

# Economic Benefits of Joining NATO – The Case of New Member States and Potential Impact on Sustainable Development in Macedonia

Shiret Elezi, PhD<sup>1</sup>, Nedzati Kurtishi, MSc<sup>2</sup>

<sup>1</sup> International University of Struga, Faculty of Economics, Ezerški Lozja 1, 6330 North Macedonia

<sup>2</sup> Head of Unit International Relations, Dame Gruev Nr.12 North Macedonia

**Abstract:** *The security of one country is a foundation for stability, economic growth and prosperous society. NATO's purpose is to guarantee the freedom and security of its members, therefore contributing to the attractiveness of a member country as a host for FDI, which would boost investment and capital stock at the beginning and exports and potential output in the longer run. Our aim in this study is to estimate these economic effects of joining the Alliance by observing the macroeconomic trends of the NMS before and after their accession, which would be a basis for assessing the potential economic impact on new aspirants, such as North Macedonia. In order to do this we employ panel data methods. Statistical analysis for the NMS makes it possible to conclude that NATO membership leads to greater opportunities, including pick up of FDI, intensification of capital stock growth dynamic, marked increase of export activity, productivity growth, decrease in unemployment, improvement regarding rule of law, sustainable development, etc.*

JEL Classification: C23, F21, F5

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## 1. Introduction

### Recent NATO enlargement (post-Cold War enlargement)

Since 1949, NATO's membership has increased from 12 to 29 countries through seven rounds of enlargement. Based on the findings of the Study on Enlargement, the Alliance invited the Czech Republic, Hungary and Poland to begin accession talks at the Alliance's Madrid Summit in 1997. These three countries became the first former members of the Warsaw Pact to join NATO in March 1999. [Based on information published on the NATO's website]

At the 1999 Washington Summit, the Membership Action Plan (MAP) was launched to help other aspirant countries prepare for possible membership. Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia were invited to begin accession talks at the Alliance's Prague Summit in 2002 and joined NATO in March 2004.

At the Bucharest Summit in 2008, Allied leaders took a number of steps related to the future enlargement of the Alliance. Several decisions concerned countries in the Western Balkans. The Allies see the closer integration of Western Balkan countries into Euro-Atlantic institutions as essential to ensuring long-term self-sustaining stability in this region, where NATO has been heavily engaged in peace-support operations since the mid 1990s.

At the Bucharest Summit, Allied leaders invited Albania and Croatia to start accession talks, which became members in April 2009; assured North Macedonia that it will be invited once a solution to the issue of the country's name has been reached with Greece; invited Bosnia and Herzegovina and Montenegro to start Intensified Dialogues; and agreed that Georgia and Ukraine, which were already engaged in

Intensified Dialogues with NATO, will become members in future.

In December 2015, NATO foreign ministers invited Montenegro to start accession talks to join the Alliance, while encouraging further progress on reforms, especially in the area of rule of law. In a statement on NATO's "open door" policy, ministers reiterate decisions made at the Bucharest Summit concerning North Macedonia and encourage Bosnia and Herzegovina to undertake the reforms necessary for the country to realise its Euro-Atlantic aspirations and to activate its participation in MAP.

In June 2017, Montenegro joined NATO, while in July 2018, at the Brussels Summit, following the historic agreement between Athens and Skopje on the solution of the name issue, Allied leaders invited the government in Skopje to begin accession talks to join NATO. Full implementation of the agreement on the solution of the name issue is a condition for a successful conclusion of the accession process.

## 2. "NATO economic effect" – What does it entail?

NATO's purpose is to guarantee the freedom and security of its members through political and military means. It promotes democratic values and enables members to consult and cooperate on defence and security-related issues to solve problems, build trust and, in the long run, prevent conflict, while economic performance and prosperity of a member country are not the primary concern of the collective security of NATO.

However, the security of one country is a foundation for democratic and prosperous society. Without security, we

cannot speak about stability, democracy, economic growth and prosperity. NATO membership can contribute to the attractiveness of a member country as a host for foreign direct investment (FDI) by reducing the country's (perceived) political instability and risk in the eyes of foreign investors.

Investors are likely to respond to a reduced risk of political instability and NATO membership should get at least part of the credit. The real issue with respect to NATO membership and FDI inflows, however, is the importance of a host country's political instability and riskiness for the investment decision of a foreign investor. In addition, being a NATO member is not necessarily the main reason for foreigners to invest. Many other factors, including things like geographic location, labour skills, labour costs, tax incentives and government support, macroeconomic stability and so on play a role in a firm's decision to invest its capital in a foreign country. Nevertheless, the ability of the country to provide long-term security and stability, which is associated with NATO membership, is deemed to be the most important prerequisite in that respect.

