



WP/18/187

IMF Working Paper

Foreign Direct Investment in New Member States of the
EU and Western Balkans: Taking Stock and Assessing
Prospects

by La-Bhus Fah Jirasavetakul and Jesmin Rahman

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I N T E R N A T I O N A L M O N E T A R Y F U N D

IMF Working Paper

European Department

**Foreign Direct Investment in New Member States of the EU and Western Balkans:
Taking Stock and Assessing Prospects**

Prepared by La-Bhus Fah Jirasavetakul and Jesmin Rahman

Authorized for distribution by Donal McGettigan

August 2018

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Abstract

FDI has played a strong role in the export-led growth of eastern European countries that are now members of the European Union (EU). Largely sourced from advanced Europe, FDI inflows were motivated by the intention to pursue new markets and cost efficiency. Over time, foreign investment has restructured the exports sector in these countries in favor of products that are considered more technology-intensive. As these countries face skills shortage and rising wages, what is needed for FDI to continue playing a strong role? Can the Western Balkan countries, who are not yet EU members and have in recent years stepped up financial incentives and policy initiatives to court investors, emulate the experience? This paper takes stock of the FDI experience of both these groups and tries to estimate their potential gains from additional policy efforts.

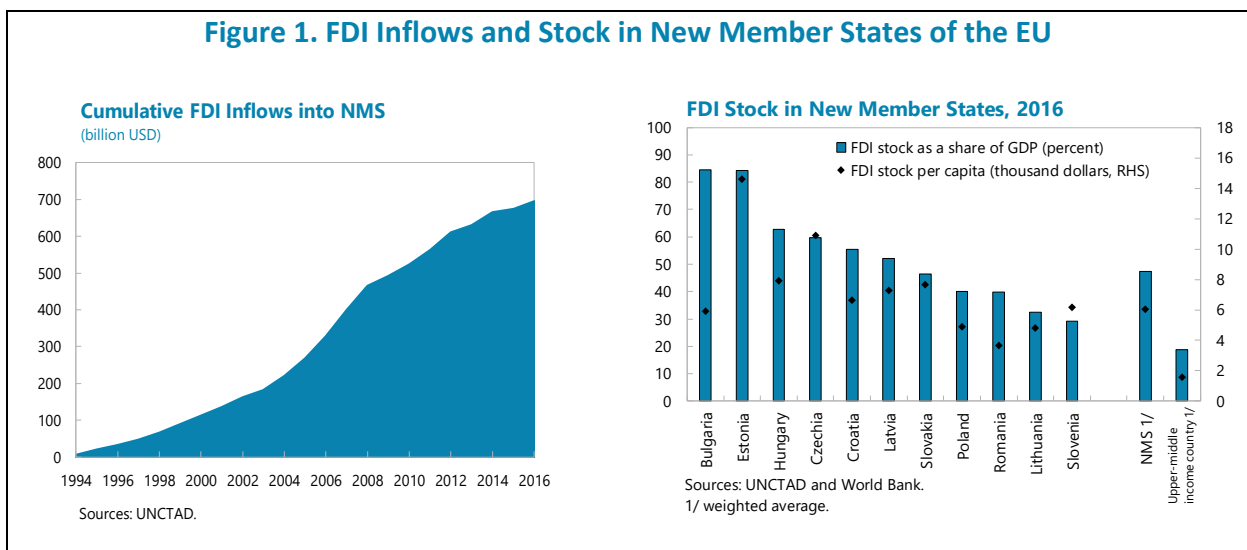
JEL Classification Numbers: F21, F23, O52, P27

Keywords: Foreign direct investment, determinants of FDI, catching-up process, EU New Member States, Western Balkans, gravity model, panel analysis.

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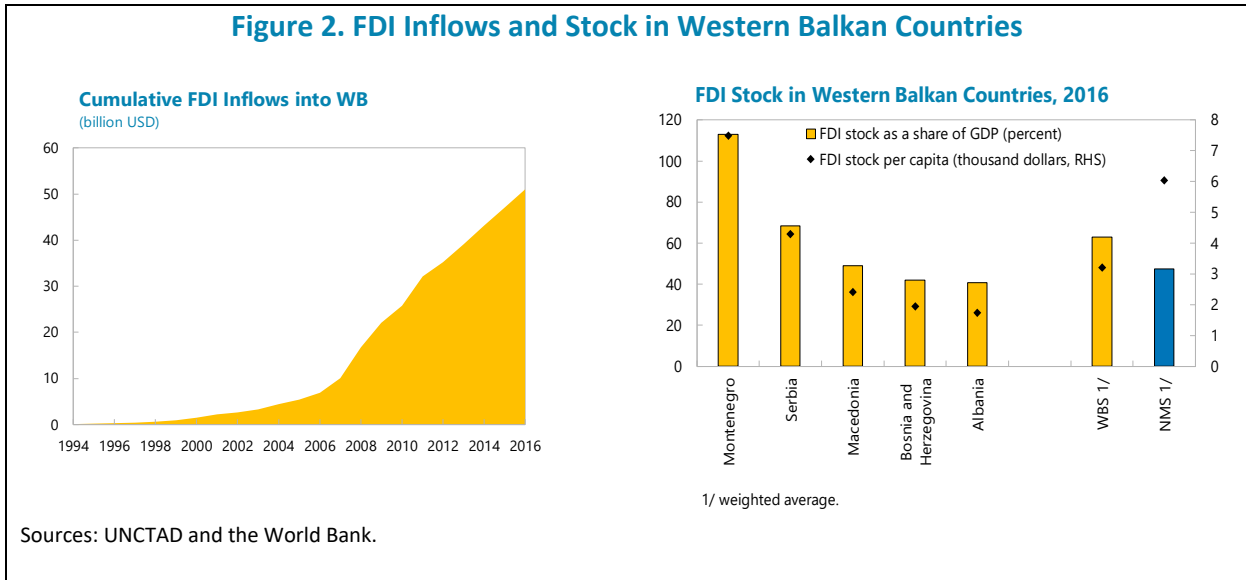
I. Context ¹

Foreign direct investment (FDI) has played a strong role in the export-led growth of eastern European countries that are now part of the European Union (EU). These eleven countries, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia, that joined the EU in 2004 or after, also known as the New Member States (NMS), have attracted a cumulative total gross FDI of almost 700 billion as of end-2016 (Figure 1). FDI inflows saw a particular push after the EU membership. Compared to their upper-middle income peers, the stock of FDI, both in percent of GDP and population, is noticeably higher. Foreign investment has also contributed significantly to exports, employment, and productivity growth albeit with cross-country variation (Damijan and Rojec, 2004, Bijsterbosch and Kolain, 2009).



The Western Balkan (WB) countries, who were late to integrate with Europe and the global economy, have also embarked on a FDI-led journey to enhance exports and growth performance. These six countries, Albania, Bosnia and Herzegovina, Kosovo, FYR Macedonia, Montenegro and Serbia, navigated a tumultuous decade of civil war, ethnic struggle and financial crises before engaging in integration. With a late start in transition, most FDI inflows to the WB region took place in the last decade reflecting significant recent policy efforts geared to court foreign investors (Figure 2 and OECD 2018). Their average per capita FDI stock is not surprisingly lower than the NMS, although scaled by GDP, the average FDI stock in WB countries is actually higher than the NMS reflecting small size of most economies in this region (the WB region's GDP is about a fifteenth of the NMS regional GDP) (Figure 2).

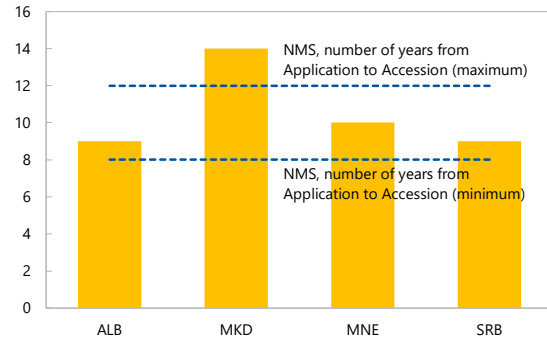
¹ We gratefully acknowledge excellent research assistance provided by Yuanchen Cai and Jingzhou Meng. Jan Erik von Uexkull kindly shared the FDI tax incentives database with us. Helpful comments were received from country teams and seminar participants in the European Department and Damien Puy. All remaining errors are ours.



This paper explores FDI experience in these two regions and tries to answer the following questions.

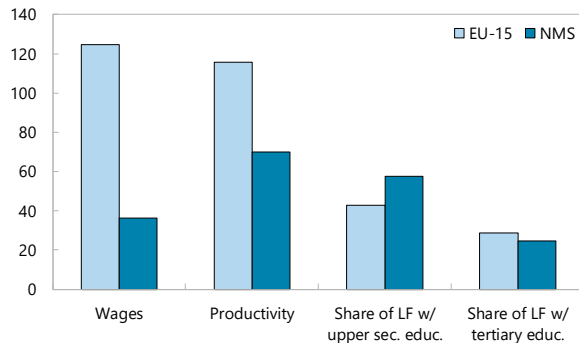
- WB region.** There are at least two factors that make the FDI outlook somewhat less favorable for WB countries. *First*, most NMS were on a fast track to EU membership. The number of years taken to move from membership application to accession ranged between 8 years (Slovenia and Czech Republic) to 12 years (Bulgaria and Romania). In contrast, 8 or more years after gaining the applicant status, the WB countries are still facing uncertain prospects regarding the EU accession. How important is EU accession for attracting FDI? *Second*, given a late start in transition, the WB countries are behind in important reforms, but also in skills and physical infrastructure compared to the NMS. What are the potential FDI gains from closing gaps in these areas?
- NMS region.** Relative wages in NMS are still very favorable compared to advanced Europe even taking into account productivity and skills differences. There are also strong advantages in terms of geographic proximity to core

Number of Years since EU Membership Application, WBS



Source: European Union.

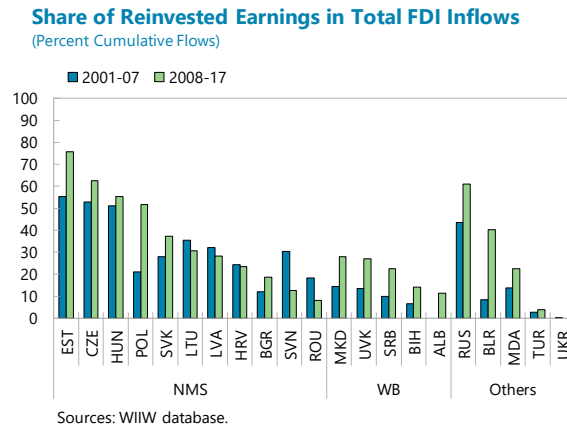
Wages, Productivity, and Skills, Latest
(Percent of EU-28 Average)



Sources: Eurostat, and Authors' calculations.

Europe and a cluster of well-established suppliers. However, rising labor shortages and projected workforce/population ageing may influence investors' decisions for new investment. Reinvested earnings now count for a significant share of total FDI flows in many of these countries, indicating higher profitability. However, this could potentially indicate declining appetite for new investment. As more countries vie for efficiency-driven manufacturing FDI and wages rise in these countries, continued success in FDI-led growth model in this group would depend on their ability to move up the technology ladder. Do developments in export specialization and labor skills in these countries show such a movement? What are the potential FDI gains for this group by closing the gaps in reforms and addressing skills shortage?

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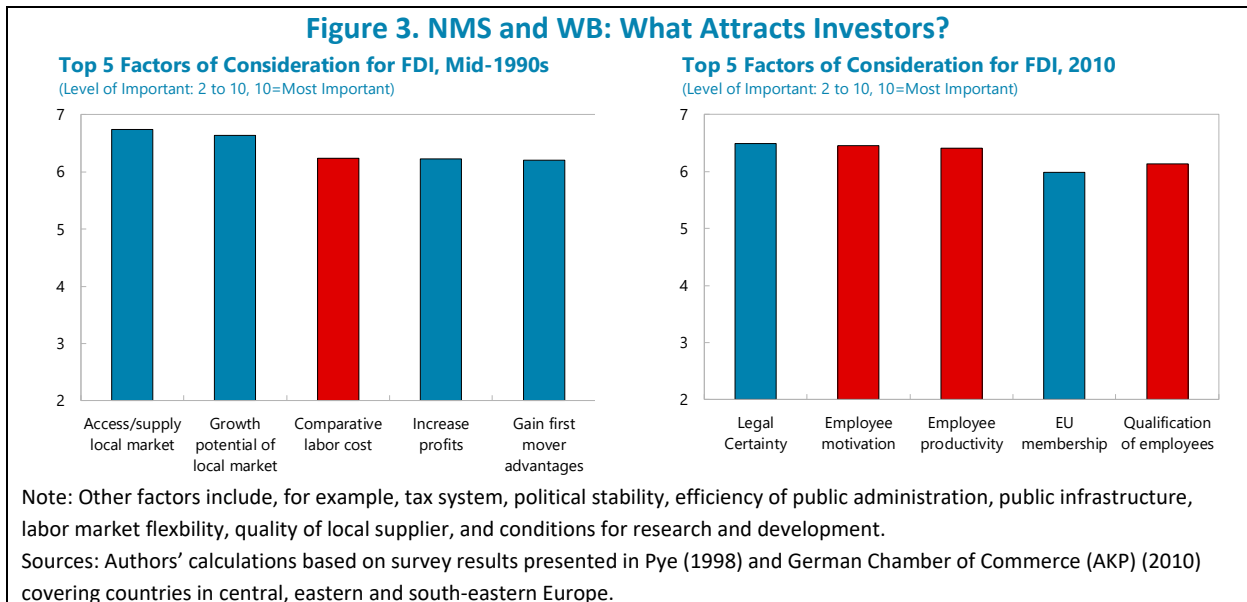
The paper is organized as follows. Section two presents stylized facts about FDI inflows to the NMS and WB region. Section three presents findings from global investor surveys and empirical literature on factors important for attracting FDI. Section four discusses the empirical model and estimation results to highlight policy priorities and potential gains in FDI for both regions. Section five concludes.

