grants	Investment assistance; acquisition and training and development assistance	Seed capital; venture capital; grants	N/A	Loans; credit facilities; grants; technical assistance;
Promoting coordination	Grants; technical assistance	Development support; investment support; acquisition and training	Lending; grants; technical assistance; loans	N/A	N/A
Pursuing social-environmental impact	Direct lending; credit support; equity; grants; loans; technical assistance	Development support; acquisition and training support	Grants; technical assistance; loans; credit support	Uses grants for operations	Loans; credit facilities; grants; technical assistance;
Assisting with technical expertise/knowledge	Grants; technical assistance	Technical assistance	Grants; technical assistance; loans; credit support	N/A	Grants; technical assistance
Strategic trade	Grants; lending	Loans for exporters; international lending; indirect lending	Loans; credit support; technical assistance	N/A	N/A
Promoting competition	Direct lending; credit support; equity; grants; loans; technical assistance	Lending; credit guarantees; securitisation; loans; development support	Lending; grants; credit guarantees; venture capital; equity; technical assistance; loans; seed capital; grants	N/A	Loans; credit facilities; grants; technical assistance;

Source: Author's own compilation with insight from Musacchio et al. (2017).

The final market failure identified by Musacchio et al. (2017) and addressed by SODFIs is in the area of strategic trade. SODFIs are particularly useful in mitigating issues created by distorted international markets resulting from selective support facilitated by foreign governments. In this regard, SODFIs often provide lending arrangements to assist domestic firms to internationalise their operations by engaging in exports. An important advantage of such a practice is that organisations can overcome payment deficits, thereby generating trade surpluses for their local economy (Bass & Chakrabarty, 2014). Furthermore, in this instance, SODFIs often provide financial assistance to foreign nations for sponsoring national firms in international operations, for example, an SODFI may provide such assistance for investing in waterways. However, such assistance is usually contingent on the foreign nation engaging firms from the SODFI's country to carry out such a project. Thus, domestic firms are indirectly promoted. An example of this is the ECIC. The ECIC has been increasingly involved in providing support to domestic firms in the form of loans to enable them to internationalise their operations through exports. In addition to the example provided under coordination problems above, the ECIC has financed the purchase and transportation of mining machinery and equipment to be used in mining projects in Botswana to the tune of USD4.9 million for a South African exporter, Bell Equipment SA (ECIC, 2021c). Thus, the ECIC has been particularly active in mitigating this sort of market failure.

Taken together, the core market failure for which SODFIs are useful in correcting is the issue of lack of competition in developmental project markets. Developmental projects usually require significant amounts of capital, and, in most cases, only institutional investors are able to bid and win developmental contracts, usually inflating project costs. Funding by SODFIs enables individual and small-to-medium institutional investors to pull resources together and compete (to an extent) for developmental projects. Another important factor here is that all things being equal, developmental projects consisting of a state consortium, especially those projects carried out in countries that face low levels of corruption, are usually made to specification, in contrast to those under private finance initiatives and PPP (Adebayo, 2018). SODFIs and SOEs are particularly useful in financing and/or carrying out these developmental projects. The above discussions indicate that SODFIs provide some sort of competition to PSEs in facilitating the projects highlighted.