Second-round benefits are numerous, depending on the specifics of the country's economy and economic policies, primarily fostering the country's integration into wider international economic value chains, thus promoting domestic economic activity. Furthermore, stronger FDI is likely to lead to intensified economic growth, investment and exports activity, coupled with increase in productivity and more diversified production, as well as job creation, unemployment and poverty reduction, improved income distribution, better standard of living, etc. NATO membership also contributes toward increasing public expenditure efficiency, coupled with higher expenditure in education and healthcare, improving institutional framework of the economy, efficient governance system, the rule of law, etc.

Obviously, measuring, quantifying or assessing the "NATO economic effect" is not easy. It is rather complex and something that we are not able to measure directly. Most of these countries have pursued a parallel EU integration process. Five countries (Estonia, Latvia, Lithuania, Slovakia and Slovenia) that joined NATO in 2004 became EU members the same year, while Bulgaria and Romania entered EU in 2007. In addition, the pace of development of the NMS and differences among them could be attributed to the state of the global business cycle when the accession had taken place, economic reforms, privatization and transition process that was carried out with a different dynamic, institution building, good governance practices, anti-corruption measures, judicial reforms, etc. These aspects should be taken into consideration to draw any strong conclusion for a particular country, and for the NATO membership to have maximizing economic effects.

### 3. Economic trends in NMS – prior and post NATO accession

Economic figures from the new member states (NMS) before and after joining NATO appear to substantiate claims that

membership in the Alliance in general offers economic benefits too. In this section we take a look at economic indicators that were mentioned earlier for the following countries: Czech Republic, Hungary, Poland, Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, Slovenia, Albania and Croatia, before and after joining NATO. Montenegro is not included in this analysis, as there is not enough data following its accession.

Data show that in general there is a positive shift concerning FDI. In most of the member states FDI jumped immediately following their accession, while in some countries there was a lag. During a three-year period before and after joining NATO, total FDI in the NMS increased by 67.5%, based on UNCTAD statistics. FDI more than doubled in Czech Republic, Estonia, Latvia, Lithuania, Bulgaria and Romania. FDI increased also in Poland, Slovakia and Albania, whereas in Hungary, Slovenia and Croatia fell. Similar trends are observed when measured in percent of GDP, with the exception of Slovakia, the most significant increase being registered in Bulgaria, where FDI picked up to 16.3% on average during the three-year period after the accession, from about 7% before it, followed by Czech Republic, Romania, Estonia, etc. FDI per capita (Chart A) and as percentage of GDP (Chart B) in these two periods are presented in Annex.

NATO membership and stronger FDI has been translated into higher participation of gross fixed capital formation to GDP and more pronounced increase of physical capital. European Commission data [AMECO database] indicate that net capital stock growth dynamic intensified generally in the NMS after their accession. The strongest growth is observed for the Baltic states, i.e. Estonia by 9.5%, Latvia by almost 9% and Lithuania by almost 7% in real terms on average in the three-year period after the accession. In addition to the Baltic states, the pace of acceleration was notable in Romania and Bulgaria too (Chart C, Annex).

Export activity statistics point to the positive impact FDI had on exports. Eurostat data on export of goods and services show that exports grew in the NMS after the accession, with the exception of Croatia, though the real growth intensified only in half of them (Czech Republic, Bulgaria, Estonia, Latvia, Slovakia and Slovenia). In spite of the slowdown of the export activity in the rest of the NMS, it remained strong after the accession, four of them registering a double-digit growth (Hungary, Lithuania, Romania and Albania). As a result, the share of exports to GDP increased from 41.5% to 47.3% on average for the NMS in a three-year period (Chart D, Annex).

Positive trends in investment and exports led to some acceleration of the economic activity growth. Economic growth strengthened in most of the countries, being more notable in Latvia, where real GDP growth reached double-digit figures after the accession, amounting to 10.3% on average, up by 3 percentage points (pp) compared to the three-year period preceding its membership. Strong growth registered the other two Baltic states as well, with growth in Estonia picking up to 8.7%, whereas in Lithuania somewhat

slowing down to 7.2% on average<sup>1</sup>. Slovakia, Bulgaria and Romania also experienced high economic growth post accession, close to 7% on average each, with Slovakian economy progressing mostly (Chart E, Annex). Albania and Croatia, which joined NATO amidst the Great Recession following global economic upswing, experienced worse economic performance, with growth in Albania slowing down, while in Croatia turning negative.