II. FDI Inflows to New Member States and the Western Balkan Region: Stylized Facts

FDI inflows to these two regions have mostly been market- and efficiency-seeking. The well-known framework by Dunning and Lundan (2008) divides FDI inflows into four main categories based on investor motivation: *natural resource-seeking FDI* attracted by locally available natural resources, *market-seeking FDI* motivated by gaining access to large markets or developing new markets, *strategic asset-seeking FDI* attracted by existing firms with technology and brands that have a competitive edge, and *efficiency-seeking FDI* motivated by opportunities to save costs. Without significant natural resources or niche technology in these countries, the primary motivation of early foreign investors, mostly from EU countries, were two-fold: (i) access/supply/develop these newly-available markets, particularly in the services sectors, including through privatization which counted anywhere between one-third to two-thirds of total FDI inflows in the 1990s and (ii) take advantage of wage differentials to produce manufacturing products more efficiently (Pye, 1998, Kalotay and Hunya, 2000).

Labor has remained a key attraction for investors. Initial investors were attracted by favorable wage costs which featured among the top five factors for locating in the region (Figure 3). A decade later, labor remained important not because of costs per se but for quality: workers' motivation, productivity and qualification. In addition, EU membership and

institutional factors became important as investors started to see the region as potentially serving the common market. EU accession also provided prospects for legal stability via the adoption of the *acquis* and improved infrastructure via strategic use of EU structural funds. Bruno and others (2016) estimates that the EU membership has increased FDI inflows to the NMS by up to 28 percent.



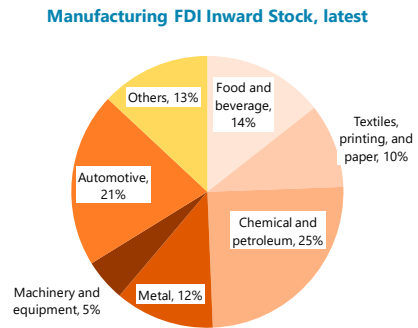
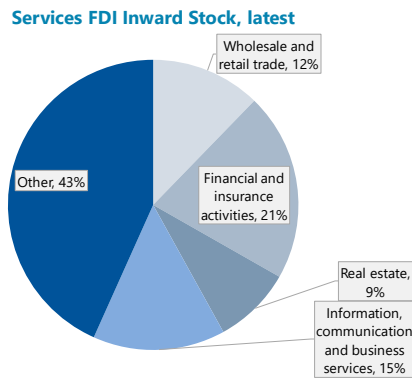
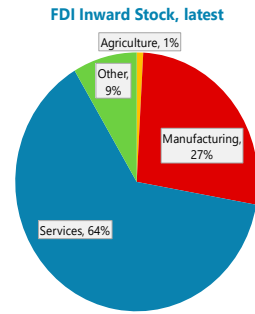
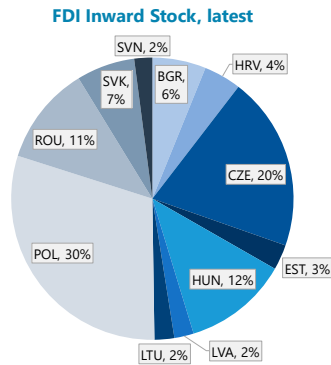
With market development being a key motivation, not surprisingly much of the FDI inflows to the NMS went to larger economies. The three largest economies, Poland, Hungary and Czech Republic captured almost two-thirds of all FDI into the region (Figure 4). Overall, services sector dominated FDI inflows counting for two-thirds of total FDI stock in 2016. This is in line with the global trend where services sector counts for around 65 percent of total FDI stock (World Investment Report, 2016). Large inflows into services sector were driven by privatization, particularly of the financial sector, and, later on, development of trade, transport and communications sectors. Together, financial services and wholesale and retail trade account for over 40 percent of total FDI stock in the NMS. Over time, with large-scale offshoring by multinationals, the share of information technology and business (professional and administrative) services FDI has increased to reach 15 percent of total FDI stock as of 2016. In manufacturing, the lion's share is counted for by automotive, metal, machinery and chemical sectors in line with the dominance of these industries in European manufacturing and exports (Veugelers, 2013 and Stehrer and others, 2016).

The WB region shows a similar profile in terms of the dominance of services sector and large countries (Figure 4). Serbia alone counts for more than half of total FDI stock in the region, with the rest split between the other five countries roughly corresponding to their relative size. In services sectors, the dominance of financial and trade sectors is similar to that of the NMS. For manufacturing, which counts for around fifth of the stock, chemical, food and beverage and automotive products are most important. The two regions are strikingly similar in product composition of FDI with the WB region showing a slightly higher share of manufacturing in total FDI stock and a somewhat higher share of low-tech

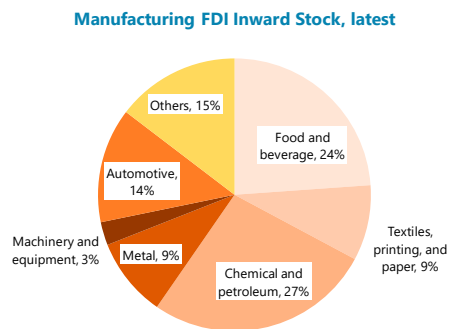
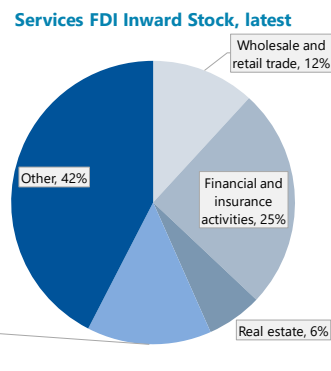
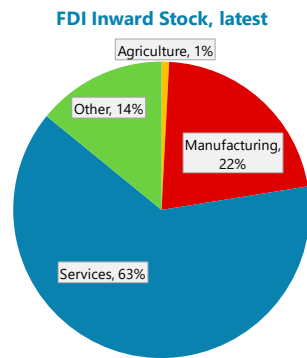
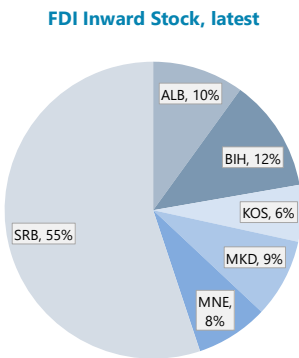
products (food and beverages) than the NMS. The similarities in product composition in these two regions probably reflect the largely efficiency-seeking nature of investors.

Figure 4. NMS and WB: Composition of FDI Inflows

New Member States



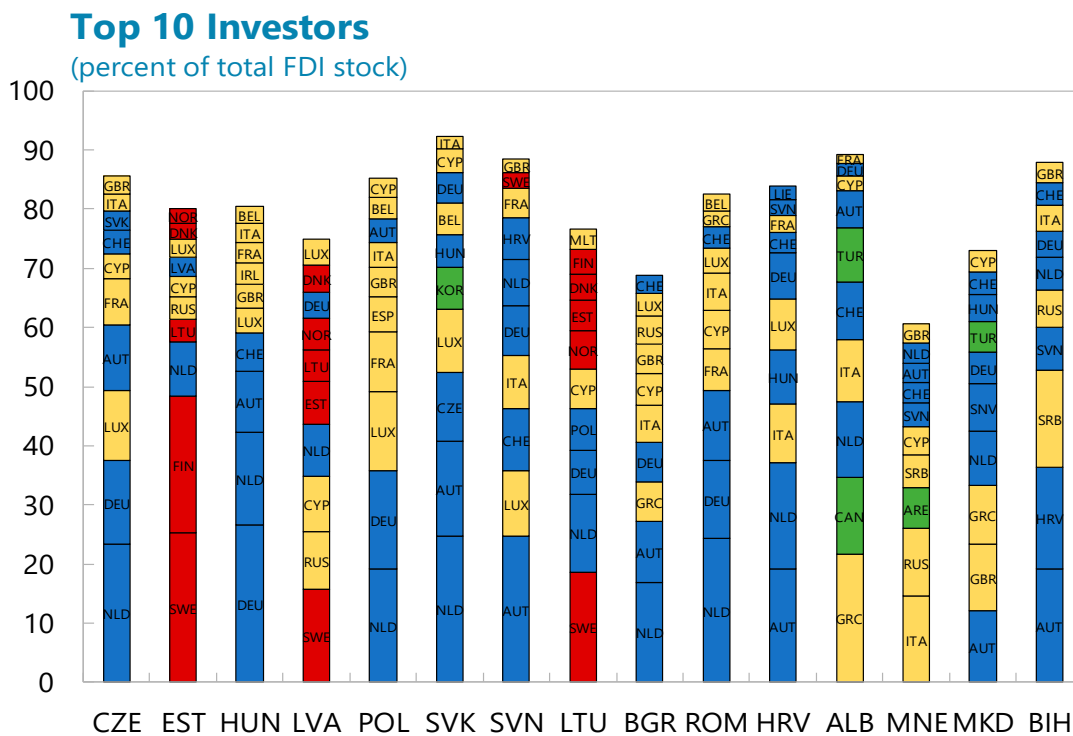
Western Balkan Countries



Sources: WIIW database and authors' calculations.

Sources of FDI have mainly been determined by geography. For both regions, EU countries constitute top ten investors in almost all countries (Figure 5). Within the EU, geography matters. Germany and other central European countries count for between 40-60 percent of total FDI stock in Czech Republic, Slovakia, Slovenia, Poland and Hungary, as well as in Romania, Croatia and Bulgaria. In contrast, Nordic/Baltic countries count for an overwhelming share of FDI in Latvia and Estonia, although not in Lithuania (Figure 5). Foreign investors in the WB region also seem to support this pattern with a large share of FDI sourced from Italy for Albania and from Russia for Montenegro, although Central European countries are dominant investors in both FYR Macedonia and Bosnia and Herzegovina. The significance of geographic proximity, which probably also reflects cultural and linguistic similarities, is evident but there are other factors at play as well given the overall dominance of Central European countries.

Figure 5. NMS and WB: Sources of FDI

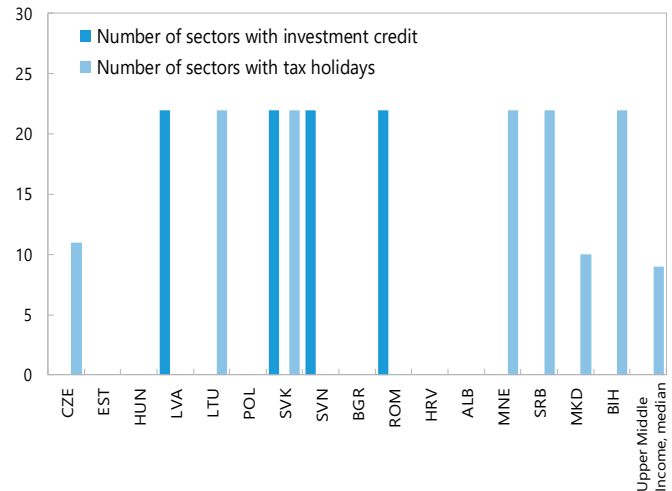


Note: Central Europe (Germany, Austria, Switzerland, Netherlands, Slovakia, Slovenia, Czech Republic, Poland and Hungary) shown in blue, Nordic and Baltic countries (Sweden, Finland, Norway, Denmark, Latvia, Lithuania, Estonia) are in red, other Europe (France, Belgium, Cyprus Luxembourg, UK, Italy, Croatia, Spain) in yellow and non-European countries in green.

Sources: WIIW Database.

To entice investors, both regions have provided generous financial incentives particularly in the form of tax holidays and investment credits. The provision of financial incentives to foreign investors is common, particularly for developing countries (Box 1). A recent study finds that nearly half of all developing countries, including upper-middle income countries, have introduced new tax incentives or extended/increased existing ones over time even though studies do not find these incentives to be cost effective (Andersen and others, 2017) or beneficial to growth (Klemm and Van Parys, 2009). With already low standard CIT rates in the NMS and WB countries, the use of preferential tax rates for foreign investors is not common. However, tax holidays are. The NMS made extensive use of tax holidays but over time moved to providing investment credit and allowances. In contrast, WB countries rely more on tax holidays. In addition, most NMS and WB countries also provide various other financial incentives to investors, including VAT exemptions for imports, property assistance, guaranteed cheap finance, and training of labor (Annex 1). In the NMS, benefits tend to target medium- to high tech manufacturing sectors while in WB countries, jobs creation is a key consideration.

