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IMPACT OF EXPORTS AND INVESTMENTS ON ECONOMIC GROWTH

УТИЦАЈ ИЗВОЗА И ИНВЕСТИЦИЈА НА ЕКОНОМСКИ РАСТ

Summary: *Countries around the world, including N. Macedonia, design industrial policies in order to stimulate exports under the assumption that exports bring positive effects on economic growth in the short and long term. In order to test this assumption, this paper examines the relationship between exports, private investments and economic growth in North Macedonia through time series analysis for the period 2000-2019. We find that exports and private investment have a strong impact on economic growth in the short term, while exports have limited short-term effects on investment in the past period. The results indicate the need for structural measures to stimulate exports by policy makers, supplemented by measures to motivate domestic and foreign investments.*
Keywords: *exports, investments, economic growth*
JEL Classification: *E22, F10, F41, O47*

Резиме: *Земље широм свијета, укључујући Сјеверну Македонију, осмишљавају индустријску политику како би стимулирале извоз под претпоставком да извоз доноси позитивне ефекте на економски раст у кратком и дугорочном периоду. У циљу тестирања ове претпоставке, овај рад испитује однос између извоза, приватних инвестиција и економског раста у Сјеверној Македонији кроз анализу временских серија за период 2000-2019. Сматрамо да извоз и приватне инвестиције имају снажан утицај на привредни раст у кратком року, док извоз има ограничене краткорочне ефекте на инвестиције у протеклом периоду. Резултати указују на потребу структурних мјера за стимулисање извоза од стране креатора политике, допуњених мјерама за мотивацију домаћих и страних инвестиција.*
Кључне ријечи: *извоз, инвестиције, привредни раст*
ЈЕЛ касификација: *E22, F10, F41, O47*

INTRODUCTION

Stimulating exports and investments is one of the main pillars of economic policies for the "opening" of North Macedonia to the global economy (Ministry of economy 2018). Exports in North Macedonia recorded significant growth rates (over 10% on average) over a period of ten years (2009-2019), maximizing their share in GDP in 2019 at 62.3%. In addition, export-oriented companies employ a significant number of workers. On the other hand, private investments recorded a moderate growth, since their participation in GDP in 2000 was 15.2%, and in 2017 it was 17.6%. The increased growth of exports in the Macedonian economy raises the following question: Does export contribute to increased investment activity and economic growth in North Macedonia in the short and/or long term?

The literature is not unanimous regarding the role of exports in economic growth. Proponents argue that exports help stimulate economic growth through technology diffusion and human capital development (Grossman and Helpman 1991; Kim and Seo 2003). The spillover of knowledge through learning-by-doing, resulting from foreign trade, contributes to stimulating domestic innovation. Furthermore, the vertical linkage of multinationals with domestic exporters enables easier transfer of knowledge and technology through formal and informal ties and social contacts between employees. But on the other hand, opponents claim

that exports do not drive economic growth, that is, the increase in exports is only the result of a certain investment boom that indirectly leads to greater economic growth (Rodrik 1995). The main reason for supporting exports is the assumption that this economic activity has positive externalities and positive spillover effects on the domestic economy (Rodrik 2004). In the Industrial Strategy of the Republic of Macedonia 2018-2027, the weakness of this assumption is noted, but without a more detailed analysis of the long-term and short-term effects of exports on investments and economic growth.

The aim of this paper is to empirically examine the relationship between exports, investments and economic growth in the period 2000-2019 in North Macedonia. We examine the impact of export growth on investments and economic growth in the short and/or long run. Additionally, we consider the magnitude of the impact on investment and economic growth. We focus on the pre-pandemic period and capture the relationship between exports, investments, and economic growth for the last two decades (2000-2019). We use vector autoregression (VAR) methodology to examine the response of real GDP per capita growth and real private investment growth to shocks in export growth. We find that exports and private investment have a strong impact on economic growth in the short term, while exports have limited short-term effects on investment in the past period in North Macedonia.