Along with the positive shift in FDI we observe increase of the total factor productivity (TFP), which captures the impact of technological change, innovation and know-how, institutional changes and other productivity shocks. European Commission estimations<sup>2</sup> show that TFP increased in all NMS following their accession (three-year period average), the growth being intensified in Estonia, Hungary, Slovenia and Slovakia, or turned positive in Czech Republic and Croatia. The strongest TFP growth registered Romania and Latvia by 5.6% and 4.5%, respectively, though having somewhat decelerated compared to the three-year period average prior to their accession (Chart F, Annex).

FDI and economic activity growth in general led to favourable trends in the labour market, i.e. job creation and unemployment rate reduction. IMF data on unemployment rate show that it fell in most of the NMS, mostly in the Baltic States, Bulgaria and Slovakia (by 4.3pp in Slovakia to as much as 6.7pp in Lithuania), if we compare the year before and three years after their accession. Unemployment also dropped in Hungary, Slovenia and Romania (Chart G, Annex).

All of the countries observed had/have been pursuing a parallel EU integration path, leading to some convergence and catching-up process with more developed EU member states. Eurostat data on GDP per capita adjusted by purchasing power parities show that all countries except Croatia moved closer to the EU average. The largest progress was made by Estonia and Latvia, which came closer by 13pp and 10pp, reaching 64% and 53% of EU average, respectively, three years after joining NATO. Slovenia and Czech Republic, which had the largest share, also experienced slight improvement, as well as Albania, Bulgaria and Romania, which had the lowest share (Chart H, Annex).

Human Development Index (HDI) clearly reflects the improvement in this area in all NMS. In the countries that joined NATO in 1999, HDI increased from 0.775 one year before to 0.798 two years after the accession on average, while in the countries that became members in 2004, increased from 0.781 to 0.806 on average. HDI in Croatia increased from 0.803 to 0.815, while In Albania by about 0.03 points two years after its accession, being one of the NMS with the largest progress in this field (Chart I, Annex).

NATO members, within the framework of Building Integrity Programme, take steps to reduce the risk of corruption in the

defence and related security sector and to embed good governance principles and practices in their defence establishments, potentially leading to lowering corruption as measured by Corruption Perceptions Index (CPI) from Transparency International. The biggest progress made NMS that joined NATO in 2004, particularly Estonia, Slovakia, Latvia and Slovenia (Chart J, Annex). After joining NATO there is also a significant improvement in the NMS regarding rule of law measured through the Rule of Law Index from the World Bank, with nine out of twelve NMS having progressed in this area, mostly Estonia, Slovakia and Lithuania, and the rest despite registering some decrease their index had already been elevated (Chart K, Annex).

#### 4. FDI trends in North Macedonia<sup>3</sup>

FDI are an important source of financing and growth in the developing and transition countries. Between 1998 and 2006, FDI inflows in North Macedonia resulted mostly from the privatization of State-owned enterprises, and acquisitions of major companies and banks by foreign investors. Over the last decade, however, North Macedonia has been attracting more and more Greenfield investment, which are export-oriented. In addition, investment has branched out of the traditional export-oriented industries such as food and metal processing, into new and higher value added industries. This structural shift towards Greenfield investment reflected increased macroeconomic stability, fiscal stimulus, competitive labor costs, improved business environment<sup>4</sup>, reform agenda coupled with Euro-Atlantic integration process, etc.

In 2016, the structure of FDI stock by investment type shows that equity and reinvested earnings have been the largest component of direct investment, accounting for about 3/4 of the total FDI stock. However, FDI on the basis of debt instruments, which include cross-border transactions between the related entities within the ownership structure of transnational corporations, has played an important role in individual years.

The stock of FDI by activity in 2016 show that FDI were mostly concentrated in the services sector, accounting for about 45% of total FDI, particularly in financial and insurance activities (around 20%). Manufacturing has been attracting more and more foreign capital recently, in particular automotive industry, representing 36.2% of total FDI stock in 2016. Chart 1 presents the structure of FDI stock by activity and by country. FDI stock data by country of origin show that the largest foreign investors in North Macedonia have been Austria (12.2% of total FDI), United Kingdom (11.2%), Greece (10%), the Netherlands (9.1%) and Slovenia (8%).