Number of Sectors with Financial Incentives



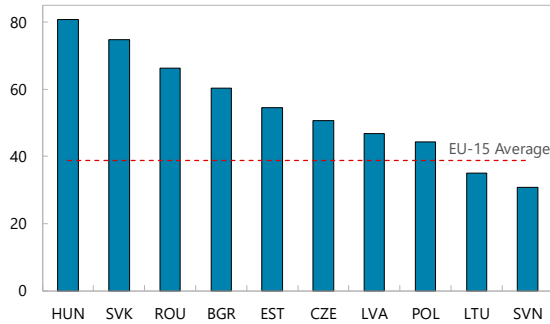
Gross exports have seen a tremendous increase over time, but domestic value-added component has not risen much. Foreign firms count for a very high share of exports (Figure 6). With supply-chain driven trade being a primary force behind global growth since mid-1990s, and the dominance of foreign firms, gross exports rose fast. However, the share of domestic value-added in total exports declined in most countries, and for manufacturing exports, the share declined in all countries. In many cases, this reflects high import contents, particularly for assembly plants, which has seen an increase over time. This may also reflect profit repatriation by foreign firms and pressures to keep costs down as shown by a declining share of labor income in manufacturing (Figure 6).

The automotive industry is a case in point. Large-scale foreign investment has transformed the automotive industry in many Central European countries where the industry counts for a significant share of total merchandise exports. Per capita car production in these countries and automotive sector's share in industrial employment rank among the top in the world. These are important achievements that are propelled by foreign firms who remain in virtual control of the industry in the region through ownership of the assembly plants as well as top tier supplier firms. Domestic firms are yet to make a notable footprint into the higher tier supplier group. Much of the pre- and post-production services activities, which hold the higher share of value-added, are done by parent companies (Tury, 2014 and Pavlinek, 2016). Research and development activities in host countries, which have increased over time, are

mostly limited to improvement of process and location-specific tasks with more strategic R&D kept at the headquarters.

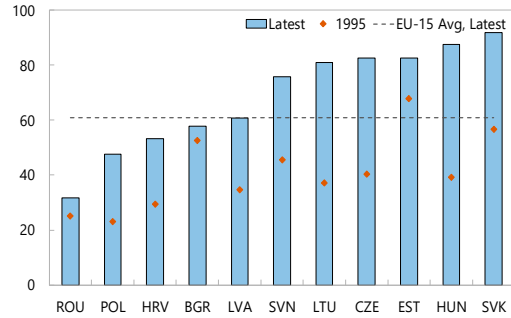
Figure 6. NMS Exports: Technological Upgrade and Domestic Value-Added Content

Share of Exports Produced by Foreign Firms, Latest
(Percent)



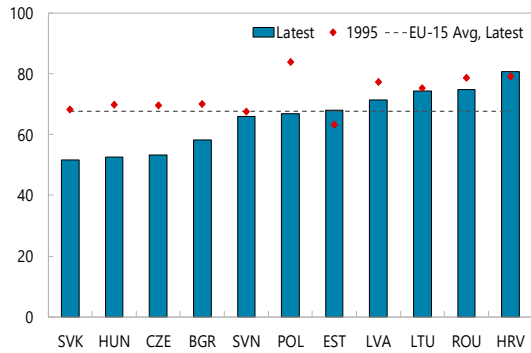
Sources: OECD.

NMS: Gross Exports
(Percent of GDP)



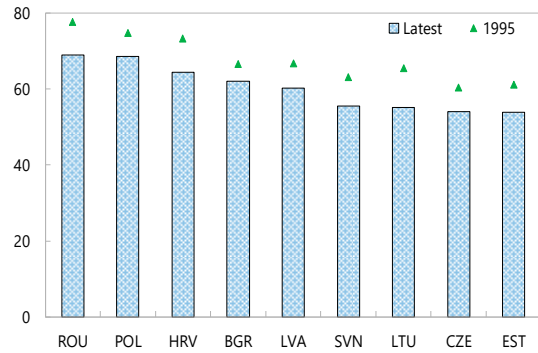
Sources: OECD.

NMS: Domestic Value-added in Exports
(Percent)



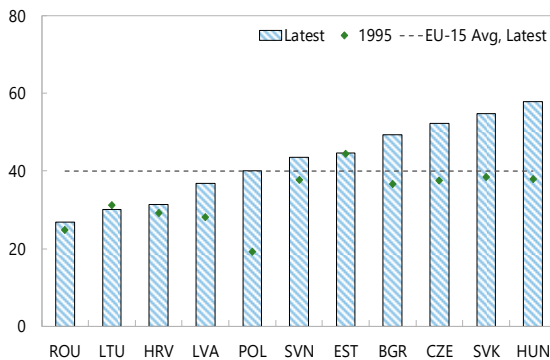
Sources: OECD.

NMS: Domestic Value-added in Manufacturing Exports
(Percent)



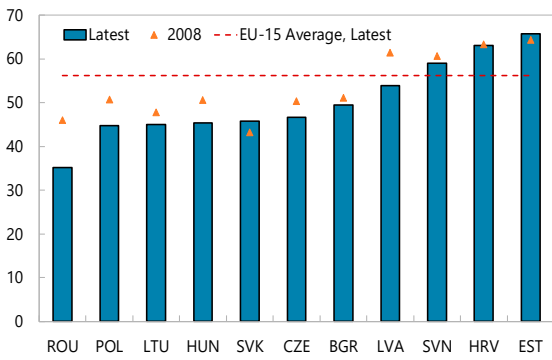
Sources: OECD.

NMS: Import Content in Manufacturing Exports
(Percent)



Sources: OECD.

Employee Compensation in Manufacturing
(Percent of Manufacturing Gross Value-added)



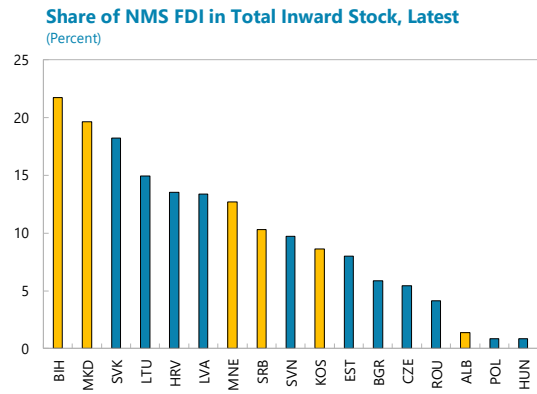
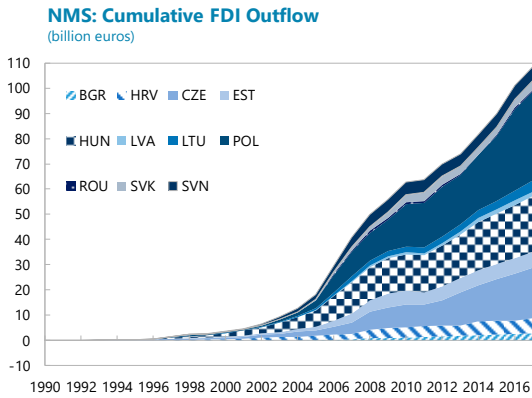
Sources: Eurostat.

Sources: OECD; Eurostat.

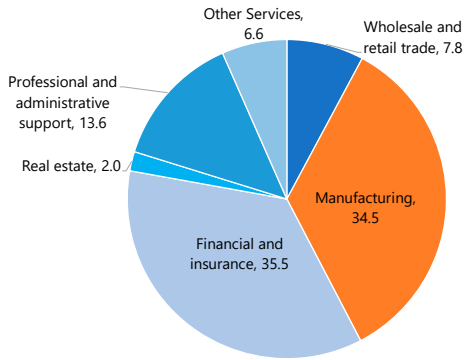
Larger countries in NMS have become a significant source of FDI for other smaller NMS and WB countries (Figure 7). The share of FDI sourced from larger NMS, namely Czech Republic, Hungary and Poland, stands at around a fifth of the total inward FDI stock in Bosnia and Herzegovina and FYR Macedonia, and above 10 percent in a number of countries. Most of the outward FDI from larger NMS are concentrated in Europe. Outward investment has mostly targeted services sector, particularly the financial and insurance sub-sectors counting for around 35 percent of the outward FDI stock. However, outward manufacturing FDI is also sizable at around one-third of the total stock and dominated by three industries: chemical and petroleum, metal and machinery, and food and beverages.

Outward manufacturing investment from larger NMS may indicate the existence of the flying geese syndrome (FGS). According to the FGS theory, as host countries (larger NMS) industrialize and upgrade production, the type of FDI flowing from home countries (advanced Europe) changes toward higher skills; in turn, simpler activities gradually flow out from relatively advanced host countries (larger NMS) to newcomer host countries (smaller NMS and WB countries) (Kalotay, 2004). In recent years, a number of NMS have seen a notable increase in FDI outflows relative to inflows (Figure 7). In Czech Republic and Hungary, who both receive large inward FDI, average outflows in recent years have reached 50 percent of average inflows. This could indicate industrial upgrading by companies headquartered in these countries who are outsourcing parts of production to pursue cost efficiency. However, the ratio of outward and inward FDI flows is still far lower than advanced European countries which implies they have a way to go before becoming mature producers (Figure 7). Some part of these FDI outflows could however reflect transitory capital from a third country that simply pass through an NMS intermediary. We do not have detailed data to separate these two aspects.

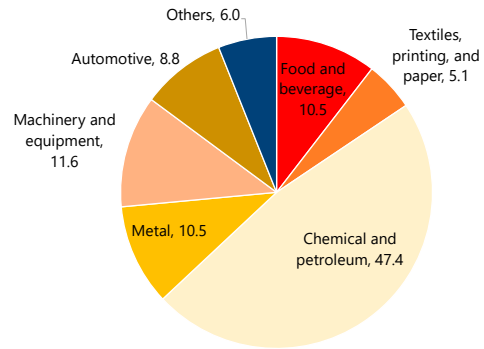
Figure 7. NMS: Stock of Outward FDI



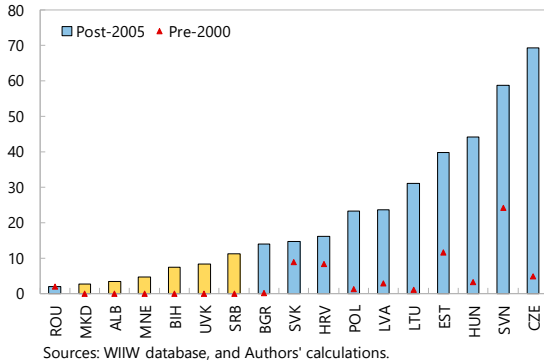
NMS: Composition of Outward FDI Stock, 2016
(share in total outward FDI)



NMS: Composition of Manufacturing FDI Outflow Stock, 2016
(share in total manufacturing FDI)

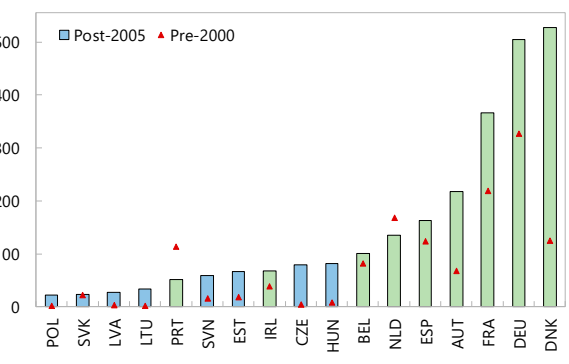


FDI Outflows
(Percent of FDI Inflows)



Sources: WIIW database, and Authors' calculations.

FDI Outflows
(Percent of FDI Inflows)



Sources: UNCTAD, and Authors' calculations.

Sources: WIIW database, and authors' calculations.

III. What Matters for FDI: Findings from Investor surveys and Empirical Literature

Global surveys show that investors tend to value political stability and legal environment the most when locating abroad. The recently published 2017-18 Global Investment Competitiveness Report (World Bank, 2017) that covered 754 multinational corporations (MNCs) spanning in manufacturing and services sectors provide insightful findings.² The survey finds that while investors consider a broad range of factors, more than 80 percent of respondents consider political stability and legal environment to be critically important or important (Figure 8). Investors tend to seek both strong legal protection and predictability and efficiency in implementing laws and regulations. Other important factors are domestic market size, macroeconomic stability and labor skills. These findings prevailed across different types of investors (manufacturing and services, market-seeking and efficiency-seeking, developing and developed country sources, parents and affiliates). In terms of investment climate, predictability and transparency of public institutions, ease of setting up businesses and legal protection are considered more important than financial incentives (Figure 8).

