Economic and Social Impacts of FDI in Central, East and Southeast Europe

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Abstract

This study assesses the economic and social impacts of foreign direct investment (FDI) in 17 economies in Central, East and Southeast Europe (CESEE). More precisely, we investigate how different FDI inflows have affected various economic and social indicators, such as GDP growth, labour market outcomes, and poverty and inequality, for the period since the fall of communism until 2020. We pay particular attention to FDI that originates from the EU, as well as FDI from Germany and Austria, in order to evaluate whether their effects are different from the effects of FDI from other places of origin. We also examine whether there are differences in the impacts of different types of FDI – equity capital, reinvested earnings and intra-company debt, as well as of FDI that goes to different sectors of the economy – the primary, secondary and tertiary sectors.

We find that FDI inflows have had, in general, a positive effect on economic growth in CESEE, and that this effect has been particularly strong for German and Austrian FDI. For total FDI, higher inflows of 1 percentage point (pp) of GDP are associated with 0.19 pp higher GDP growth. For FDI from Germany and Austria, this effect is five times higher – FDI inflows of 1 pp of GDP have led to 0.9 pp higher GDP growth. The positive GDP effects have come from the higher consumption and exports that the FDI has induced. FDI inflows have also reduced unemployment and increased wages, but have had no effects on labour productivity. Total FDI has had only limited effects on inequality and poverty, but FDI from Germany and Austria has been found to reduce both inequality and poverty, likely because they have benefitted mainly lower-income persons. There are differences in the effects of the different types of FDI, with reinvested earnings and equity capital having in general more beneficial effects than intra-company loans. Also, FDI in different sectors of the economy has had different effects, with inflows to the secondary and tertiary sectors having greater effects than inflows to the primary sector.

The policy implications of these results are that CESEE economies should not give up on their efforts to attract more FDI, but also that their endeavours should be more targeted, focusing on investments that have greater economic and social impacts. Moreover, foreign investment should not be criticised for the perhaps unsatisfactory economic and social performances of the economies from this region. Instead, the reasons for this should be sought in domestic factors and in the modest growth of the European Union during the past two decades.

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1. Introduction

During the past three decades, the economies of Central, East and Southeast Europe (CESEE) have been experiencing strong inflows of foreign direct investment (FDI). Between 1993 and 2020 the world as a whole has been receiving FDI inflows of around 2.5% of global GDP, while foreign investment in CESEE has averaged 4.4% of GDP. Most of these inflows into CESEE – around 60% of the total – have been coming from the nearby EU15 countries. Western European companies entered the attractive CESEE economies to ensure their presence in the new fast-growing markets, as well as to benefit from the lower production costs there.

What have been the effects of these strong FDI inflows on the economies and societies of the CESEE countries? That is the question that this study aims to address. We focus on 17 economies from this region: Czechia, Hungary, Poland, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Bulgaria, Croatia, Romania, Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. We assess three main areas on which FDI may have an effect – economic growth, labour markets and social outcomes. Under economic growth, we assess the effects of FDI on GDP, household consumption, domestic investment and exports (all measured in real terms). Under labour markets, we focus on the unemployment rate, wages and labour productivity. In terms of social outcomes, we examine how FDI has impacted income inequality, measured through the Gini coefficient, as well as the national poverty rate.

In order to identify whether FDI from different places of origin has different economic and social effects, we differentiate between total FDI, FDI that comes from the EU15, and FDI from Germany and Austria (two of the biggest country-investors in the CESEE region).[1] We also evaluate whether there are differences in the effects between the FDI that arises when foreign companies invest fresh capital from abroad in the new CESEE markets (*equity capital*), FDI that arises when foreign companies reinvest, fully or partially, the earnings they have made in the CESEE countries (*reinvested earnings*), and FDI that arises from borrowing and lending of funds between parent and affiliate companies (*intra-company debt*).

Finally, we assess whether there are differences in the effects of FDI in different sectors of the economy, in order to see whether investment in certain sectors yields greater benefits. We use the classical three-sector model for this, differentiating between the primary, secondary and tertiary sectors. The primary sector includes agriculture and mining (NACE letters A and B), the secondary sector includes manufacturing, energy and construction (NACE letters C, D, E and F) and the tertiary sector includes services (NACE letters G to L). Table 1 shows precisely the sector classification. In the Appendix, we also show the results for each of the 10 sectors from Table 1.