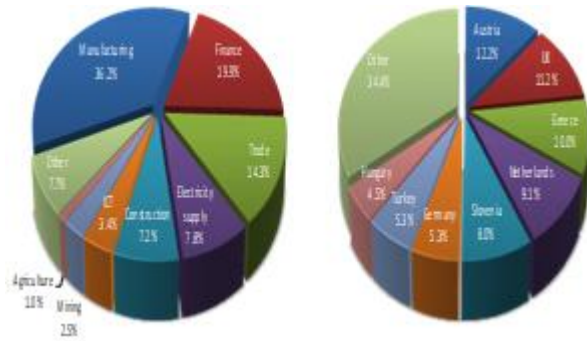
<sup>1</sup> Lithuanian economic growth was high the year before the accession (10.5%), and reached the peak four years following its accession (11.1%).

<sup>2</sup> AMECO database. Data for Albania is not available. For Croatia 2009 is excluded.

<sup>3</sup> North /before FYROM

<sup>4</sup> Based on World Bank's Doing Business Rankings



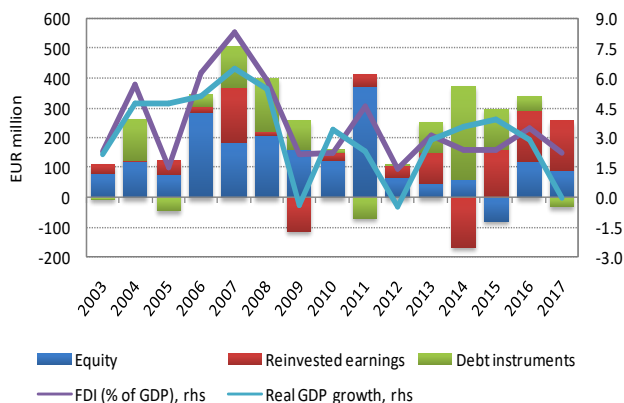


**Chart 1:** Structure of FDI stock by activity (left) and by country in 2016

Source: Own calculations based on data from National Bank of the Republic of North Macedonia

The sale of the national telecommunications operator in 2001 has so far been the largest FDI transaction, while the total FDI inflows were the highest in 2007 amounting to EUR 506 million (8.3% of GDP). FDI in North Macedonia was strong during the period 2006-2008, when EUR 1,251 million (6.8% of GDP on average) entered in North Macedonia in the form of direct investment, which have been accompanied with a strong economic growth (see Chart 2). Unlike 2006, when the largest part of inward FDI was due to the sale of State-owned power distribution company, in 2007 reinvested earnings significantly contributed to the total FDI inflows, while in 2008 net inflows from inter-company debt, was rather important in building up total inward FDI. Chart 2 presents the structure of inward FDI by type of investment.

In 2009 and 2010, as a result of the adverse effects of the global financial crisis on the investors' confidence and global liquidity, financial inflows in the form of FDI were reduced to 2.1% and 2.3%, respectively. In 2011, FDI performed particularly well, reaching 4.6% of GDP. FDI growth was entirely due to inflows on the basis of equity and reinvested earnings, whereas the debt component had a negative impact. The renewed turmoil in the euro area in 2012, however, took its toll on trade and capital flows, the latter leading to reduced FDI inflows that amounted to 1.5% of GDP.



**Chart 2:** Inward FDI by type of investment

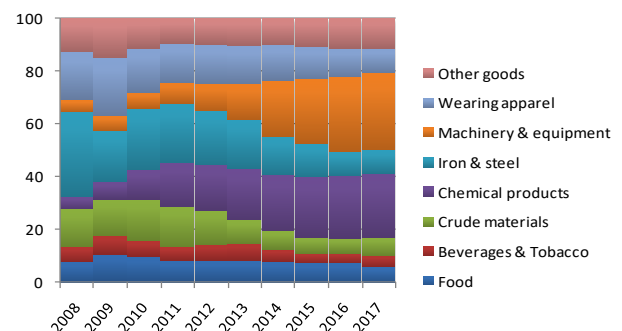
Source: National Bank of the Republic of FYR OF North Macedonia and State Statistical Office

In 2013, FDI doubled compared to the previous year, reflecting increased investment in the form of reinvested earnings and intercompany debt, mainly related to additional

investment of existing foreign investors in the country. FDI somewhat slowed down in 2014 and 2015, amounting to 2.4% of GDP, whereby a negative value of reinvested earnings was observed in 2014, while the following year equity turned negative, which significantly affected the level of FDI. In 2016, FDI picked up, reaching 3.5% of GDP, on the back of recovering equity investment, being chiefly "absorbed" by manufacturing, in particular automotive industry. In 2017, FDI amounted to 2.3% of GDP, due to inflows that did not generate additional external debt, with intercompany debt flows contributing negatively to the total FDI.