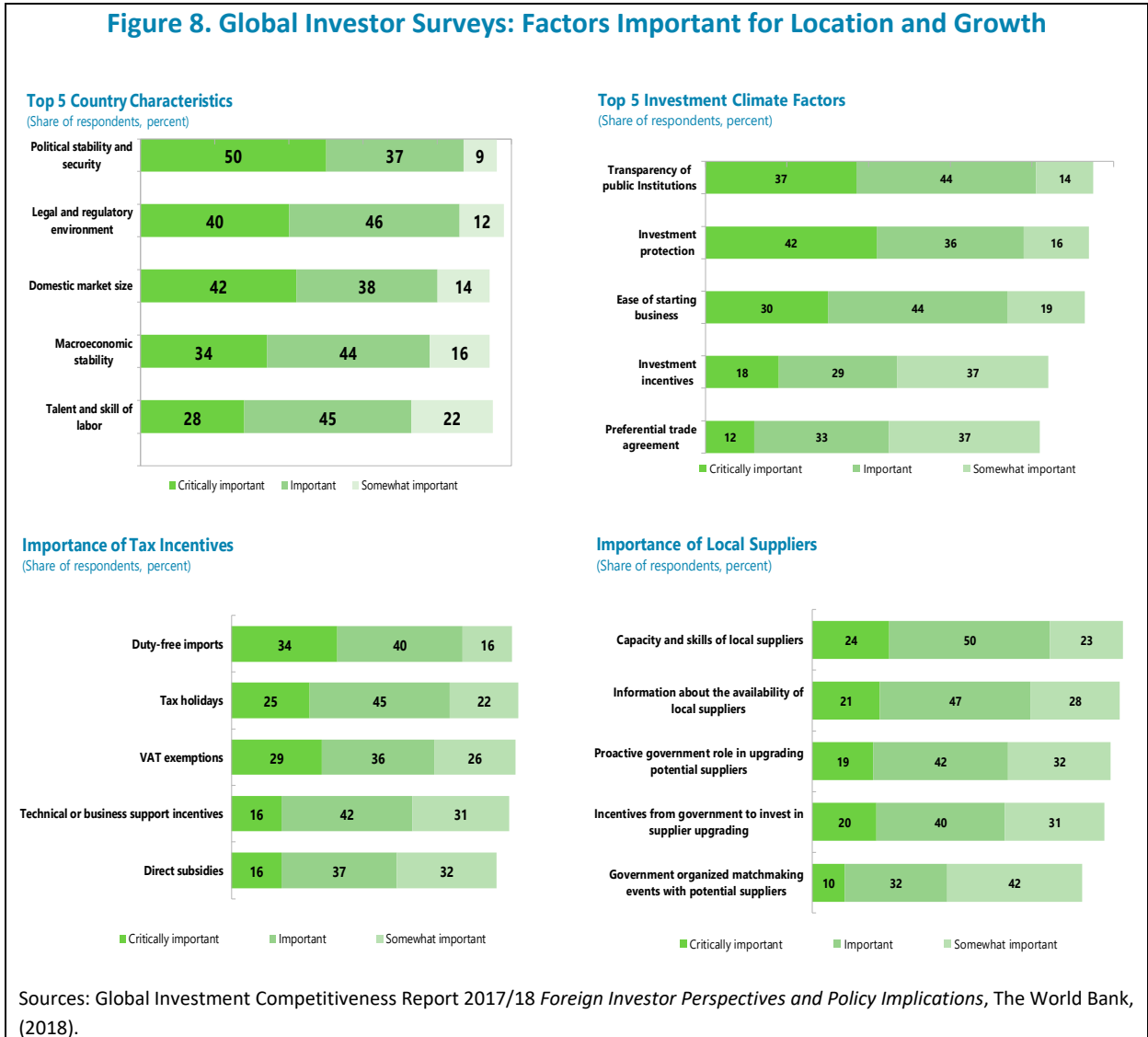
Tax incentives do not seem to be among the top five considerations, although they are for efficiency-seeking investors. Overall, only one in five investors finds the absence of investment incentives as critically important although, for efficiency-seeking investors, up to two-thirds of investors consider financial or tax incentives as important or critically important. Tax holidays, duty-free imports and VAT exemptions are the top three incentives for investors with a quarter to one third of investors considering these as critically important. The lower importance of tax incentives in these surveys may be due to their widespread and standard use by host countries trying to court foreign investors (Klemm and Van Parys, 2009). Between 49-72 percent of developing countries offer tax holidays, preferential or very low general tax rates or tax allowances to investors. Tax incentives are most common for construction, information technology, electronics and machinery, and other manufacturing sectors.

The importance of other factors depends on the purpose of the FDI. MNCs that primarily seek access to natural resources care more about preferential access to and land they wish to explore. MNCs that are market-seeking tend to go for bigger and richer markets. Efficiency-seeking FDI, which is most prevalent in the NMS and WB countries, values more the quality of labor, good infrastructure, policies that facilitate trade, and lower production costs.

For growth over time, investors strongly value the quality of suppliers (Figure 8). On average, surveyed investors reported sourcing 43 percent of material inputs, supplies and

² Among 754 respondents, 73 percent were headquartered in high-income countries and 27 percent in developing countries. Over half of the respondents had headquarters in Western Europe. About 47 percent of respondents were executives of manufacturing firms, 45 percent were from services, 6 percent were from extractives and 2 percent were from other noncategorized sectors. Large companies with 1000+ employees constituted about 40 percent of the sample with about one-third companies had fewer than 250 employees and the rest between 250-1000 employees.

services from local sources versus 34 percent of inputs sourced from another unit of the company and 23 percent of inputs imported. Local linkages are more important for services firms. With services FDI increasing in importance both worldwide and in the EU, the significance of local linkages is likely to grow putting a premium on quality and delivery.



Empirical literature highlights the role of the above-mentioned attributes as well as gravity factors in influencing FDI inflows. Generally, policy certainty and continuity, that help promote macroeconomic stability, are expected to attract FDI. However, empirical results are ambiguous and studies often find them at best a minor determinant of FDI flows (Demekas and others, 2005; Lall and Narula, 2005; and Zheng, 2014). Trade costs, tax policies, and regional integration are often found to stimulate FDI, particularly the vertical (cost-minimizing) FDI, through lower production costs (for example, Edwards, 1990; Lankes and Venables, 1996; and Jordaan, 2004) as well as greater quality of institutions in the case of regional integration (Bevan and others, 2001, Braconier and Ekholm, 2002; Cardamone and Scoppola, 2015; and Bruno and others, 2016). At the same time, there are mixed results

on the impact of labor costs on FDI (Tsai, 1994 and Demirhan and Masca, 2008) most likely due to difficulties in accurately controlling for productivity (Demekas and others, 2005). Related to infrastructure, empirical studies find that well-developed infrastructure increases potential returns to investment and hence can attract FDI inflows (Ancharaz, 2003; Jordaan, 2004; and Demirhan and Masca, 2008). Meanwhile, recent studies emphasize a crucial role of institutional developments and governance in stimulating FDI as they could help facilitate investment and ensure an enabling regulatory environment (for example, Buchanan and others, 2012; and Herrera-Echeverri and others, 2014). In addition, most studies confirm the importance of gravity factors – such as market size and proximity between the host and source countries – to FDI.³

However, less attention has been devoted to estimating potential gains in FDI from policy interventions. To measure potential impact that policy improvement could have on FDI, it is important for policy makers to draw a distinction between exogenous gravity variables and policy variables that are under their control. Potential FDI can then be defined as predicted FDI under a scenario where policy variables are at their realistic “best” values, and potential gains are differences between potential and actual levels of FDI. There are very few studies that confirm significant potential gains from policy reforms in Central and Southeastern European countries (Christie, 2003; and Demekas and others, 2005). They focus mainly on the 1990s and early 2000s, periods prior to the NMS accession to the EU, which is one of the potential factors attracting large-scale FDI in these countries (Bruno and others, 2016). Furthermore, some of these studies exclude policy variables related to competitiveness and macroeconomic stability and focus exclusively on institutional variables (Christie, 2003). In this paper, we try to address these shortcomings as we estimate FDI potential for the NMS and WB countries. For realistic “best” policy values, we use the top performing NMS for WB countries, and the top performing advanced EU country for the NMS.

IV. Empirical Model: Estimating FDI Potential

This section investigates determinants of FDI inflows. We start our analysis with panel gravity regressions of bilateral aggregate FDI inflows from 38 source countries into 19 host countries during 2001-14.⁴

³ See Lankes and Venables (1996); Charkrabati (2001); Lim (2001); and Demekas and others (2005) for detailed literature reviews.

⁴ The gravity model is mainly used to examine determinants of bilateral trade (Baldwin and Taglioni, 2006 and 2011), with more recent applications to bilateral FDI (see for example, Demekas et al, 2005; and Bruno et al, 2016). While recent literature on gravity models of trade and integration adopts the two-stage fixed effects method based on Cheng and Wall (2005) to control for country-pair heterogeneity, this method does not allow for potential FDI estimations – defined as predicted FDI inflows of a host country when its policy variables reach the level of the best benchmark performer. Our baseline regressions therefore use pooled data and ordinary square (OLS) with country fixed effects.

(continued...)

$$FDI_{i,j,t} = \alpha \cdot G_{i,j,t} + \beta \cdot X_{i,t} + \varepsilon_{j,t}$$

To complement the literature, the empirical investigation focuses on both understanding the determinants of FDI in NMS and WB countries over the more recent period and also tries to compare FDI performance of WB countries with that of the NMS in an effort to gauge their potential gains from policy reforms. The sample of host countries include five WB countries, as well as eleven NMS, where FDI has played a strong role in exports over the past two decades, and other three neighboring emerging economies (Turkey, Belarus and Moldova). Source countries are the 19 host countries, 17 advanced EU member countries, the US and Switzerland. The main outcome variable of interest ($FDI_{i,j,t}$) is bilateral aggregate FDI inflows between source country j and host country i (in logs) obtained from the Vienna Institute for International Economic Studies (WIIW)'s FDI database.⁵ Based on the existing literature and investor surveys, the following explanatory variables are included in various specifications of our panel regressions to capture both gravity factors ($G_{i,j,t}$) and structural and competitiveness variables ($X_{i,t}$).

- *Gravity factors:* We use three main gravity variables (data sources in parentheses) – population (World Bank WDI) of both source and host countries; GDP per capita in purchasing power parity (PPP) terms (World Bank WDI); and the distance between source and host capitals (KSG database) to capture physical ties between source and host countries. Population and GDP per capita are used together as well as separately to the capture market size.
- *Production costs, skills and other inputs* (data sources in parentheses) include the statutory corporate income tax rate (IMF); relative unit labor costs and gross average monthly wage (authors' calculations based on UNECE data); the share of working age population with at least upper secondary education (World Bank WDI and Wittgenstein Centre); and the share of vocational enrollment to total secondary enrollment (World Bank WDI). In addition, public capital stock per capita in PPP-adjusted terms (IMF) is included to capture the role of infrastructure investment.
- *Structural reforms* (data sources in parentheses) include the EBRD Transition Indices of competition policy, and governance and enterprise restructuring (EBRD Transition Reports). To avoid any bias or methodological limitations attached to indicators of a specific institution, we also complement our analysis with alternative indices such as the Worldwide Governance Indicators (World Bank) and an Index of Economic Freedom (Heritage Foundation). Among various indicators related to governance and

⁵ The WIIW's FDI database covers 23 countries in Central, East, and Southeast Europe. Time series provide information on FDI inflows and outflows, inward and outward stocks by component, by partner or by activity. The WIIW's FDI dataset is provided on an annual basis following the latest OECD/ IMF definition and methodological guidelines. The WIIW updates the time series upon data from the respective central banks.

(continued...)

business climate, these three sources of indicators are available for a relatively longer time span.⁶

- *EU membership status*: A dummy variable indicating whether both source and host countries are EU members is added. It is expected to assess benefits of the accession itself, as well as those of structural reforms which continue to take place after the accession.⁷ Progress in structural reform includes not only those related to macroeconomic stability, sound competitiveness policies and a certain standard for institutional quality (as explicitly captured by the variables in the previous bullet), but also reforms in other areas – such as statistics, regional policies, and foreign policies.

The empirical results highlight the importance of gravity factors and competitiveness-related policies in attracting FDI (text table; Annex 2, Table 1). While the choice of variables is partially guided by the intention to cover the largest number of NMS and WB countries, various specifications with different variable choices are estimated.^{8 9} We find that gravity factors, such as the size of host and source countries, are positively associated with higher FDI inflows, while longer distance between host and source countries is linked with lower FDI inflows. In addition, higher costs of production, captured by higher corporate tax rates and relative unit labor costs, have a statistically significant negative impact on FDI inflows. A higher level of per capita public capital stock and a higher share of vocational participants in secondary education in host countries also show a positive association with FDI inflows. Nonetheless, a positive impact of the share of working age population with at least upper secondary education is not statistically significant. As a logarithmic transformation of zero FDI inflows is undefined, the elimination of country pairs when FDI flows are zero is not randomly selected and could lead to sample selection bias. We therefore apply Heckman's selection model to control for this bias and show that results are robust to accounting to the potential selection problem (Annex 2, Table 1, columns 6 to 10). Results are also robust to using (i) non-overlapping five-year average data (Annex 2, Table 1, columns 10 to 11), (ii) the stock of FDI as a dependent variable (Annex 2, Table 2), and (iii)

⁶ The World Bank doing business indicators are not used in the regression analysis as they are not available for our country sample prior to 2004-06, which are the period of significant FDI inflows for NMS.

⁷ Given that this is not a variable for the accession process prior to obtaining the membership, impacts of structural reforms preceding the accession are most likely captured by the included structural reform variables.