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[1]   This might not capture all the FDI by German or Austrian companies, as some companies may be registered in third countries, for instance in Switzerland or the Netherlands owing to their favourable tax regimes.

Table 1 / Sector classification used in the analysis

NACE letter	NACE description	Sector
A	Agriculture, forestry and fishing	Primary
B	Mining and quarrying	Primary
C	Manufacturing	Secondary
D and E	Electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities	Secondary
F	Construction	Secondary
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	Tertiary
H and J	Transportation and storage; information and communication	Tertiary
I	Accommodation and food service activities	Tertiary
K	Financial and insurance activities	Tertiary
L	Real estate activities	Tertiary

Note: The sectors are selected and grouped in such a way to minimise inconsistencies between the NACE 1 and NACE 2 classifications, which different countries have started reporting at different times. That is also the reason why some sectors are excluded.

We apply techniques of descriptive statistics and of econometrics to address the questions of interest. In the descriptive analysis, we present some basic charts, to gain some initial insights about FDI inflows to the CESEE region, as well as the main developments in the economic and social indicators that we evaluate. In the econometric analysis, we try to infer whether the different types of FDI inflows that we assess have been associated with the dynamics of the outcomes of interest (economic growth, labour markets and social outcomes).

We proceed as follows. In the next section, we give a brief overview of the existing related literature on the economic and social effects of FDI in CESEE. In Section 3 we present the descriptive analysis. Section 4 explains the econometric analysis, while Section 5 summarises the main findings and provides some tentative conclusions and policy recommendations.

2. Brief overview of related existing literature

Numerous studies have investigated the impacts that FDI has had on the CESEE economies. The first branch of studies has focused on economic growth. Campos and Kinoshita (2002) and Neuhaus (2006) have found that FDI has had a positive effect on growth. Bačić et al. (2004), on the other hand, have argued that FDI has had no effects on GDP, because most of the FDI has been brownfield and has therefore not contributed to new capital formation.

Several studies have investigated the impacts of FDI on productivity. Damijan et al. (2003), Javorcik (2004) and Lipsey (2006) have found that FDI has produced positive technological spillovers and has had positive effects on productivity, while Bijsterbosch and Kolasa (2010) and Damijan et al. (2013) have argued that the productivity effects are heterogenous and depend on where the FDI flows go, with industries of higher technology intensity experiencing greater productivity benefits.

Regarding employment, Hunya and Geishecker (2005) have found mixed effects of FDI – foreign investment has reduced employment in domestically owned manufacturing companies, but has increased employment in foreign-owned enterprises. However, job losses have resulted from restructuring of privatised state-owned companies, as well as from foreign companies cutting domestic supplier linkages after taking over state-owned enterprises. Onaran (2008) has found, in general, insignificant employment effects, with some evidence of negative effects. Jude and Silaghi (2016) have argued that FDI leads to a phenomenon of creative destruction – the introduction of labour-saving technologies has an initial negative effect on employment, while the progressive vertical integration of foreign affiliates into the local economy eventually results in positive long-run effects.

Only one study has investigated how FDI has affected wages: Onaran and Stockhammer (2008), finding positive effects.

Regarding inequality, Mahutga and Bandelj (2008) and Zulfiu Alili and Adnett (2018) have found that FDI has increased income inequality, while Mihaylova (2015) has argued that this is the case only for lower levels of human capital and economic development, and that as education spreads and GDP per capita increases, this adverse distributional effect diminishes.

Ganić (2019) has found mixed effects of FDI on poverty – while there has been no effect of FDI on poverty in the Central European region, FDI has reduced poverty in the Western Balkans.

Stehrer et al. (2020) discuss the income that EU FDI is generating in the Central and East European EU member states. Cumulated FDI income earned in the region is roughly equal to the cumulated outward investment to the region, meaning that the income that the EU investors make grossly covers their new investment outlays. Around three-quarters of the income earned has not stayed in the host economies, but has been repatriated abroad. This repatriation rate from the Central and East European EU member states has been lower than the repatriation rate from the EU-28.