7. IMPLICATIONS FOR POLICY AND PRACTICE

As can be deduced from the above, the whole idea behind the establishment and operations of SODFIs is to promote development in various capacities in line with the mandates of each of the SODFIs considered. One important factor in terms of the operations of the SODFIs is that they are continuously tweaked in line with the developmental agendas of their owning states, especially considering that several developmental agendas were formulated after the establishment of SODFIs. For example, the NDP 2030 was formulated after the establishment of the SODFIs in South Africa, and these SODFIs appear to have linked their programmes and activities to the NDP 2030. In this regard, the IDC categorically stated that it has aligned its priorities with the national policy direction contained in the National Development Plan (NDP), Industrial Policy Action Plan (IPAP), as well as the industry Master Plans (IDC, 2021a). Despite the efforts towards streamlining the programmes and activities of these SODFIs in line with the developmental agendas of the country, it appears the operations/mandates of the SODFIs have left out an important aspect of state practice – financial assistance to SOEs. While this is operational in some countries, SOEs in South Africa are funded directly from the national budget, apart from those SOEs that have the autonomy to generate additional funding through their operations, for example South African Airways Limited, which has also been bailed out with funds from budgetary allocations on several occasions. While it may be argued that SOEs in the country usually have the required funding to carry out their activities, and it could be argued that cash-strapped SOEs engage in fruitless and wasteful expenditure, several stakeholders in the country's SOEs are of the opinion that funding is one of the major problems facing the country's SOEs (as recently seen in LandBank, 2021b). In this regard, some of the SODFIs could provide the required funding to expand the activities of SOEs, especially considering that these SOEs could be increasingly used to further meet South Africa's developmental agendas. There are various means by which SOEs could be financed by SODFIs. Table 2 and Table 3 contain some of the instruments which could be used by SODFIs to aid or complement the work of SOEs. In addition to this, SODFIs could partner with some of the SOEs (that have the required expertise and capacity) to deliver on their mandates. For example, as illustrated in Table 2, the DBSA, the IDC, and the ECIC are often involved in the provision of external loans and grants for domestic and international development and even to domestic and international investors. These SODFIs could partner with

relevant SOEs in this, at least at the basic level of technical assistance. While this is currently not in use, utilising it may improve the programmes and activities of these SODFIs and SOEs. One notable way is that this organisational method mitigates the issue of asset specificity as organisations can channel their resources and capabilities to various uses.

An important factor in such coordination is that any financial assistance by SODFIs is based on a purely commercial/arm's length basis, which SODFIs are better able to coordinate than the SOEs' owning states. This is important in reducing fruitless and wasteful expenditure and in ensuring that public service obligations of SODFIs and SOEs are properly documented, which are part of the good corporate governance practices formulated by the OECD (2015) and the World Bank (2014).

8. CONCLUSION AND FURTHER RESEARCH

Even though SODFIs in South Africa are adequately contributing to the developmental agendas for which they have been established, there are other important ways in which they could be usefully employed. In a dynamic world in which there is a need for massive infrastructure development globally, especially in African countries, SODFIs in South Africa could be further utilised in supporting or partnering with other government establishments such as SOEs in further contributing to the developmental agenda of their owning state as contained in the NDP 2030, and also contributing to achieving the global developmental goals set out in the SDGs 2030 and the continental developmental goals set out in Agenda 2063. As argued earlier, such an organisation model may further ensure that SOEs in South Africa, most of which are usually involved in fruitless and wasteful expenditure, have another means of funding other than direct financing from the national budget, for which more stringent accountability is possible and may be required.

While this study has endeavoured to cover several aspects of SODFIs, its limitations mean there are areas for further research convergence on SODFIs in South Africa and in Africa generally. Future research could explore the performance and allocative efficiency of SODFIs in South Africa. While this is beyond the scope of this study, allocative efficiency is highly important in assessing the activities and programmes of SODFIs. Future research could also

compare SODFIs in South Africa to similar SODFIs in other African states. Such a study would inform observers about various practices that can better contribute to knowledge-sharing for improving SODFI programmes and activities in the 21st century. Also, future research could further explore the benefits of funding SOEs through SODFIs rather than directly through the national budget. In this regard, this study has noted that this is more likely to result in improved accountability and reduced fruitless and wasteful expenditure. Future studies could also explore other theoretical implications of SODFIs highlighted in section 4. While this study primarily focused on the theoretical underpinning of industrial policy, future research could explore the implications of social and political theories of SODFIs, where it may be possible to discuss issues with SODFIs and SOEs in terms of their associated sociopolitical problems.