⁸ There are a large number of structural reforms and institutional indicators available, most of which are highly correlated with each other. For example, the Worldwide Governance Indicators comprise six sub-indicators such as political stability, regulatory quality, rule of law, and control of corruption. The presented regressions select those sub-indicators (within the same source) which are most significant and robust across specifications.

⁹ Compared to the literature discussed in Section III, the coefficient estimates for the gravity variables are slightly smaller. This could be explained by the fact that more controls are included in the presented specification and they are positively correlated with the gravity variables. The coefficient estimates of other variables are of a similar magnitude, except for those of labor costs which are much larger than the estimates in the literature. It is important to note that most studies have used nominal unit labor costs, while the labor cost variable in this analysis is the unit labor costs of a host country, relative to a source country.

using the two-stage fixed effects method to control for country-pair heterogeneity (see Footnote 4) (Annex 2, Table 3).

Summary: Empirical Results of FDI Determinants						
	(A)	(B)	(C)	(D)	(E)	(F)
Dependent variable:	ln(FDI Inflows)					
Sample:	WB & NMS		WB & NMS - Manufacturing		NMS & EU-17	
<i>Gravity variables</i>						
Log of population (millions)	0.907***	0.952***	0.475**	0.006	0.490***	0.491***
Log of GDP per capita (PPP-USD)	0.410**	0.412***	0.677***	1.132***	1.196***	1.163***
Log of population (millions): Source country	0.363***	0.535***			0.404***	0.399***
Log of GDP per capita (PPP-USD): Source country	2.963***	3.604***			2.679***	2.656***
Log of distance in kilometres	-1.176***	-1.490***			-0.768***	-0.763***
<i>Competitiveness & institutional variables</i>						
CIT rate (%)	-0.011	-0.024***	-0.022***	-0.030***	-0.004	-0.004
Unit labor cost (relative to country source)	-0.922***	-0.870***	-0.413***	-0.321***	-1.229***	-1.276***
% of +15pop w/ >=upper secondary	0.002	0.002	0.015***	0.016***		
% of secondary vocational enrollment	0.110	0.239***	0.013***	0.147*		
Labor shortage-i					-0.006	-0.008
Skills shortage-i					-0.146***	-0.149***
Log of per capita public capital stock (PPP-USD)	0.012***	0.011***	0.114**	0.147*		
1{Host and source countries are in EU}	0.154*	0.152**	0.165*	0.128*		
WB Governance-i: Regulator quality	0.497***		0.486***		0.181*	
WB Governance-i: Control for corruption		0.809***		0.613**		0.169***

Note: For more details, see Table 1-5 in Annex 2. Regression (A) and (B) are specification (6) and (7) of Table 1, respectively. Regression (C) and (D) are specification (2) and (5) of Table 4, and Regression (E) and (F) are specification (4) and (5) of Table 5. Results are robust to other indicators of institutional quality (from the Heritage Foundation and EBRD), long-run estimates, and the two-stage fixed effects method to control for country-pair heterogeneity (see Annex 2 tables).

* p<0.1; ** p<0.05; and *** p<0.01.

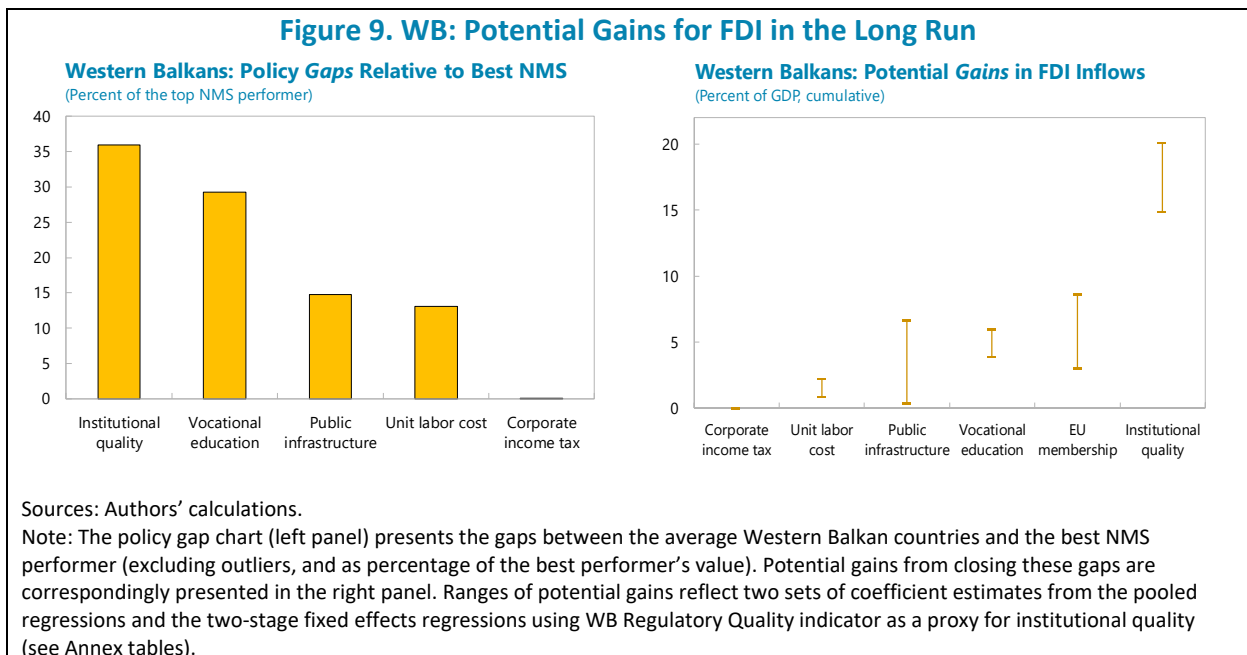
Furthermore, EU accession and other structural reforms related to business climate and governance are found to have a strong positive impact on FDI inflows. It is important to emphasize that the positive impact of EU accession reflects both trade aspects and benefits of various structural reforms required by and continued after the accession. These results are robust across different measures of institutional quality from different sources.¹⁰ For example, improvements in a few measures of governance, institutional and regulatory quality, and business freedom from various sources, are associated with higher FDI inflows. After controlling explicitly for these reform factors, the coefficient estimates on the EU membership variable become smaller, indicating a positive correlation between these variables and EU membership, but the coefficient remains strongly positive and statistically significant. This points to both the importance of structural reforms preceding and after the accession, and the role of other tangible and intangible benefits from the EU membership in

¹⁰ To avoid potential correlations among these indicators, the variables are included one at a time.

(continued...)

attracting FDI – such as no external tariffs and other policies not captured by the included variables. These results on the role of EU membership are in line with the literature (Cardamone and Scoppola, 2015; and Bruno and others, 2016).¹¹

Based on the cross-country analysis of bilateral FDI inflows, potential gains in FDI can be substantial for WB countries. We estimate realistic potential gains in FDI inflows for the WB countries by benchmarking the statistically significant structural and competitiveness variables to those of the best-performing NMS. Empirical results point to significant gains from closing the gap related to institutional quality, participation in vocational training, and higher public investment. Large gains in FDI from improving institutional quality is driven by both a sizable gap and a high coefficient. Average gains from increasing the share of vocational trained and public infrastructure range between 3-5 percent of GDP (Figure 9). FDI benefits from EU membership is also significant even after taking into account institutional improvement. Meanwhile, despite a statistically significant coefficient, estimated FDI gains from corporate income tax and unit labor costs are low due to the already low corporate income tax rates and wage costs in the WB countries. These are partial gains in the long run, holding other factors constant. These results should be interpreted with caution, given the possibility of feedback loops between FDI flows and its determinants and large confidence bands around these estimates.



The sectoral level analysis shows that policy variables play a critical role in attracting FDI inflows, particularly for the manufacturing sector. To examine whether policy effects are heterogeneous across sector, FDI regressions are rerun separately for the three main sectors: agricultural, manufacturing, and services (Annex 2, Table 4). Results are robust

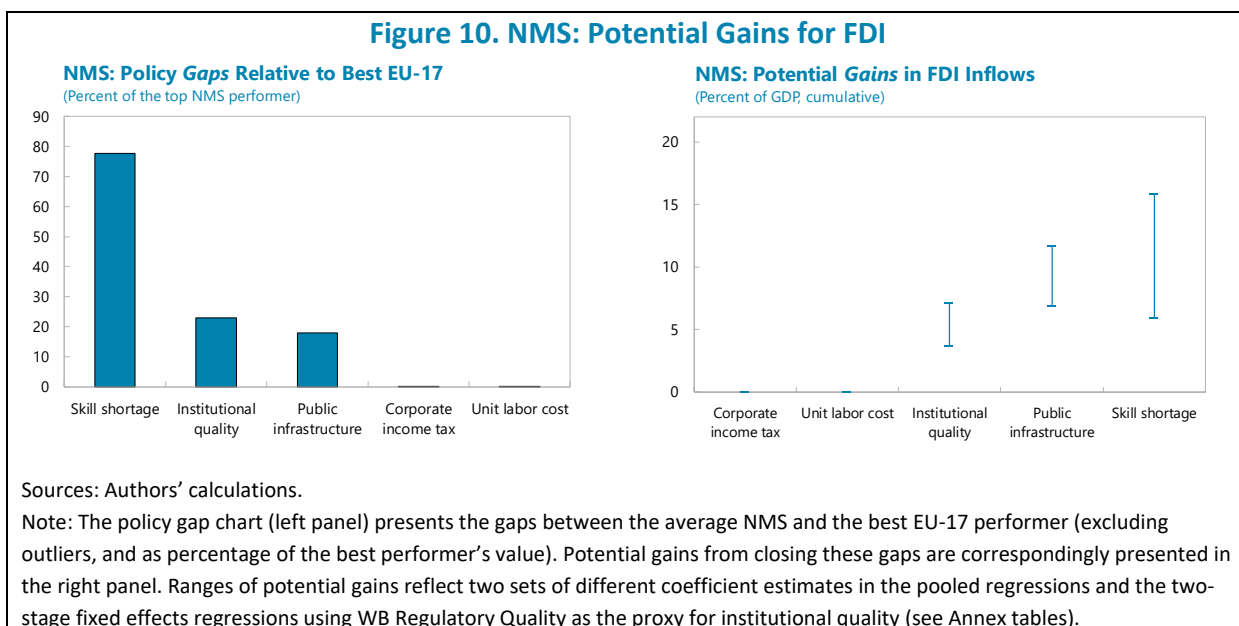
¹¹ Without controls for structural reforms, Bruno and others (2016) finds that EU membership increases FDI inflows by about 14 to 38 percent.

for the manufacturing sector sub-sample, highlighting the roles of competitive labor workforce and taxation, as well as public capital stock, EU membership, and quality of institutions in attracting FDI. The positive correlations between FDI and the quality of institutions are statistically significant for all three main sectors. On the other hand, the association between FDI inflows and tax rates is statistically insignificant for the agricultural and service sub-sectors. Furthermore, skilled workforce does not play a significant role in attracting agricultural FDI.

The results remain broadly unchanged when we ran the same regressions to compare performance of NMS and EU-17. To understand the prospects of NMS to attract further FDI inflows, similar bilateral FDI inflow regressions are analyzed by benchmarking the NMS to other EU member countries. More specifically, the NMS-EU focused regressions include all EU countries (both NMS and EU-17), as FDI host countries. As skill and labor shortages have become a challenging problem among some of the NMS, proxies for skills in the bilateral regressions for the Western Balkans are replaced by *skill shortage* and *skill mismatch* indices.¹² Results are presented in Annex 2 Table 5. The roles of tax incentives and other structural reforms related to institutional quality in attracting FDI remain statistically significant but become smaller than those in the Western Balkans sample. Meanwhile, positive impacts of labor competitiveness and public infrastructure on FDI are stronger among the EU countries. These results could be driven by smaller differences in tax and institutional quality within the EU and relatively larger variations in labor competitiveness and infrastructure. Both skills and labor shortages are negatively associated with FDI inflows with a larger negative correlation for skills shortages.

Potential FDI gains in the NMS could be achieved mostly by closing gaps related to public investment (proxy for infrastructure), institutional quality and skills shortages (Figure 10). Similar to the calculations for the WB countries, potential gains in FDI inflows are estimated for the NMS by benchmarking their statistically significant structural and competitiveness variables to those of the best EU-17 performer. On average, potential partial FDI gains could be 5 to 7 percent of GDP from enhancing public infrastructure, addressing skills shortages and improving institutional quality towards the level of the best EU-17 performer (Figure 10). The range of gains is the widest from addressing skills shortages given the large heterogeneity faced by NMS countries.

¹² The skills and labor shortage indices are obtained from IMF Country Report No. 18/242, Selected Issues Paper on Skill Mismatch and Productivity (Stepanyan, 2018). Following Estevão and Tsounta (2011), the aggregate index of skills shortage presents whether there are discrepancies between the share of employed workforce with tertiary education and the share of workforce with tertiary education. As differences in education quality, both over time and across countries, could influence skill supply, the index is also adjusted for quality of education (see IMF Country Report No. 18/242 for more details).