Our study provides at least two contributions to the existing literature. The first is that it will be the most comprehensive study on the economic and social impacts of FDI in CESEE, analysing the effects on several outcomes related to economic growth, labour markets and social aspects. The second is that it will distinguish between different FDI inflows, such as inflows that come from different countries, inflows that come under different types of investment, and inflows that go to different sectors of the economy. As a consequence, it will not just seek to assess whether FDI has had positive or negative economic effects, but it will also try to identify the foreign investment that has been associated with the most beneficial effects.

3. Descriptive analysis of FDI inflows into CESEE economies during the past three decades

We begin the descriptive analysis by observing the total amounts of FDI that the 17 CESEE countries have received until 2020, relative to the size of their economies. Figure 1 shows this. There is a notable heterogeneity among the countries in this respect. The country that has received the highest amount of FDI is Montenegro, with a total stock of FDI of around 110% of its GDP. Estonia is second, with a stock of more than 100% of its GDP, while Serbia is third, with FDI of about 90% of its GDP. Bulgaria and Czechia follow, with FDI of 70-80% of GDP, while eight countries have FDI stocks of around 50-60% of GDP. The CESEE countries that have received the lowest amounts of FDI, relative to the size of their economies, are Bosnia and Herzegovina, Romania, Poland and Slovenia, all of which have stocks of around 40% of their GDP. One should note here that bigger and richer countries would in general tend to have lower stocks of FDI, as the stocks are expressed as a share of GDP, which is larger in such countries.

Figure 1 / Total stock of FDI in 17 CESEE economies in 2020 (% of GDP)

Source: wiiw FDI database.

In the next set of charts, shown in Figure 2, one can see the average annual FDI inflows for the 17 CESEE countries, during different time periods – the1990s, 2000s and 2010s. This allows us to assess whether there are some changes in the FDI trends in the CESEE region – for example, whether some countries or sub-regions are becoming more (or less) attractive over time. The charts also show the average FDI inflows for the whole world during the corresponding periods (the dashed lines), which allows comparison of the FDI inflows in the CESEE region with the global FDI inflows. One can see that during the 1990s, the Baltic countries were the top destination for FDI, with average annual inflows of around 5% of GDP. Visegrád countries followed, with average annual inflows of around 4% of GDP. Annual FDI inflows into the Balkan EU countries (Bulgaria, Croatia and Romania) averaged slightly less than 3% of GDP. All the three groups outperformed the world as a whole, which averaged FDI inflows of

2.1% of GDP. The Western Balkans lagged behind during the 1990s, with less FDI inflows of less than 2% of GDP.

The situation changed substantially in the 2000s. While Visegrád and Baltic countries maintained similar levels of FDI inflows as in the previous decade, inflows increased strongly in the Balkan countries, averaging more than 7% of GDP per year, surpassing the Visegrád countries and the Baltics. FDI inflows for the world as a whole averaged 3.1% of GDP during this decade. Things changed further during the 2010s. FDI inflows slowed down in all the sub-regions, but the slowdown was least pronounced in the Western Balkans, which still had inflows of around 6% of GDP during this period, by far the highest in the CESEE region. The Baltics had inflows of 3.5% of GDP in this decade, while the Balkan EU states and the Visegrád countries had FDI of 2.3% of GDP, which was less than the global average FDI inflows during this period, which amounted to 2.5% of world GDP.

Figure 2 / Average annual FDI inflows in 17 CESEE economies during 1990s, 2000s and 2010s (% of GDP)

Note: the dashed lines show the average FDI inflows for the whole world during the respective periods.
Sources: wiiw FDI database for CESEE; World Bank for the whole world.

Figure 3 shows the average annual inflows of FDI in the CESEE economies during the analysed period, by countries of origin. The origin countries are grouped into four groups – Germany, Austria, the EU13 (EU15 minus Germany and Austria) and other countries. There are some interesting differences

between the CESEE sub-regions in this respect. In the Visegrád countries, the main source of FDI is the EU13 countries, closely followed by Germany. Austria is also present, although notably less so than Germany. In the Baltic region, the main origin of FDI is again the EU13 (mostly Nordic countries), followed by the other countries. Germany is present, although less than in the Visegrád countries, while Austria is only marginal. In the Balkan EU countries (Bulgaria and Croatia), most of the FDI comes from the EU13, while Austria is also very important. Germany's presence is noticeably smaller. In the Western Balkans, unlike in all the other sub-regions, most of the FDI comes from countries outside the EU15. The EU13 is next, while Austria is third, with a stronger presence than in any other sub-region; in several cases it is the biggest individual investor.