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LSEE
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Economic Annals / LSEE/ EACES Workshop

2ND WORKSHOP ON THE COMPARATIVE ECONOMICS OF SOUTH EASTERN EUROPE: INVESTMENT IN ECONOMIC AND SOCIAL INFRASTRUCTURE

30-31 March 2023
University of Belgrade – Faculty of Economics and Business

CALL FOR PAPERS

Background

Following the multiple shocks of transition to a market economy, the global financial crisis, the Covid pandemic and the destructive effects of the war in Ukraine, the economies of South East Europe are under increasing strain. As interest rates rise around the world, the burden of debt payments in indebted countries is rising and governments are under pressure to cut back on their expenditures. Often, social and economic infrastructure investments are the first in line for cutbacks. However, these investments lay the foundations for future economic growth, recovery and reconstruction. The importance of infrastructure investments is recognised in the EU's Economic and Investment Plan for South East Europe, in the EU's Recovery and Resilience Plans for EU members states, and in the support promised to Ukraine by international institutions as it struggles to rebuild its essential infrastructure damaged and destroyed by Russian aggression. However, research evidence on the contribution

of infrastructure investments in South East Europe is poorly developed and much needs to be known about the role of both economic and social infrastructure in the economies of the region. Which infrastructure contributes most to productivity and economic growth? How should infrastructure investments be financed? How can infrastructure investments be designed to contribute to the goals of environmental protection, combatting climate change and reducing economic inequalities? What will be the effects of new economic and social infrastructure investments on the labour markets, and on skill development and on youth unemployment? Can investments in digital infrastructure reduce the development gap between South East Europe and more advanced European states? How can infrastructure investments be designed to reduce large regional disparities and boost local economic development? These and other questions will be discussed at this workshop.

Aims

The workshop series provides a forum for presentation of research on all aspects of economic transition and European integration in in South Eastern Europe. The focus of this second workshop is investment in the economic and social infrastructure. Papers are welcome from all traditions of economic analysis. Empirical papers focusing on the comparative analysis of economies of the region are encouraged, while individual country studies related to the workshop themes are also welcome. After the workshop, papers will be considered for publication in a thematic issue of *Economic Annals* to be published in autumn 2023.

Workshop Themes

The comparative economics of infrastructure investment Infrastructure investment and economic growth Sustainable transport systems and connectivity Investment in clean energy

Green investments and the environment

Socioeconomic effects of investments in the digital infrastructure Financing infrastructure investment

Private-public partnerships for infrastructure investment Investment in human capital, skills and education

The impact of social investment in health and education The labour market impacts of infrastructure investment Urban infrastructure, housing and the lived environment Public procurement and the control of corruption

The geopolitics of infrastructure investment

Keynote Speaker

Professor Milica Uvalić, University of Perugia

Abstracts

Extended abstracts of up to 500 words should contain the title, author(s) name and affiliation, and contact details. Abstracts should state the aims of the paper, the methodology used, and the workshop theme to which the paper is addressed. Abstracts should be submitted by 31st January 2023 via email to Will Bartlett (w.j.bartlett@lse.ac.uk) and Nikola Njegovan (ea@ekof.bg.ac.rs).

Important Dates

31st January 2023:	Deadline for submission of abstracts
6th February 2023:	Notification of acceptance
24th March 2023:	Submission of papers and registration for workshop
30th -31st March 2023:	Workshop

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The workshop is organised by the Faculty of Economics and Business at the University of Belgrade, the journal *Economic Annals* and the European Association for Comparative Economics (EACES), with the support of the Scientific Society of Economists of Serbia (NDES) and the Association of Economic Universities of South and Eastern Europe and the Black Sea Region (ASECU).

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The Faculty of Economics and Business was established as the Graduate School for Economy and Trade in 1937 as the first higher education centre in the field of Economics in the former Kingdom of Yugoslavia. Today, the Faculty is the most prominent scientific and educational institution in the country in the field of economic sciences. It is the publisher of the refereed journal *Economic Annals*.