The paper is organized as follows: the next section elaborates the reasons for openness of small economies such as North Macedonia; the third section describes the data and method used; the fourth section shows the empirical results; and the final section is reserved for concluding remarks.

1. NECESSITY OF OPENNESS OF SMALL ECONOMIES - THE ISSUE OF EXPORTS AND INVESTMENTS

The essence and significance of investments is the sacrifice of current consumption for the benefit of the future. The savings of citizens and companies, instead of being spent on current needs today, are intended for productive consumption, for the construction of new capital goods, from which in the future it is expected to obtain greater effects than what was invested. So, the essence and meaning of investments is to engage the savings and other free funds of citizens and companies to create new ones or to restore and expand existing capacities and facilities. At the same time, the basic principle is that with the sacrifice that is made today with the invested funds, in the future, not only the invested funds can be returned, but also a profit can be made (Mojsoski and Karadjova 2002, 378-379). Investments connect all other factors of development such as technique, technology, knowledge, natural resources, infrastructure, etc. Investments enable their joint action in the realization of economic development and thereby actually influence economic development and growth. Bearing this in mind, it can be said that it is always very important to know how much of the savings, i.e. of the gross domestic product, will be able to transform, pass into investments and thereby activate other factors in order to achieve a certain desired economic and social development. The question that is additionally imposed and which is the subject of the analysis of this paper is the intensity of the impact of investments on growth, as well as the purpose of the newly created product (for domestic consumption or for export), which depends on numerous factors, circumstances and economic policy measures. And further, what is of interest is whether encouraging export-orientated growth spurs new investment, which would initiate a spiraling effect to accelerate economic growth.

The investment decision is an inter time decision that bridges the gap between the postponed consumption and the future production and supply. In that sense, this decision is closely related to the distribution of the GDP by the purpose, but also with the rest of the world (international trade). Such activity observed integral on a level of national economy, is determined by a number of factors that make a close interactive relationship anyway,

especially in small open economies (Karadjova and Dičevska 2014). One of the important issues that should be paid attention to when directing investments, especially in the direction of stimulating exports, is the sectoral structure of the economy and the sectoral structure of investments. The sectoral structure of the economy is one of the key indicators that show the level of economic development of the country. The study of economic structure shows the basic features and functioning of the economy as a whole, but also the structure and volume of production of goods and services, i.e. information about what, how and in which industries or sectors everything is produced (Karadjova 2020).

Each country as a rule is striving to finance alone its development using its own savings without having to borrow abroad. Undeveloped and less developed countries often do not have such economic independence because by its own production barely cover existential needs, and their saving a so small to achieve independent economic development. These countries need to use someone else's income, primarily for economic development. Developed countries from its side usually does have that kind of economic independence, i.e. they can with their own production and their own savings to provide consumption by volume, and can provide such a savings that can provide further economic development. However, in modern conditions of free flows on the international capital market developed countries also use someone else's income to provide even faster economic growth, and foreign capital finds its interest in safer and faster growth (Karadjova and Dičevska 2014, 67). In conditions of market economy, the role and the influence of state on the economy is limited. The state does not interfere directly in the investments decisions of the managers, but seeks to influence indirectly and intermediary through the instruments of other policies. The state creates conditions for discretion deciding and action of the economic entities, but by taking measures and instruments of economic policy seeks to indirectly influence the direction of private investments to the goals and objectives or priorities for development for which the state is interested (Karadjova and Dičevska 2014, 347).

2. DATA AND METHODOLOGY

This research uses vector autoregression (VAR) methodology to examine the response of real GDP per capita growth and real private investment growth to shocks in export growth. This methodology allows us to adequately show the timing of the effects and the role of those effects on the variation of investment and economic growth. Data on real GDP per capita, real exports and real private investments in the period 2000-2019 were collected from the World Bank database.