Figure 3 / Average annual FDI inflows in CESEE during 1993-2020, by countries of origin (% of GDP)
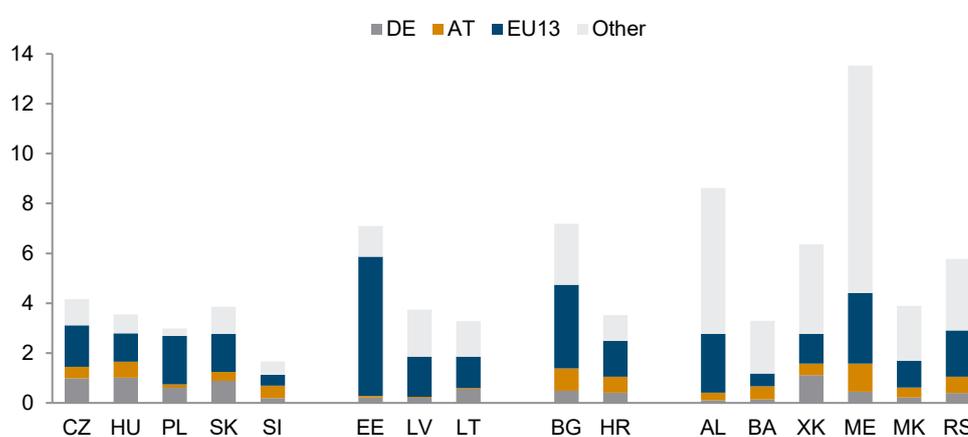
Note: The time period covered may be different for different countries, depending on data availability. Romania is excluded, owing to a lack of data.
Source: wiiw FDI database.

Figure 4 presents the average annual FDI inflows in CESEE during the analysed period, by types of FDI (i.e., equity capital, reinvested earnings and intra-company loans). In almost all the countries, FDI consists mostly of equity capital. This means that most of the foreign investment has occurred through foreign companies investing capital from abroad in the local economy, either by buying local companies (i.e., brownfield investment), or by investing in brand new capacity (i.e., greenfield investment). In Estonia, Czechia and Hungary, a sizeable part of the FDI belongs to reinvested earnings, meaning that foreign companies there have been reinvesting the profits they have made in the countries. In Montenegro, Serbia and Bulgaria, a sizeable part of the FDI has resulted from intra-company loans, i.e., loans that the parent companies from abroad have given to their affiliated companies in these countries.
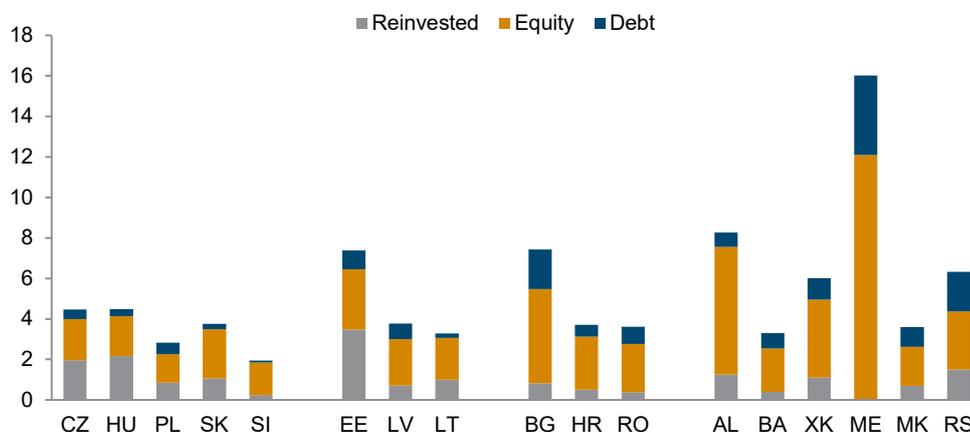
Figure 4 / Average annual FDI inflows in CESEE during 1993-2020, by types of FDI (% of GDP)

Note: The time period covered may be different for different countries, depending on data availability.
Source: wiiw FDI database.