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Economic Annals is an academic journal published quarterly since 1955 initially under its Serbian name of *Ekonomski anali*. Since 2006 it has been published in English by the Faculty of Economics and Business at the University of Belgrade. It covers all areas of economics and business studies. The Editorial Board particularly welcomes contributions that explore economic issues in the comparative economics of Southeast Europe and the wider European neighbourhood. All papers submitted are subject to double-blind refereeing process. The current issue of the journal is available on the website of the Faculty of Economics, along with earlier issues at: http://www.ekof.bg.ac.rs/publikacije/casopisi/ekonomski-anali/

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The founding conference of EACES was held in Verona on 27-29 September 1990. The Association holds regular bi-annual Conferences and workshops. The principal focus of the association is the comparative study of economic systems, as well as the economic interactions among systems and among regional areas, such as the EU. The Association is a broadly-based organisation in which all schools of economic thought can exchange views and ideas on current and prospective research. EACES website: http://www.eaces.eu

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Scientific Society of Economists in Serbia (NDES)

The Scientific Society of Economists in Serbia (NDES) is an association of economists engaged in scientific and educational work in a higher education and research institution in Serbia or abroad. It is based at the Faculty of Economics and Business at the University of Belgrade. Each year, NDES organises conferences jointly with the Faculty of Economics and Business in Belgrade, with participation of other economic Faculties in the country.

Association of Economic Universities of South and Eastern Europe and the Black Sea Region (ASECU)

ASECU was established in 1996 and now has fifty-one members including Universities and Scientific Centers from the region. Papers accepted for the Workshop can also be submitted for consideration for publication in the *South-Eastern Europe Journal of Economics* (the official journal of the ASECU).

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Economic Annals is an international professional journal published quarterly by the Faculty of Economics and Business, University of Belgrade. The journal publishes research in all areas of economics and business. It publishes high-quality research articles of both theoretical and empirical character. The journal especially welcomes contributions that explore economic issues in comparative perspective with a focus on Southeast Europe and the wider European neighbourhood. Any paper submitted to the *Economic Annals* should **NOT** be under consideration for publication by other journals or publications. **Contribution written in English should be submitted electronically to ScholarOne**.

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Papers should be prepared as a single file (including text, notes, references, and tables) in MS-Word or .pdf format. Tables and footnotes should be included as they are intended to appear in the final version. Footnotes should be kept to a minimum and numbered as superscripts. Figures should be submitted as separate files in Excel format with the original data included in a separate sheet.

As a rule, submitted articles should not exceed 8,000 words. All pages apart from the first one should be numbered. Subtitles should be concise, clearly marked in bold, and numbered (up to two levels of numbering). No other entries should be bolded. Formulae should be numbered on the right-hand side of the page. In case of long proofs, these should be inserted in a separate Appendix, following the References. Tables and Figures must not use colour, and should be in a format easy to edit, for instance they should take half a page (or a full page) within the indicated margins. They should be clearly labelled at the top, with a legend at the bottom, and should be logically ordered, using Arabic numerals. Sources of the data should be given below tables and figures.

Papers should follow APA style guidelines: https://apastyle.apa.org/style-grammar-guidelines/references/examples#textual-works. Some key points watch out for are as follows. Parenthetic references in the text and in footnotes should be listed by the author surname, with the year of publication in parentheses; in case of more than one author use an ampersand, for instance: (Atkinson, Picketty & Emmanuel, 2011). Narrative citations within the text should use "and" rather than ampersand, for instance: Djankov, Glaeser and La Porta (2003). Use an ampersand in the list of references. When citing works with one or two authors, include the author name(s) in every citation. For works with three or more authors, include the name of only the first author plus "et al." in every citation (even the first citation). Include all author names in the list of references. If the author is unknown, the first few words of the reference should be used; this is usually the title of the source. For example: (*A guide for economy*, 2019). Multiple works by the same author are sorted by date in ascending order; if the works are in the same year they should be ordered alphabetically by title and allocated a letter (a, b, c,…) after the date. Only reference the works that you have cited in your text. Within the text, avoid long strings of citations; cite only those works which are relevant to the text that they inform. Before submitting your paper, check that all references cited in the paper are included in the reference list at the end of the paper, and that all papers included in the reference list have been cited in the text.