Greenfield investment in North Macedonia has had a significant impact in terms of increasing export activity and diversification of the export structure. As a result of the activity of new production capacities and to a lesser extent increased utilization of the existing capacities, exports contributed significantly to economic growth, registering a real increase of close to 8% on average during the period 2007-17, its participation to GDP reaching about 55% in 2017.

During this period, the share of export of goods that have higher technological value, such as machinery, equipment and chemical products, has increased considerably, at the expense of lowering the share of export of goods with a lower degree of finalisation, such as iron and steel, wearing apparel and raw materials. Chart 3 shows plainly the restructuring of the North Macedonian export sector, reflecting the entry of foreign capital.



**Chart 3:** Structure of goods export by category (%)

Source: Own calculations based on data from State Statistical Office

North Macedonia relies largely on exports to spur economic growth, given that country's internal market is not large enough to sustain high rates of growth for a long period. However, we should have in mind that high import dependence of exports could mitigate or offset the positive contribution of exports to overall economic growth.

## 5. Potential impact on North Macedonian<sup>5</sup> economy

FDI inflows boost investment and capital stock at the beginning and exports and potential output in the longer run. North Macedonia is a small and open economy and its

<sup>5</sup>North Macedonia/before FYROM Macedonia

economic growth, among other things, is contingent upon increase of the volume of external trade, and in particular the volume of exports. Positive changes in the export structure in recent years are very important in terms of strengthening the flexibility of the economy in relation to external shocks and achieving high and sustainable growth of exports and economic activity.

The question that arises is by how much NATO accession would affect FDI inflow in North Macedonia and what would that mean for the economy? In order to answer this question we go back to the NMS experience as a group and using panel data for these countries we tend to provide estimates of the potential impact on North Macedonian economy.

Panel data is structured in a way that economic developments of the NMS are observed together and across time, i.e. three years before and three years after their accession. Primary motivation for using panel data is to solve the omitted variables problem. Unobserved factors affecting the dependent variable consist of two types: those that are constant and those that vary over time (Wooldridge, 2013).

The model being used is the following:

$$y_{it} = \alpha + \delta \cdot D_t + X_{it}'\beta + \mu_i + v_{it} \quad (1)$$

where  $i$  denote the member state and  $t$  the time interval. The variable  $D_t$  is a dummy variable that equals zero for the time period before the accession and one after the accession. It is a variable that is assumed to have time-varying effects.  $X_{it}$  is a vector of observed explanatory variables (regressors). The variable  $\mu_i$  captures all unobserved, time-constant factors that affect the dependent variable ( $y_{it}$ ) and is referred to as unobserved (member state) heterogeneity.  $v_{it}$  is called the idiosyncratic error or time-varying error, since it represents unobserved factors that change over time not captured (controlled for) in the model.  $\alpha$ ,  $\delta$  and  $\beta$  are parameters to be estimated, the main focus being on  $\delta$ , in order to assess the possible NATO effect or see whether and by how much it affects the respective dependent variable. In general, there are two methods to analyze panel data: fixed-effects (FE) method and random-effects (RE) method (see Baltagi, 2005). Considering that our aim is to study the variability within countries of interest across the time period being observed, rather than the variability across member states, as we have three different time periods/rounds of NATO accession, FE method may be preferable. RE method may still be desirable under some circumstances. The key issue is whether the unobserved effect ( $\mu_i$ ) is (un)correlated with the explanatory variables. Hausman test could help us make the decision, but we believe that the presence of our dummy variable is likely to affect the results<sup>6</sup>. Therefore, we implicitly allow for  $\mu_i$  to be correlated with the regressors.

FE models are less vulnerable to omitted variable bias (Allison, 2009). The FE method controls for time-constant

variables that affect the dependent variable, although the effects cannot actually be estimated. FE models do not control for time-varying variables, i.e. unobserved variables that change over time, but such variables are explicitly included in the model, e.g. output gap, savings, GDP growth, foreign demand, etc (see Tables 1 to 4). In addition, FE models allow for endogeneity of the regressors with unobserved effects, whereas the RE model assumes exogeneity of the regressors with the random unobserved effects.