Figure 5 presents the average annual FDI inflows in CESEE by sectors to which the investment goes. The sectors are classified as primary, secondary and tertiary. The primary sector includes agriculture and mining (NACE letters A and B), the secondary sector includes manufacturing, energy and construction (NACE letters C, D, E and F), and the tertiary sector includes services (NACE letters G to L), as shown in Table 1 above.

One can see that most of the FDI in CESEE has been in the tertiary (services) sector, and this holds true for all the countries. The secondary sector (manufacturing) has also been very strong in the Western Balkans and Bulgaria. Albania, notably, has received a sizeable amount of FDI inflows in the primary sector (agriculture and mining).

Figure 5 / Average annual FDI inflows in CESEE during 1990-2020, by sectors of economy (in percent of GDP)
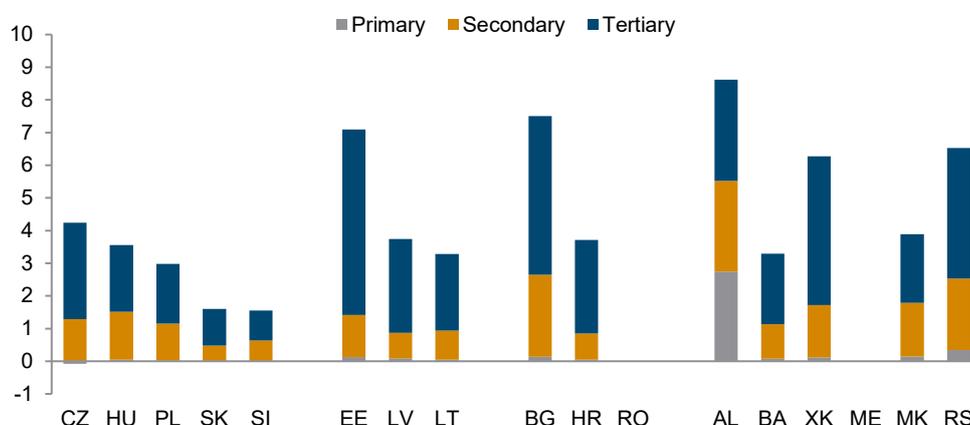
Note: The time period covered may be different for different countries, depending on data availability. Montenegro and Romania are excluded, owing to a lack of data.
Source: wiiw FDI database.

Figure 6 / Average annual GDP growth rates in 17 CESEE economies during 1990s, 2000s and 2010s (%)
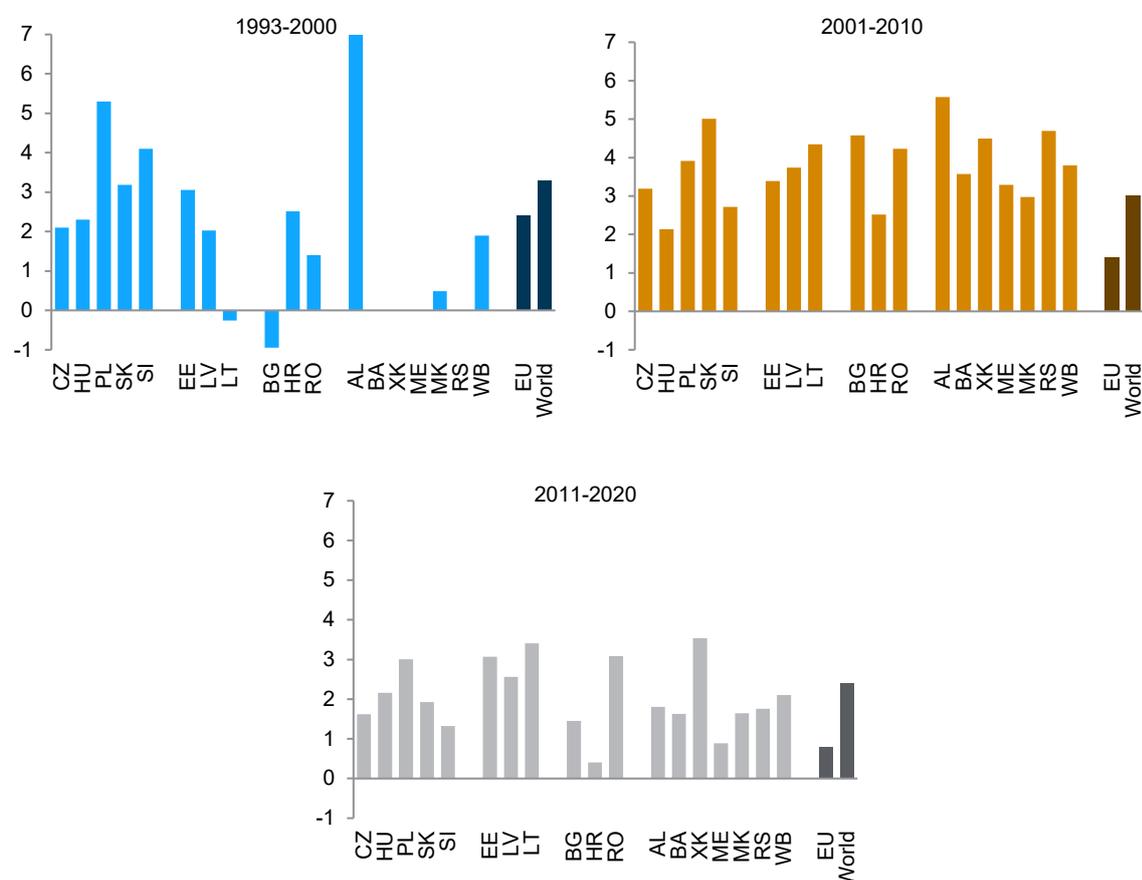
Note: The time period covered may be different for different countries, depending on data availability.
Sources: wiiw Annual database for CESEE; World Bank for the world and the EU.