Firstly, we examine whether the variables are stationary, that is, whether their average values and variance oscillate in relation to time. For this purpose, the Dickey-Fuller unit root test was used. After determining the level of integration (stationarity), we investigate whether there is a long-term (cointegration) relationship between the variables using the cointegration test of Johanson and Juselius (Johanson and Juselius 1990). Based on the results in the previous stages, we define a VAR system in reduced form for the relationship between exports, investments and growth. Finally, we perform an analysis of export shocks on investment and economic growth (impulse response analysis) and variance decomposition.

3. EMPIRICAL RESULTS

Table 1 shows that the null hypothesis of a unit root (non-stationarity) is rejected for real GDP per capita growth, real export growth, real private investment growth and the ratio of private investment to GDP, while the real values of GDP per capita, exports and private investment are non-stationary. In addition, the non-stationarity of the ratio of exports to GDP and the stationarity of the growth of real GDP per capita indicates that there is no long-term relationship between the two variables, that is, the first has a permanent component, while the second always fluctuates around its long-term average.

Table 1: Unit root tests

Variables	Definition	ADF	p-value	Level of integration
ΔY_t	Real GDP growth per capita	-2.82	0.07	
ΔX_t	Growth of real exports	-4.28	0.00	
ΔI_t	Growth of real private investment	-3.63	0.02	
x_t	Exports on GDP	-1.34	0.60	
i_t	Private investments on GDP	-2.87	0.07	
Y_t	Real GDP per capita	1.97	1.00	I(1)
X_t	Real export	2.30	1.00	I(1)
I_t	Real private investments	-0.95	0.75	I(1)

Source: Authors' calculations

In order to properly define the VAR system, we need to determine whether there is a long-term relationship between the (undifferentiated) real values of GDP per capita, exports and private investment. Table 2 summarizes the results of the cointegration test for the three variables. None of the values of the calculated parameters exceed the critical value of 5% significance, which means that the thesis of non-existence of co-integrative long-term relationship between the variables cannot be rejected. Exports have no long-term connection with private investments and economic growth in North Macedonia.

Table 2: Cointegration test for Y_t, X_t and I_t

Hypothesis	Trace statistic	Critical value of 5% significance	$\lambda_{max statistic}$	Critical value of 5% significance
$r \leq 2$	0.09	3.84	0.09	3.84
$r \leq 1$	7.61	15.49	7.52	14.26
$r = 0$	22.32	29.80	14.71	21.13

Source: Authors' calculations

Due to the lack of evidence for cointegration, we aim to investigate the dynamic relationship between export growth, private investment growth, and economic growth by specifying a three-variable reduced VAR model, taking a one-period lag for each variable (determined according to the Akaike Information Criterion).

Graph 1: Response of GDP growth per capita to shocks in export growth (first) and in private investment growth (second) and response of private investment growth to shocks in export growth (third)
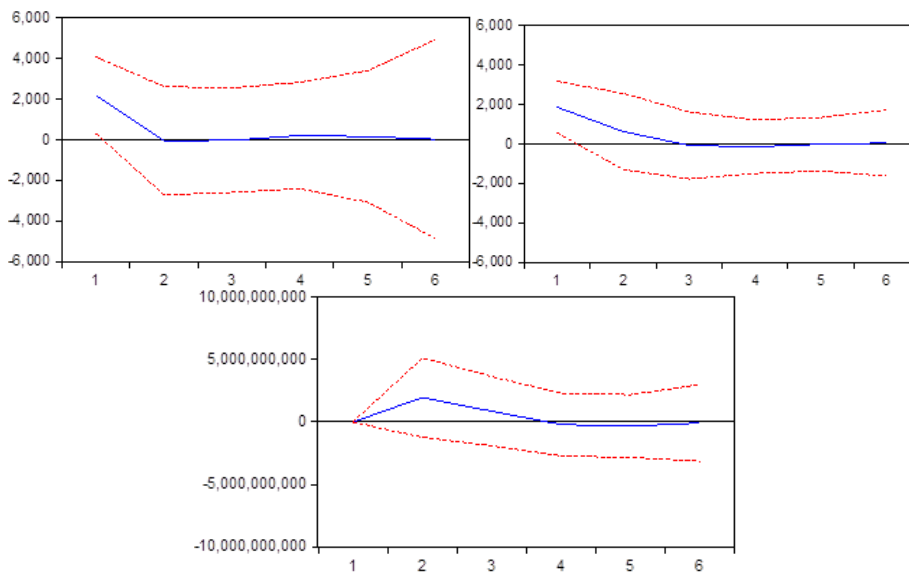
Source: Authors' interpretation