**Table 1: Estimated impact on FDI**

Regressors	Dependent variables					
	1/ FDI in USD mil. (log)		2/ FDI (per capita)		3/ FDI (% of GDP)	
Constant	7.086 [0.000]	7.038 [0.000]	314.5 [0.000]	316.7 [0.000]	5.562 [0.000]	5.368 [0.000]
NMS dummy	0.503 [0.000]	0.565 [0.000]	107.9 [0.075]	120.7 [0.000]	1.246 [0.144]	1.436 [0.000]
GDP gap (%)	0.118 [0.000]	0.138 [0.000]	51.9 [0.000]	41.9 [0.000]	0.277 [0.110]	0.391 [0.000]
R <sup>2</sup>	0.832	0.912	0.604	0.736	0.513	0.704
Panel method [6x12 obs.]	Least Squares FE	GLS (Cross-section)	Least Squares FE	GLS (Cross-section)	Least Squares FE	GLS (Cross-section)

*P-values in square brackets*

*GDP gap data are from AMECO database, except for Albania, which are from Economic Reform Programme 2018-2020*

Specification (1) is estimated several times using different explained ( $y_{it}$ ) and explanatory ( $X_{it}$ ) variables, depending on the question being analyzed. Given that FE estimates use only within-country differences, essentially discarding any information about differences between countries, each specification is "double" estimated via Generalized Least Squares (GLS) using cross-section weights to account for those differences.

The impact on FDI is assessed controlling for the business cycle in the country, whereby three different series of FDI were utilized (Table 1). In the first equation, where the absolute value of FDI is used as a dependent variable,  $\delta$  (NMS dummy) is statistically significant at 1% level, indicating that FDI was higher by about 50% on average after the accession. When FDI per capita is used as a dependent variable (second equation),  $\delta$  suggests that FDI was higher by 108 USD per inhabitant after the accession on average, although the statistical significance of  $\delta$  is lower (10% level). This implies that FDI in North Macedonia would rise by additional 224 million USD per annum following its membership. In the third equation, where FDI is expressed as a percentage of GDP,  $\delta$  is not significant, though we get better results when estimated with the GLS method, i.e. NATO membership "adds" 1.4pp of FDI. In all equations 'GDP gap' is significant, meaning that FDI was positively associated with the business cycle.

<sup>6</sup> Allison (2009) suggests some alternative tests that may be better than the Hausman test.

**Table 2:** Estimated impact on investment and productivity

Regressors	Dependent variables					
	Total investment (% of GDP)		Capital stock (% change)		TFP index (log)	
Constant	17.186 [0.001]	16.276 [0.000]	2.393 [0.000]	2.770 [0.000]	4.239 [0.000]	4.301 [0.000]
NMS dummy	1.738 [0.016]	2.087 [0.000]	1.365 [0.004]	1.248 [0.000]	0.0474 [0.000]	0.0534 [0.000]
Control variable	Gross nat. savings (% of GDP)		FDI (% of GDP)		FDI per capita (log)	
	0.466 [0.031]	0.500 [0.000]	0.170 [0.015]	0.121 [0.005]	0.0489 [0.000]	0.0374 [0.000]
R <sup>2</sup>	0.729	0.837	0.608	0.762	0.884	0.924
Panel method	Least Squares FE [6x12 obs.]	GLS (Cross-section) [6x12 obs.]	Least Squares FE [6x11 obs.]	GLS (Cross-section) [6x11 obs.]	Least Squares FE [6x11 obs.]	GLS (Cross-section) [6x11 obs.]

*P-values in square brackets*

The impact on total investment is assessed controlling for gross national savings in the country that is significant with a positive impact on investment. During the post-accession period being observed, total investment in percent of GDP had been higher by about 1.7pp on average (Table 2). This is confirmed when testing the impact on capital accumulation, whereby the results indicate that capital stock growth dynamic intensified by around 1.4pp in the NMS after their

accession on average, controlling for the level of FDI that has a positive impact on physical capital changes. Productivity, proxied by TFP, seems to be positively affected by NATO accession. The results show that TFP growth is higher by 4.7% after countries joined the Alliance, capturing the impact FDI has on productivity, which to some extent reflects the technology spillover effects.