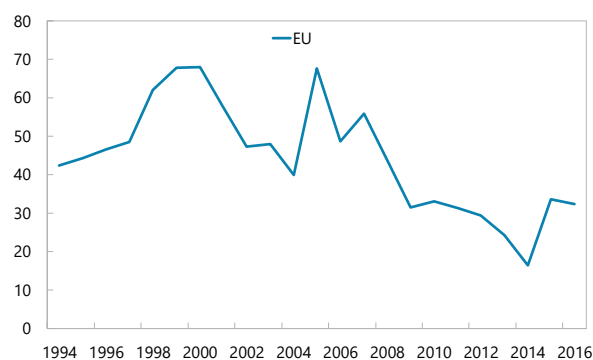
VI. Conclusions

Much of the FDI inflows in the last two decades to the NMS and WB region have come from EU countries with larger countries attracting the lion's share of total flows. The importance of gravity factors in our study and other empirical studies as well as the EU accession would indicate continued importance of EU as a source of FDI for both regions. However, with the share of EU countries in global outward FDI declining,

both regions may also have to go global courting investors outside the continent to ensure a steady financing of projects. Our analysis also shows a strong preference for larger countries by investors which puts most WB countries at a relative disadvantage, that would need to be compensated by policy efforts. The WB countries possess a large pool of unemployed and underemployed workers. If properly tooled, the labor force can become a magnet for greenfield FDI. The WB region is also part of the China's Belt and Road initiative which holds prospects for greater connectivity between the East and the West cementing the region's reputation as a gateway to Europe and offering prospects for investors outside Europe.

A sustainable scaling up of FDI in these regions will hinge on stronger institutions, better infrastructure and labor skills. Both NMS and WB countries, not unlike other developing countries, continue to depend heavily on financial incentives and competitive

Outward FDI
(percent of total world outward FDI)



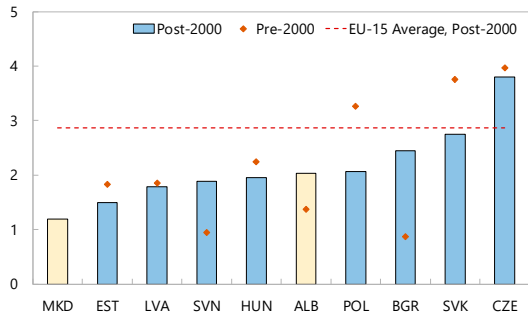
Sources: UNCTAD.

A sustainable scaling up of FDI in these regions will hinge on stronger institutions, better infrastructure and labor skills. Both NMS and WB countries, not unlike other developing countries, continue to depend heavily on financial incentives and competitive

wages to attract investors. The strategy comes with fiscal costs and may not be sustainable in the long run given the demographic outlook. Over time, many NMS and WB countries have seen a notable decline in corporate tax revenues due to the lowering of tax rates but also investment incentives provided to foreign investors (Figure 11). At the same time, education spending has seen a decline in several countries with corresponding decline in quality. Our empirical results show that, the factors that would matter most for both regions for scaling up foreign investment are better institutions and labor skills as well as quality of infrastructure as captured by the level of public capital. For the WB countries, largest partial gains come from improving institutions, and for the NMS, gains are estimated to be similar from reforming institutions, improving infrastructure and addressing skills shortage. Any strategic choice to maintain low tax rates to favor investors should be complemented by strong administration and higher efficiency to ensure higher foreign investment does not come at a cost of fiscal revenue loss. Fiscal revenues lost to implicit and explicit subsidies are resources that can be used to invest in skills, education and infrastructure. State policies to attract foreign investment would thus need to balance the goal of short-term investor interest and long-term sustainability. In terms of financial incentives, relying on cost-based as opposed to profit-based measures would better serve countries.

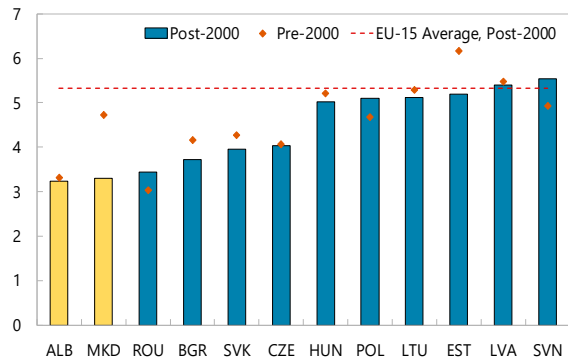
Figure 11. NMS and WB: Policies to Attract FDI

WB and NMS: CIT Revenues
(Percent of GDP)



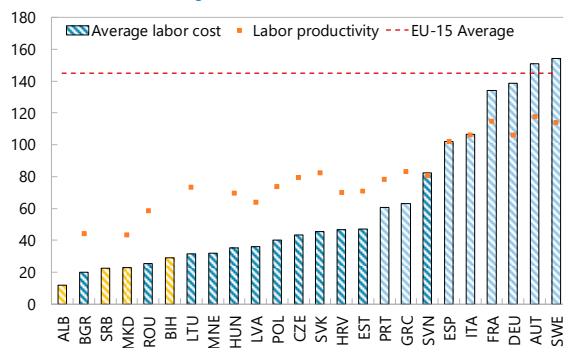
Sources: OECD, and IMF FAD Database.

WB and NMS: Education Spending
(Percent of GDP)



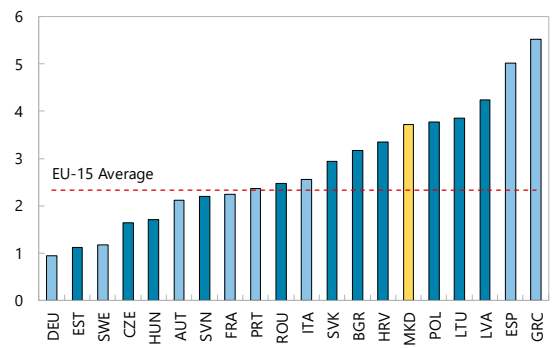
Sources: IMF FAD Database.

Average Labor Costs and Productivity, 2016 or Latest
(Percent of EU-28 Average: WB, NMS, and Selected EU Countries)



Sources: Eurostat, IMF WEO, and Authors' calculations.

Skills Shortage Index, 2016 or Latest
(WB, NMS, and Selected EU Countries)



Sources: IMF Country Report No. 18/242.

Sources: Authors' calculations.

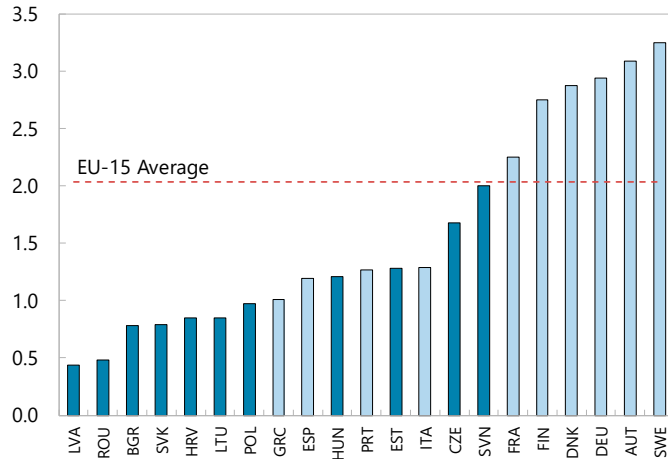
FDI has played a strong role in exports and productivity growth of the NMS, however the increase in domestic value-added have been more modest. The export sector, which has been restructured by foreign investors in favor of medium- to- high-tech products, such as automotive and electrical machinery, has seen many achievements in terms of output and employment. However, the domestic value-added content has not increased much over

time reflecting the largely assembly role of foreign subsidiaries in many of these countries as well as concentration in labor-intensive phase of production (even for high-tech products). With demographic headwinds, the region will need to move to more skills-driven phase. This will require upskilling of labor, strengthening educational institutions, as well as higher spending in research and development.

Increased outward FDI from larger NMS including to the region is an encouraging sign. This may indicate that larger countries are moving to a more mature phase of production making room for others to integrate in the supply chains. This is particularly beneficial for the WB countries who have significant wage differentials relative to the NMS and are at various stages of EU accession pursuit. Advancing key reforms to improve institutional quality and trade logistics could unleash potential FDI, including from neighboring NMS.

R&D Spending

(Percent of GDP, NMS and Selected EU Countries)



Annex 1. Financial Incentives for FDI: Developing Countries, NMS, and WB

Providing financial incentives is a common tool used by countries to increase foreign investors' interest. Countries tend to use two types of financial incentives to attract FDI, *profit-based instruments* (tax holidays, time-bound tax exemptions for new investment, and reduced tax rates), and *cost-based instruments* (deduction of investment from taxable income, tax credit, and a faster depreciation of fixed assets for tax purposes). A new database on FDI incentives shows that providing financial incentives to foreign investors is quite common for countries trying to attract efficiency-seeking investors (Andersen and others, 2017).

Table 1. Tax Incentives to Foreign Investors in Upper Middle-Income Countries

	Share of countries offering tax holidays 1/	Median duration of tax holidays	Share of countries offering concessional rates for the sector 2/	Standard CIT Rate minus Median preferential rate	Share of countries offering tax allowance and credit 3/
Machinery and equipment	52	10	21	12.5	10
Automotive and Transport Industry	50	10	21	15	8
IT and electronics	52	10	21	15	8
Apparel, textile and footwear	50	10	21	15	8
Food and beverages	50	10	21	15	6
Biotech., pharmaceuticals and medical products	50	10	21	15	6
Tourism and hospitality	33	10	17	16	6
Transport and logistics services	29	10	19	15	6
IT services	31	10	19	10	6
Financial services	25	8	17		6
Telecommunications	25	8.5	17	12.5	8
Business services	27	9	17	12.5	6
Trade and retail	27	9	17	12.5	6
Overall	52	10	27	12.5	

Sources: FDI Tax Incentive Database for Developing Countries, The World Bank. (Total number of countries covered is 48)

1/ 78 percent of countries provide holidays conditional on location (special zones or province), 33 percent on exporting or selling to exporters, and 23 percent on other conditions (for example, use of R&D).

2/ 57 percent of countries provide preferential tax rates conditional on location (special zones or province), 5 percent on exporting or selling to exporters, and 35 percent on other conditions (for example, use of R&D).

3/ 19 percent of countries provide tax allowance/credit conditional on location (special zones or province), 16 percent on exporting or selling to exporters, and 99 percent on other conditions (for example, use of R&D).

Disclaimer: Though the World Bank Group made significant efforts to ensure accuracy of the database, it did not corroborate the tax and incentives information reported by the sources mentioned above. In addition, many countries provide tax incentives at the subnational level and these are not covered by the data sources consulted for the database. Moreover, some countries negotiate ad hoc tax incentives and other discretionary deals with potential investors, and these are also not captured by the database. Also, as the database focuses on corporate tax incentives, excluding information on incentives through indirect taxes such as customs duties and VAT exemptions, or other types of incentives such as subsidies or regulatory advantages. Lastly, the database registers cases where countries offer incentives to both domestic and foreign investors, unless foreign investors are explicitly excluded.

The value addition of the database lies primarily in making this information accessible in a comparable format that can be used for quantitative research. For information on individual countries, consulting the above-mentioned sources directly rather than pulling the information from the database is preferable.

Upper middle-income host countries tend to provide more generous incentives for manufacturing products with tax holidays being more prevalent than other types of incentives. For all major manufacturing products, half or more countries covered in the database provide tax holidays with a median duration of 10 years. In contrast, for services products, only a third of countries provide tax holidays. The same is true for other types of financial incentives. In general, the prevalence of tax allowance/credit as an incentive is much lower than either tax holidays or preferential tax rates. Countries tend to tie incentives

to conditions asking investors to locate in a certain area, to focus on export or other provisions.

What type of financial incentives did NMS provide to attract early investors? Many NMS are now considered advanced economies with established investor base. If we look at the type of incentives they provided when courting foreign investors, they seem similar to upper middle-income countries. To attract foreign investors, they relied on tax holidays, preferential CIT rates, tax exemptions/deferral, investment/reinvestment allowance, and accelerated depreciation (OECD 2016). Over time, as these countries reduced their standard tax rates (many introducing a flat tax rate), they moved away from tax holidays towards investment allowance subject to specific conditions (Table 2).

Most Western Balkan countries also use generous tax holidays, exemptions and tax allowance in addition to relying on special zones. Serbia and FYR Macedonia have been particularly active in providing incentives including subsidies for employee compensation depending on the investment location in an effort to create jobs and address very high unemployment rates. Tax rates are among the lowest relative to upper-middle income peers. The number of special zones in WB region has increased from 7 in 2006 to almost 40 in 2015, mostly concentrated in FYR Macedonia and Serbia (Table 3).