Graph 1 shows the response and standard error of movements in annual growth of real GDP per capita to a one standard deviation shock in export growth and investment growth, as well as the response and standard error of movements in annual growth of real investment at shock in export growth. The results imply that a shock in export growth has a significant short-term impact on economic growth over a two-year period, while a shock in investment has a short-term impact on economic growth over a one-year period. The effects disappear after the second year, that is, the first year, respectively, and economic growth returns to its long-term equilibrium. On the other hand, a shock in export growth causes an insignificant short-term response in private investment after the first year that disappears completely after the third year.

Table 3: Variance decomposition

Percentage of prediction of the variance in error in ΔY_t	Typical shock in:		
	ΔX_t	ΔI_t	ΔY_t
Average (3 years)	31.40%	39.97%	28.64%
Percentage of prediction of the variance of the error in ΔI_t	Typical shock in:		
	ΔX_t	ΔI_t	ΔY_t
Average (3 years)	7.35%	92.59%	0.05%

Source: Authors' calculations

Finally, Table 3 shows the decomposition of the variance error in economic growth and investment as a result of innovation in exports, investment, and economic growth over a three-year forecast period. Most of the variance of the error in economic growth is explained by investment and export shocks, investment shocks explain on average about 40% of the variance of the standard error of economic growth, while export shocks 31.4%. These results confirm the significant role of exports and private investments in stimulating economic growth in North Macedonia. On the other hand, the variance of the investment error is mainly explained by own shocks (92.6%), while export shocks have a small share of 7.4%. The last result indicates that exports had a limited role in stimulating investments in North Macedonia in the past period.

CONCLUSION

Based on the analysis in this paper of the dynamic relationship between the growth of GDP per capita, the growth of exports and the growth of private investments in North Macedonia for the period 2000-2019, the following conclusions can be made:

1) In the short term, export growth and investment growth have a strong impact on economic growth. The short-run relationship between exports and economic growth and private investment and economic growth is confirmed by shock analysis and variance decomposition. Variance decomposition shows that export growth and private investment growth are two different factors in terms of short-term trends in GDP per capita growth.

2) In the long run, neither export shocks nor investment shocks cause growth in GDP per capita. In other words, the growth of exports and investments has a positive, but transitional, effect on economic growth.

3) Exports have a limited impact on investments. This indicates that the short-term effects of exports on economic growth are realized through other channels rather than through the acceleration of investment activity in the country.

The analysis suggests that measures to stimulate exports in North Macedonia will affect economic growth in the short- and/or long-term depending on whether those measures are structural. For example, the measure of harmonization of customs rates with the EU on key components (Measure No. 1 of the study of (Srbinoski et al. 2020) would cause a short-term positive effect on economic growth given that it does not cause structural changes. But the measures to stimulate the connection of exporters with the domestic economy (Measure No. 4 by Srbinoski et al. 2020) and the development of human capital and technological level (Measures No. 3 and 5 by Srbinoski et al., 2020) will strengthen the dynamic relationship between exports and economic growth in the short and long term.

The analysis emphasizes the need to design measures both to stimulate exports and to support domestic and foreign investments, given that exports and private investments are two different factors that contribute to economic growth. According to Srbinoski et al. the measure of harmonizing customs rates with the EU on key components (Measure No.1) would motivate the attraction of new capacities by multinational companies. In addition, facilitating access to finance-to-finance long-term investments (Measure No.5) would motivate additional investments in technology. These measures should strengthen the relationship between exports and private investments in the coming period.

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