**Table 3:** Estimated impact on exports

Regressors	Dependent variable: Exports value (log)					
	(1)		(2)		(3)	
Constant	-12.270 [0.000]	-13.852 [0.000]	-7.584 [0.094]	-15.467 [0.000]	1.357 [0.404]	-1.312 [0.269]
NMS dummy	0.223 [0.000]	0.182 [0.000]	0.218 [0.002]	0.175 [0.000]	0.211 [0.004]	0.154 [0.003]
Control variables	EA GDP value (log)		EA GDP volume index (log)		EA imports volume index (log)	
	1.356 [0.000]	1.456 [0.000]	2.964 [0.015]	4.687 [0.000]	1.015 [0.024]	1.554 [0.000]
	/		Exports deflator index (log)			
	/		0.822 [0.056]	0.846 [0.001]	0.833 [0.059]	0.912 [0.001]
R <sup>2</sup>	0.982	0.988	0.959	0.984	0.959	0.981
Panel method [6x12 obs.]	Least Squares FE	GLS (Cross-section)	Least Squares FE	GLS (Cross-section)	Least Squares FE	GLS (Cross-section)

*P-values in square brackets*

In order to assess the impact on export of goods and services, we ran three different equations using different explanatory/control variables that reflect the foreign demand trends (Table 3). Estimates of  $\delta$  coefficient are statistically significant in all three equations (between 0.223 and 0.211 with LS-FE, and between 0.182 and 0.154 with GLS estimator), pointing out that on average exports grew with a higher pace after the accession (by around 20%). In the first equation, the foreign demand is proxied by the nominal GDP growth in euro area (EA). In the second and third equation we add another explanatory variable to disentangle the effect of prices on exports, whereby the foreign demand is reflected by the euro area real GDP growth in the second equation, and euro area real imports growth in the third equation.

**Table 4:** Estimated impact on unemployment and GDP

Regressors	Dependent variables					
	Unemployment rate		GDP per capita in PPS (EU28=100)		HDI	CPI
Constant	13.797 [0.000]	13.983 [0.000]	36.118 [0.000]	34.427 [0.000]	0.769 [0.000]	43.489 [0.000]

NMS dummy	-1.096 [0.030]	-1.024 [0.000]	3.344 [0.000]	2.955 [0.000]	0.0236 [0.000]	1.372 [0.124]
Control variable	Real growth of GDP		FDI per capita (log)		/	/
	-0.408 [0.002]	-0.452 [0.000]	2.307 [0.001]	2.637 [0.000]	/	/
R <sup>2</sup>	0.787	0.951	0.975	0.992	0.953	0.884
Panel method [6x12 obs.]	Least Squares FE	GLS (Cross-section)	Least Squares FE	GLS (Cross-section)	Least Squares FE	Least Squares FE

*P-values in square brackets*

Positive effects on investment and exports apparently had been translated into stronger economic growth relative to the EU average. Estimates show that the convergence towards the EU GDP per capita was by 3.3pp faster after the accession on average, capturing the impact of FDI (Table 4). Unemployment rate in the NMS had been decreasing by 1.1pp more on average following their accession, controlling for the impact of real GDP growth on unemployment, which is significant. HDI improved during the period under

consideration, most notably after the accession, while as regards CPI,  $\delta$  coefficient is not statistically significant, i.e. on average the improvement of this index is not significantly different after the accession.

## 6. Conclusion

To speed up economic growth in the region and North Macedonia and make it more sustainable, higher levels of investment and exports will be needed, thus joining NATO is one way to achieve that, given the experience from the NMS.

Statistical analysis of NMS makes it possible to conclude that NATO membership leads to greater opportunities for short and long-term economic growth, including an immediate increase of FDI, intensification of capital stock growth dynamic, marked increase of export activity, total factor productivity growth, decrease in unemployment, significant improvement regarding rule of law, reduced risk of corruption, etc.

In general, estimated results give positive signals for pursuing NATO integration process and further implementation of the FDI attracting policies. NATO membership, however, should not be regarded as the only tool for lifting a country out of poverty and ensuring its long-term economic prosperity. Economic performance and prosperity of a member country are not its primary concern. NATO membership and the accompanying integration process help ensure that the member country remains politically strong and secure from external shocks.

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## Author Profile

**Shiret Elezi**, PhD was born on 20.03.1981 in Frankfurt, Germany. Before being Deputy Minister of Finance, Shiret Elezi was Minister of Local self-Government (2016-2017). Her working experience started at Municipality of Gostivar, Head of Unit for Financial Issues (2005-2016); Elezi is part time professor at the International University of Struga since 2013, before that she was a part-time professor at Tetovo State University (2012).

She received her PhD for Economic Sciences from the "SS.Cyril and Methodius" University Skopje North Macedonia<sup>7</sup> (2011), and her M.Sc. in Economics at "SS.Cyril and Methodius". Author of scientific works published in scientific journals in area of: Public finance, Management of Local Finances, Experience and practice in the budgeting process in Local Government, Fiscal Decentralization and planning of stable Municipal Budgets, equalization framework for municipalities through grants, Fiscal decentralization indicators in South East Europe, property taxes in transition countries, etc.