References should be left aligned in alphabetical order in the reference list, according to the following formats:

• Article in journals

Author surname(s), initial(s). (Year). Article title. Journal, Volume number (issue or part number, optional), page numbers. DOI.

Rodrik, R., Subramanian, D., & Trebbi, F. (2004). Institutions rule: the primacy of institutions over geography and integration in economic development. *Journal of Economic Growth*, 9(2), 131-165.

https://DOI: 10.1023/B:JOEG.0000031425.72248.85.

• Books

Author surname, initial(s). (Year). *Title*. Publisher location: Publisher

De Grauwe, P. (2020) *Economics of Monetary Union* (13th ed.). Oxford: Oxford University Press.

• Edited Book

Author surname, initial(s). (Ed(s).). (Year). *Title*. Publisher location: Publisher

Baltagi, B.H. (Ed.). (2003). *A Companion to Theoretical Econometrics*. Oxford: Blackwell

• Book with several authors

When there are multiple authors, list them all, with the addition of ampersand (&) before the last surname. If there are more than seven authors, list the first six, then write three full stops (…), and at the end write the last author.

Acemoglu, D., & Robinson, J.A. (2006). *Economic Origins of Dictatorship and Democracy*. Cambridge: Cambridge University Press.

Baumol, W. J., Panzar, J. C., & Willig, R.W. (1982). *Contestable Markets and the Theory of Industry Structure*. New York: Harcourt, Brace, Jovanovich, Inc.

• Chapter in Book

Last name of the chapter author, initial(s). (Year). Chapter title. In editor initial(s), surname (Ed.). *Title* (ed., pp.). Publisher location: Publisher

McMillan J., & Woodruff C. (2003) The central role of entrepreneurs in transition economies. In G. S. Fields, & G. Pfefferman (Eds.). *Pathways Out of Poverty* (pp. 105-121). Dordrecht: Springer. https://doi.org/10.1007/978-94-010-0009-3_6.

• E-Book

Author surname, initial(s). (Year). *Title*. URL

Perry, R.B. (1909). *The Moral Economy*.

https://manybooks.net/book/137844/read#epubcfi(/6/2[id00000]!/4/2[id00000]/1:0)

• Technical Reports or Working Papers

Individual authors

Author surname, initial(s) or corporate name. (Year). *Title*. (Report or Working Paper No.). URL.

Cătuți, M., Kustova, I. and Egenhofer, C. (2020) *Delivering the European Green Deal for Southeast Europe: Do we need a regional approach?* (CEPS Research Report No.2020/1). https://www.ceps.eu/wp-content/uploads/2020/06/RR_2020-01_European-Green-Deal-for-South-Eastern-Europe.pdf.

Corporate authors

American Psychological Association, Task Force on the Interface Between Psychology and Global Climate Change. (2009). *Report of the APA Task Force on the Interface Between Psychology and Global Climate Change*.

http://www.apa.org/science/about/publications/climate-change.aspx

• Newspaper Articles

Author surname, initial(s). (Year, Month Day). Title. *Title of Newspaper*, p. or pp. URL*

*only include if the article is online.

Note: the date includes the year, month and date.

Smialek, J. (2020, May 2). Hotel Group Will Return Tens of Millions in Small Business Loans. *The New York Times*, pp. 10.

https://www.nytimes.com/2020/05/02/business/economy/ashford-hotels-virus-monty-bennett.html

• Website

Author surname, initial(s). (Year, month day). *Title*. URL

Mitchell, J.A. (2017, May 21). *How and when to reference*.

https://www.howandwhentoreference.com

OBITUARY.

It is with profound sadness that we announce the premature death of a recently appointed member of our Editorial Board, Professor Francesco Pastore (1966-2022) of Università della Campania Luigi Vanvitelli, Italy. Francesco was a prominent scholar in the field of labour market economics, with important contributions to the analysis of the acute societal problem of youth unemployment - https://scholar.google.com/citations?user=aXpEp1IAAAAJ&hl=en. He was also an active and much respected member of the European Association for Comparative Economics (EACES). His involvement to the Editorial Board of Economic Annals will be greatly missed.