Table 2. New Member States: Investor Incentives, 2016

	PIT Rate	CIT Rate	VAT Rate	Targeted Tax Holiday (length in years)	VAT Exemption	Duty-free imports	Cash Grants	Property Assistance	Training of Labor	Guaranteed/Cheaper Loans	Sectors targeted (Manufacturing)	Sectors targeted (Services)
Bulgaria	10%	10%	20%	None	X	X		X	X			
Croatia	12%-40%	20%	25%	None	X	X	X	X	X	X		
Estonia	20%	20%	20%	None	X	X	X	X	X			
Czech Republic	15%/22%	19%	21%	10 yrs	X	X	X	X	X	NA	Air- and spacecraft Apparel, textiles and footwear Automotive industry and other transport equipment Biotech, pharma and medical products Construction and building materials Food and beverages Machinery and equipment ITC and electronics Other manufacturing	Business services IT services
Hungary	16%	10%/19%	27%	None	X	X	X	X		X		
Latvia	23%	15%	21%	None	X	X	X	X	X	X	Air- and spacecraft Apparel, textiles and footwear Automotive industry and other transport equipment Biotech, pharma and medical products ITC and electronics Machinery and equipment Food and beverages Other manufacturing	Business services Education and Health Entertainment Financial services Tourism and hospitality Trade and retail Transport and logistics services IT services
Lithuania	15%	15%	21%	6 yrs	X	X	X	X	X	X	Air- and spacecraft Apparel, textiles and footwear Automotive industry and other transport equipment Biotech, pharma and medical products ITC and electronics Machinery and equipment Food and beverages Other manufacturing	Business services Education and Health Entertainment Financial services Tourism and hospitality Trade and retail Transport and logistics services IT services
Poland	18%/32%	19%	23%	None	X	X	X	X	X			
Romania	16%	16%	24%	None	X	X	X	X	X	X	Air- and spacecraft Apparel, textiles and footwear Automotive industry and other transport equipment Biotech, pharma and medical products ITC and electronics Machinery and equipment Food and beverages Other manufacturing	Business services Education and Health Entertainment Financial services Tourism and hospitality Trade and retail Transport and logistics services IT services

Table 2. New Member States: Investor Incentives, 2016 (continued)

	PIT Rate	CIT Rate	VAT Rate	Targeted Tax Holiday (length in years)	VAT Exemption	Duty-free imports	Cash Grants	Property Assistance	Training of Labor	Guaranteed/Cheaper Loans	Sectors targeted (Manufacturing)	Sectors targeted (Services)
Slovakia	19%/25%	21%	20%	5 to 10 yrs	X	X	X		X	X	Air- and spacecraft Apparel, textiles and footwear Automotive industry and other transport equipment Biotech, pharma and medical products ITC and electronics Machinery and equipment Food and beverages Other manufacturing	Business services Education and Health Entertainment Financial services Tourism and hospitality Trade and retail Transport and logistics services IT services
Slovenia	16%-50%	17%	22%	None	X	X	X	X	X	X	Air- and spacecraft Apparel, textiles and footwear Automotive industry and other transport equipment Biotech, pharma and medical products ITC and electronics Machinery and equipment Food and beverages Other manufacturing	Business services Education and Health Entertainment Financial services Tourism and hospitality Trade and retail Transport and logistics services IT services

Sources: Various reports, and Andersen, Kett, and Uexkull (2017).

Table 3. Western Balkan Countries: Investor Incentives, 2016

	PIT Rate	CIT Rate	VAT Rate	Targeted Tax Holiday (length in years)	VAT Exemption	Duty-free imports	Cash Grants	Property Assistance	Training of Labor	Guaranteed/Cheaper loans	Other Tax incentives	Non-Tax Incentives
Albania	13%-23%	15%	20%	5 yrs	X	X		X	X	X	Wages and social costs are 150% deductible for first year, and new expenses for wages and social costs compared to the previous year are 150% deductible for the subsequent year. Training and R&D costs are doubly deductible for a period of 10 years. Capital expenses are 120% deductible for 2 years if developers invest in the zone.	Provision of expedited government services, adequate infrastructure, and promotional support through various ministries.
Bosnia and Herzegovina	10%	10%	17%	5 yrs	X	X	X			X	Entities offer specific incentives, such as corporate income tax reductions in the Federation for reinvestment (30-50 percent of corporate tax per fiscal year).	
FYR Macedonia	10%	10%	18%	10 yrs	X	X	X	X	X		Technological zones offer a 100 percent reduction of PIT for 10 years, investors are also exempt from paying utility taxes to local municipalities or fees for land building permits.	Investors are offered land in economic zones under long-term lease for a period of up to 99 years at concessional price, free connections to water, natural gas and sewage network, linkages to university, reference company and recruitment agencies, a one-stop shop and aftercare for investors.
Montenegro	9%/13%	9%	19%	3 to 8 yrs	X	X	X	X	X	X	A 40% reduction in the overall fiscal charges for construction permits to be paid to the municipality of Bar for all buildings destined for manufacturing activities in the free zone.	
Serbia	10%-30%	15%	20%	5 to 10 yrs	X	X	X	X	X	X		One stop shop, simple and fast customs procedures in each zone, local subsidies for using free zone infrastructure and other services to the free zone.

Sources: Tracking Specific Economic Zones in the Western Balkans: Objectives, Features, and Key Challenges, OECD (2016).

Annex 2. Empirical Results

Empirical results are presented in Table 1 to 5 of this Annex. The panel gravity regressions of (the logarithmic of) bilateral FDI inflows as described in Section IV are estimated over the period 2001-14, using a pooled OLS with time fixed effects and robust standard errors clustered at the country-pair level. To test the robustness of results to sample selection bias (due to the elimination of country pairs when FDI flows are zero), the Heckman two-step correction is applied using the same variables in both stages plus additional trade openness and manufacturing value-added variables in the first stage. Another robustness test (e.g. Table 2) uses a different dependent variable of bilateral inflow stock. To address potential non-stationarity problems in some variables as well as focusing at the long-run links, regressions are also estimated using non-overlapping five-year average data. In addition to this, results using the two-stage fixed effects method to control for country-pair heterogeneity are also presented (Table 3). Estimated causality should be interpreted with caution due to any remaining endogeneity issues.

Table 1. Regression Results for the Gravity Model of Bilateral FDI Inflows – Western Balkans and New EU Member States

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Gravity Regressions of Bilateral FDI flows					with Heckman Two-Step Correction						
	Log of FDI inflows (USD millions)					5Y-Avg						
Log of population (millions)	0.905*** (0.028)	0.957*** (0.031)	0.907*** (0.030)	0.879*** (0.029)	0.871*** (0.030)	0.907*** (0.029)	0.959*** (0.031)	0.913*** (0.030)	0.887*** (0.029)	0.878*** (0.030)	0.924*** (0.045)	0.981*** (0.050)
Log of GDP per capita (PPP-USD)	0.402** (0.170)	-0.025 (0.193)	0.720*** (0.135)	0.543*** (0.177)	0.690*** (0.151)	0.410** (0.169)	-0.018 (0.192)	0.738*** (0.135)	0.561*** (0.176)	0.706*** (0.151)	0.202 (0.264)	-0.199 (0.307)
Log of population (millions): Source country	0.361*** (0.020)	0.360*** (0.020)	0.361*** (0.020)	0.354*** (0.021)	0.356*** (0.021)	0.363*** (0.020)	0.361*** (0.020)	0.366*** (0.020)	0.359*** (0.021)	0.361*** (0.021)	0.449*** (0.033)	0.446*** (0.033)
Log of GDP per capita (PPP-USD): Source country	2.949*** (0.066)	2.968*** (0.066)	2.947*** (0.066)	2.976*** (0.068)	2.977*** (0.068)	2.963*** (0.071)	2.980*** (0.071)	2.983*** (0.070)	3.016*** (0.073)	3.013*** (0.073)	3.093*** (0.103)	3.110*** (0.103)
Log of distance in kilometres	-1.170*** (0.045)	-1.182*** (0.045)	-1.167*** (0.045)	-1.164*** (0.047)	-1.174*** (0.047)	-1.176*** (0.047)	-1.188*** (0.047)	-1.184*** (0.047)	-1.182*** (0.049)	-1.191*** (0.049)	-1.307*** (0.075)	-1.318*** (0.075)
CIT rate (%)	-0.010 (0.008)	-0.021*** (0.008)	-0.016** (0.008)	-0.016** (0.008)	-0.012 (0.008)	-0.011 (0.008)	-0.022*** (0.008)	-0.018** (0.008)	-0.018** (0.008)	-0.014* (0.008)	0.010 (0.014)	-0.003 (0.014)
Unit labor cost (relative to country source)	-0.920*** (0.087)	-1.122*** (0.091)	-0.937*** (0.088)	-1.027*** (0.090)	-0.980*** (0.088)	-0.922*** (0.087)	-1.123*** (0.091)	-0.940*** (0.088)	-1.030*** (0.090)	-0.983*** (0.088)	-0.874*** (0.138)	-1.068*** (0.151)
% of +15pop w/ >=upper secondary	0.002 (0.003)	0.002 (0.003)	0.001 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.001 (0.003)	0.002 (0.003)	0.002 (0.003)	0.001 (0.005)	0.001 (0.005)
% of secondary vocational enrollment	0.009*** (0.003)	0.007* (0.003)	0.005 (0.004)	0.011*** (0.003)	0.011*** (0.004)	0.009*** (0.003)	0.009** (0.004)	0.011*** (0.003)	0.009*** (0.003)	0.009** (0.004)	0.075 (0.124)	0.162 (0.121)
Log of per capita public capital stock (PPP-USD)	0.012*** (0.004)	0.010*** (0.003)	0.009*** (0.003)	0.008** (0.004)	0.010** (0.004)	0.012*** (0.004)	0.010*** (0.003)	0.009*** (0.003)	0.008** (0.003)	0.010** (0.004)	0.016*** (0.006)	0.015*** (0.005)
1{Host and source countries are in EU}	0.157* (0.084)	0.190** (0.083)	0.196** (0.084)	0.207** (0.086)	0.197** (0.087)	0.154* (0.084)	0.187** (0.083)	0.188** (0.084)	0.198** (0.086)	0.188** (0.088)	0.355** (0.149)	0.384*** (0.144)
Regulator quality (WB)	0.499*** (0.119)					0.497*** (0.118)					0.462** (0.198)	
Control for corruption (WB)		0.810*** (0.125)					0.809*** (0.124)					0.775*** (0.210)
Economic of freedom (Heritage Foundation)			0.347** (0.137)					0.347** (0.136)				
Governance & enterp restructuring (EBRD)				0.315*** (0.110)					0.316*** (0.109)			
Competition policy (EBRD)					0.245** (0.108)					0.246** (0.107)		
Constant	-24.480*** (1.553)	-20.656*** (1.746)	-28.449*** (1.120)	-26.552*** (1.439)	-27.408*** (1.341)	-24.671*** (1.570)	-20.818*** (1.751)	-28.907*** (1.150)	-27.049*** (1.455)	-27.856*** (1.359)	-23.904*** (2.425)	-20.220*** (2.798)
Inverse Mills Ratio						0.673*** (0.012)	0.671*** (0.012)	0.675*** (0.012)	0.674*** (0.012)	0.674*** (0.012)	0.588*** (0.021)	0.584*** (0.021)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4926	4926	4926	4572	4572	4926	4926	4926	4572	4572	1895	1895
R2 [or Chi2 for Heckman selection reg.]	0.475	0.474	0.476	0.481	0.477	3525.1	3542.4	3613.5	3426.3	3374.7	1724.5	1739.9

1/ Data include 19 host countries and 38 source countries for the time period 2001-14.

2/ * p<0.1; ** p<0.05; and *** p<0.01. Cluster-robust standard errors in parentheses.

3/ The non-overlapping five-year average results, Columns (11) and (12), are also robust to using other indicators of institutional quality listed in the table.