**Nedzati Kurtishi** received the Msc. degree in Economic Sciences from the "SS.Cyril and Methodius" University in Skopje. Working experience in the Ministry of Finance from 2008. He is actually Head of the Unit for international relations.

<sup>7</sup> North Macedonia /before FYR Macedonia

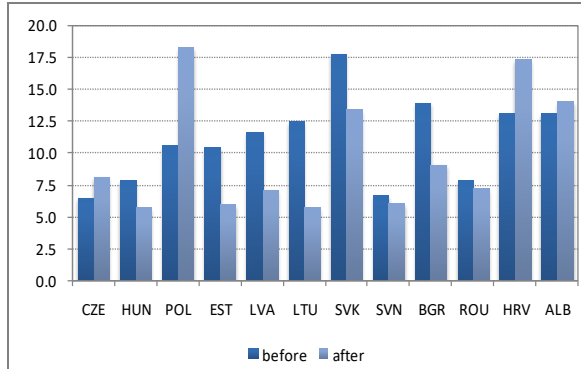


Annexure

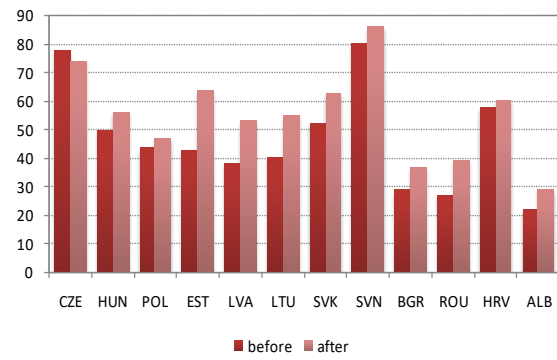


Chart G: Unemployment rate, -1Y vs. +2Y**	Chart H: GDP per capita in PPS (EU28=100), -3Y vs. +2Y
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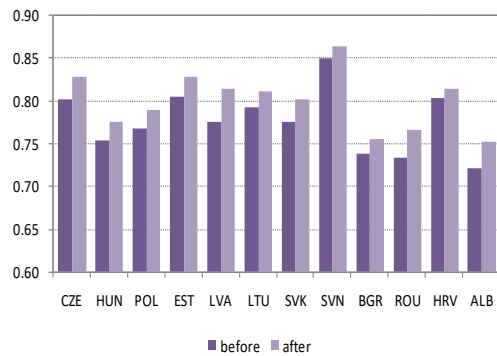


Source: International Monetary Fund Database



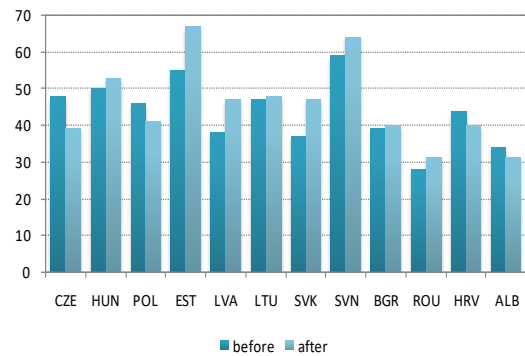
Source: Eurostat database

Chart I  
: Human Development Index, -1Y vs. +2Y



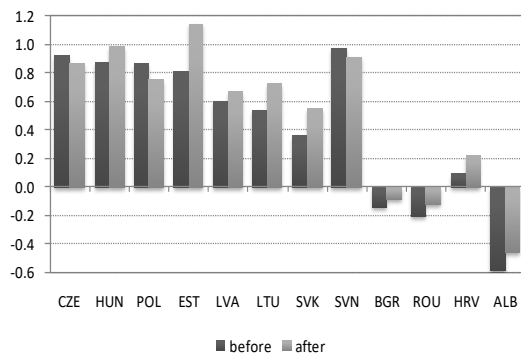
Source: UNDP

Chart J:  
Corruption Perceptions Index, -1Y vs. +2Y



Source: Transparency International

Chart K: Rule of Law Index, -1Y vs. +2Y



Source: World Bank

Note: For Czech Republic, Hungary and Poland +2Y data are not available, hence +3Y is used

\* TYA = three-year average

\*\* -1Y vs. +2Y = one year before versus two years after accession (0 = accession year)