Table 2. Regression Results for the Gravity Model of Bilateral FDI Stock – Western Balkans and New EU Member States

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Gravity Regressions of Bilateral FDI flows					with Heckman Two-Step Correction						
	Log of FDI stock (USD millions)					5Y-Avg						
Log of population (millions)	0.926*** (0.023)	0.979*** (0.025)	0.939*** (0.024)	0.922*** (0.024)	0.907*** (0.024)	0.939*** (0.023)	0.988*** (0.025)	0.952*** (0.024)	0.938*** (0.024)	0.923*** (0.024)	0.917*** (0.049)	0.964*** (0.054)
Log of GDP per capita (PPP-USD)	0.373*** (0.140)	-0.157 (0.157)	0.396*** (0.112)	0.363** (0.147)	0.341*** (0.125)	0.406*** (0.139)	-0.132 (0.156)	0.412*** (0.111)	0.389*** (0.146)	0.361*** (0.125)	0.549* (0.292)	-0.019 (0.341)
Log of population (millions): Source country	0.520*** (0.017)	0.518*** (0.017)	0.520*** (0.017)	0.526*** (0.018)	0.527*** (0.018)	0.535*** (0.017)	0.530*** (0.017)	0.535*** (0.017)	0.542*** (0.018)	0.543*** (0.018)	0.599*** (0.038)	0.594*** (0.038)
Log of GDP per capita (PPP-USD): Source country	3.522*** (0.052)	3.538*** (0.052)	3.521*** (0.053)	3.520*** (0.055)	3.526*** (0.055)	3.610*** (0.053)	3.603*** (0.053)	3.604*** (0.053)	3.611*** (0.056)	3.613*** (0.056)	3.788*** (0.108)	3.797*** (0.109)
Log of distance in kilometres	-1.453*** (0.038)	-1.465*** (0.038)	-1.454*** (0.038)	-1.459*** (0.039)	-1.469*** (0.039)	-1.490*** (0.038)	-1.493*** (0.038)	-1.490*** (0.038)	-1.497*** (0.039)	-1.506*** (0.040)	-1.601*** (0.082)	-1.610*** (0.082)
CIT rate (%)	-0.021*** (0.007)	-0.025*** (0.006)	-0.020*** (0.007)	-0.021*** (0.007)	-0.016** (0.007)	-0.025*** (0.007)	-0.027*** (0.006)	-0.024*** (0.007)	-0.025*** (0.007)	-0.020*** (0.007)	-0.033** (0.016)	-0.030* (0.016)
Unit labor cost (relative to country source)	-0.872*** (0.073)	-1.000*** (0.075)	-0.861*** (0.074)	-0.876*** (0.074)	-0.852*** (0.074)	-0.884*** (0.073)	-1.004*** (0.075)	-0.870*** (0.074)	-0.883*** (0.074)	-0.861*** (0.074)	-0.866*** (0.152)	-0.915*** (0.163)
% of +15pop w/ >=upper secondary	0.000 (0.002)	-0.000 (0.002)	0.001 (0.002)	-0.002 (0.002)	-0.003 (0.002)	0.001 (0.002)	0.001 (0.002)	0.002 (0.002)	-0.000 (0.002)	-0.002 (0.002)	0.006 (0.005)	0.004 (0.005)
% of secondary vocational enrollment	0.222*** (0.068)	0.263*** (0.068)	0.226*** (0.068)	0.241*** (0.071)	0.172** (0.072)	0.237*** (0.068)	0.272*** (0.068)	0.239*** (0.068)	0.255*** (0.071)	0.186*** (0.072)	0.356*** (0.136)	0.339** (0.132)
Log of per capita public capital stock (PPP-USD)	0.010*** (0.003)	0.012*** (0.003)	0.011*** (0.003)	0.009*** (0.003)	0.013*** (0.003)	0.010*** (0.003)	0.012*** (0.003)	0.011*** (0.003)	0.009*** (0.003)	0.013*** (0.003)	0.007 (0.007)	0.013** (0.006)
1{Host and source countries are in EU}	0.160** (0.069)	0.152** (0.067)	0.161** (0.068)	0.210*** (0.071)	0.176** (0.072)	0.153** (0.069)	0.145** (0.066)	0.152** (0.068)	0.200*** (0.071)	0.165** (0.072)	0.203 (0.171)	0.109 (0.163)
Regulator quality (WB)	0.155 (0.098)					0.134 (0.098)					0.223** (0.121)	
Control for corruption (WB)		0.616*** (0.103)					0.602*** (0.103)					0.364*** (0.182)
Economic of freedom (Heritage Foundation)			0.250** (0.112)						0.244** (0.112)			
Governance & enterp restructuring (EBRD)				0.163* (0.091)						0.155* (0.091)		
Competition policy (EBRD)					0.261*** (0.090)						0.257*** (0.090)	
Constant	-28.785*** (1.241)	-24.056*** (1.408)	-29.803*** (0.916)	-28.968*** (1.164)	-28.679*** (1.090)	-29.895*** (1.228)	-24.897*** (1.386)	-30.707*** (0.910)	-30.035*** (1.157)	-29.684*** (1.079)	-33.118*** (2.680)	-27.971*** (3.128)
Inverse Mills Ratio						0.690*** (0.010)	0.687*** (0.010)	0.689*** (0.010)	0.691*** (0.010)	0.690*** (0.010)	0.707*** (0.019)	0.706*** (0.019)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7373	7373	7373	6800	6800	7373	7373	7373	6800	6800	1895	1895
R2 [or Chi2 for Heckman selection reg.]	0.546	0.548	0.546	0.548	0.548	8004.4	7916.4	7997.6	7362.9	7383.6	2037.3	1985.3

1/ Data include 19 host countries and 38 source countries for the time period 2001-14.

2/ * p<0.1; ** p<0.05; and *** p<0.01. Cluster-robust standard errors in parentheses.

3/ The non-overlapping five-year average results, Columns (11) and (12), are also robust to using other indicators of institutional quality listed in the table.

**Table 3. Regression Results for the Gravity Model of Bilateral FDI Inflows – Western Balkans and New EU Member States
Two-Stage Fixed Effects Regressions**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Gravity Regressions of Bilateral FDI flows (Two-Stage Fixed Effects)					with Heckman Two-Step Correction				
	Log of FDI inflows (USD millions)									
CIT rate (%)	-0.071*** (0.010)	-0.081*** (0.010)	-0.065*** (0.011)	-0.085*** (0.010)	-0.088*** (0.010)	-0.085*** (0.011)	-0.094*** (0.010)	-0.081*** (0.012)	-0.104*** (0.011)	-0.104*** (0.011)
Unit labor cost (relative to country source)	-0.437*** (0.120)	-0.274** (0.112)	-0.442*** (0.118)	-0.227* (0.117)	-0.150 (0.119)	-0.419*** (0.131)	-0.255** (0.123)	-0.427*** (0.125)	-0.248** (0.125)	-0.178 (0.127)
% of +15pop w/ >=upper secondary	-0.001 (0.004)	-0.001 (0.004)	0.002 (0.004)	0.002 (0.004)	0.005 (0.004)	0.009** (0.004)	0.010** (0.004)	0.010** (0.005)	0.013*** (0.005)	0.016*** (0.005)
% of secondary vocational enrollment	0.014*** (0.004)	0.008* (0.004)	0.018*** (0.004)	0.010** (0.004)	0.006 (0.005)	0.021*** (0.005)	0.016*** (0.005)	0.022*** (0.005)	0.015*** (0.005)	0.011** (0.005)
Log of per capita public capital stock (PPP-USD)	0.105 (0.110)	0.07 (0.103)	0.061 (0.104)	0.156 (0.105)	0.339*** (0.118)	0.237** (0.116)	0.213* (0.110)	0.101 (0.109)	0.054 (0.112)	0.230* (0.125)
1(Host and source countries are in EU)	0.866*** (0.118)	0.878*** (0.113)	0.895*** (0.113)	1.060*** (0.122)	1.237*** (0.123)	1.107*** (0.129)	1.118*** (0.125)	1.050*** (0.126)	1.201*** (0.130)	1.366*** (0.130)
Regulator quality (WB)	0.671*** (0.115)					0.677*** (0.122)				
Control for corruption (WB)		0.744*** (0.101)					0.748*** (0.108)			
Economic of freedom (Heritage Foundation)			0.188*** (0.153)					0.182*** (0.163)		
Governance & enterp restructuring (EBRD)				0.189* (0.111)					0.281** (0.114)	
Competition policy (EBRD)					0.236* (0.129)					0.148 (0.134)
Constant	1.572** (0.655)	2.149*** (0.668)	-2.131*** (0.723)	0.210 (0.648)	0.168 (0.646)	0.325 (0.717)	0.911 (0.728)	-3.067*** (0.786)	-1.181 (0.722)	-1.123 (0.727)
Inverse Mills Ratio						1.165*** (0.030)	1.166*** (0.029)	1.105*** (0.039)	1.144*** (0.033)	1.134*** (0.036)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4926	4926	4926	4572	4572	4926	4926	4926	4572	4572
R2 [or Chi2 for Heckman selection reg.]	0.0583	0.0616	0.0614	0.0512	0.0513	366.8	391.6	315.4	284.8	276.8

1/ Data include 19 host countries and 38 source countries for the time period 2001-14.

2/ * p<0.1; ** p<0.05; and *** p<0.01. Cluster-robust standard errors in parentheses.

**Table 4. Regression Results for the Model of FDI Inflows by Sector
– Western Balkans and New EU Member States**

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel Regressions of FDI flows: Log of FDI inflows (USD millions)					
	Agriculture	Manufacturing	Services	Agriculture	Manufacturing	Services
Log of population (millions)	0.741 (0.465)	0.475** (0.185)	0.016 (0.169)	-0.047 (0.448)	0.006 (0.158)	-0.727*** (0.169)
Log of GDP per capita (PPP-USD)	0.325 (0.423)	0.677*** (0.176)	0.952*** (0.171)	1.091*** (0.404)	1.132*** (0.150)	1.674*** (0.170)
CIT rate (%)	-0.010 (0.018)	-0.022*** (0.007)	-0.005 (0.007)	-0.025 (0.016)	-0.030*** (0.007)	-0.018** (0.007)
Unit labor cost	-0.311 (0.219)	-0.413*** (0.071)	0.121 (0.085)	-0.620*** (0.225)	-0.321*** (0.076)	-0.081 (0.108)
% of +15pop w/ >=upper secondary	0.026*** (0.005)	0.015*** (0.003)	0.009** (0.003)	0.026*** (0.005)	0.016*** (0.003)	0.010*** (0.003)
% of secondary vocational enrollment	-0.019** (0.008)	0.013*** (0.003)	0.009** (0.003)	-0.022*** (0.008)	0.011*** (0.003)	0.006* (0.003)
Log of per capita public capital stock (PPP-USD)	0.233 (0.314)	0.114** (0.045)	-0.230*** (0.082)	0.149 (0.303)	0.147* (0.088)	-0.338*** (0.094)
1{Host and source countries are in EU}	0.027 (0.252)	0.165* (0.085)	0.252** (0.105)	0.121 (0.239)	0.128* (0.067)	-0.173 (0.108)
WB Governance-i: Regulator quality	0.998*** (0.307)	0.486*** (0.099)	0.824*** (0.110)			
WB Governance-i: Control for corruption				0.173 (0.106)	0.613** (0.299)	0.387*** (0.133)
Constant	-1.168 (1.312)	-0.373 (0.521)	3.315*** (0.573)	0.328 (1.363)	0.017 (0.564)	4.256*** (0.634)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	221	245	235	221	245	235
R2	0.704	0.945	0.928	0.694	0.940	0.915

1/ Data include 19 host countries and 38 source countries for the time period 2001-14.

2/ * p<0.1; ** p<0.05; and *** p<0.01. Cluster-robust standard errors in parentheses.

3/ Results are also robust to using other indicators of institutional quality listed in other tables.

**Table 5. Regression Results for the Gravity Model of Bilateral FDI Inflows
– EU Member Countries (New EU Member States and EU-17)**

	(1)	(2)	(3)	(4)	(5)	(6)
	Gravity Regressions of Bilateral FDI flows			with Heckman Two-Step Correction		
	Log of FDI inflows (USD millions)					
Log of population (millions)	0.543*** (0.019)	0.544*** (0.019)	0.546*** (0.019)	0.490*** (0.024)	0.491*** (0.023)	0.496*** (0.023)
Log of GDP per capita (PPP-USD)	1.527*** (0.148)	1.454*** (0.135)	1.478*** (0.133)	1.196*** (0.166)	1.163*** (0.147)	1.186*** (0.146)
Log of population (millions): Source country	0.490*** (0.016)	0.489*** (0.016)	0.490*** (0.016)	0.404*** (0.025)	0.399*** (0.024)	0.404*** (0.025)
Log of GDP per capita (PPP-USD): Source country	3.158*** (0.053)	3.154*** (0.053)	3.155*** (0.053)	2.679*** (0.119)	2.656*** (0.113)	2.676*** (0.115)
Log of distance in kilometres	-0.899*** (0.032)	-0.899*** (0.032)	-0.899*** (0.032)	-0.768*** (0.046)	-0.763*** (0.045)	-0.768*** (0.045)
CIT rate (%)	-0.018*** (0.005)	-0.018*** (0.005)	-0.018*** (0.005)	-0.004 (0.006)	-0.004 (0.006)	-0.003 (0.006)
Unit labor cost (relative to country source)	-1.277*** (0.099)	-1.311*** (0.100)	-1.276*** (0.098)	-1.229*** (0.101)	-1.276*** (0.102)	-1.216*** (0.101)
Labor shortage-i	-0.009* (0.005)	-0.010** (0.005)	-0.010* (0.005)	-0.006 (0.005)	-0.008 (0.005)	-0.007 (0.005)
Skill shortage-i	-0.133*** (0.046)	-0.131*** (0.046)	-0.133*** (0.046)	-0.146*** (0.048)	-0.149*** (0.048)	-0.152*** (0.048)
Log of per capita public capital stock (PPP-USD)	0.191** (0.085)	0.149* (0.087)	0.201** (0.085)	0.326*** (0.092)	0.240*** (0.090)	0.338*** (0.091)
Regulator quality (WB)	0.035 (0.094)			0.181* (0.103)		
Control for corruption (WB)		0.091* (0.052)			0.169*** (0.057)	
Economic of freedom (Heritage Foundation)			0.123 (0.100)			0.273** (0.110)
Constant	-38.920*** (1.329)	-37.857*** (1.340)	-38.868*** (1.098)	-32.308*** (1.922)	-31.032*** (1.867)	-33.010*** (1.590)
Inverse Mills Ratio				0.600*** (0.031)	0.605*** (0.030)	0.600*** (0.030)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5341	5341	5341	5341	5341	5341
R2 [or Chi2 for Heckman selection reg.]	0.566	0.566	0.566	2491.5	2533.1	2523.1

1/ Data include 19 host countries and 38 source countries for the time period 2001-14.

2/ * p<0.1; ** p<0.05; and *** p<0.01. Cluster-robust standard errors in parentheses.

3/ The EBRD transition indices are not available for most advanced EU economies and hence are not included in the regressions.

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