We next briefly overview the developments in the main outcomes of interest – GDP growth, unemployment and inequality. Figure 6 presents the average annual GDP growth rate in the CESEE countries for three sub-periods – the 1990s, the 2000s and the 2010s. Alongside the growth rates for CESEE, we also show the GDP growth rate for the whole world, as well as for the EU, to see whether the CESEE economies have performed better or worse than the world as a whole and the EU. One can see that during the 1990s, growth in CESEE was rather low in most of the countries. Only three – Poland, Slovenia and Albania – had an average growth rate exceeding the world average of 3.3%. Growth in most of the countries (seven of the 13 for which data are available) was even lower than the EU average. This is not surprising, as the 1990s were a period of rapid transition to a capitalist economy, which was marked by a strong decline in production. Things changed substantially during the next decade, when the CESEE economies largely outperformed the world as a whole in terms of economic growth. During the 2000s, only three of the countries – Hungary, Slovenia and Croatia – had average GDP growth lower than the global growth rate of 3%, although they grew faster than the EU average of 1.4% during that decade. The situation changed again during the 2010s, when growth slowed down everywhere – in the world, in the EU and in the CESEE region. The slowdown in CESEE was more pronounced than the global slowdown, as just five of the countries had higher growth than the

global average of 2.4%. The EU grew even more slowly during this decade, at an average pace of just 0.8%, which was better only than Croatia. The main conclusion, therefore, is that the CESEE economies have in general not grown faster than the world as a whole during the past three decades, despite experiencing much stronger FDI inflows than the global average, but that they have grown faster than their main trading partner, the EU.

Figure 7 shows the evolution of the unemployment rate in the CESEE region during the past three decades. The average unemployment rate over the 1990s, 2000s and 2010s is shown for the 17 analysed countries. It can be seen that unemployment has declined in all but two of the CESEE countries over the past three decades (Croatia and Serbia are the exceptions). However, despite the general trend of a decline in unemployment over the past three decades, this did not necessarily occur during the 2000s, the period when the CESEE countries were experiencing very strong FDI inflows – unemployment increased during this period in roughly half of the CESEE countries. In fact, most of the decline took place during the 2010s, the period when these countries experienced a slowdown in FDI inflows. One can also see from this figure that unemployment in the Western Balkans is much higher (and always has been higher) than in the other sub-regions.

Figure 7 / Average unemployment rate in 17 CESEE economies during 1990s, 2000s and 2010s (%)

Note: The time period covered may be different for different countries, depending on data availability.
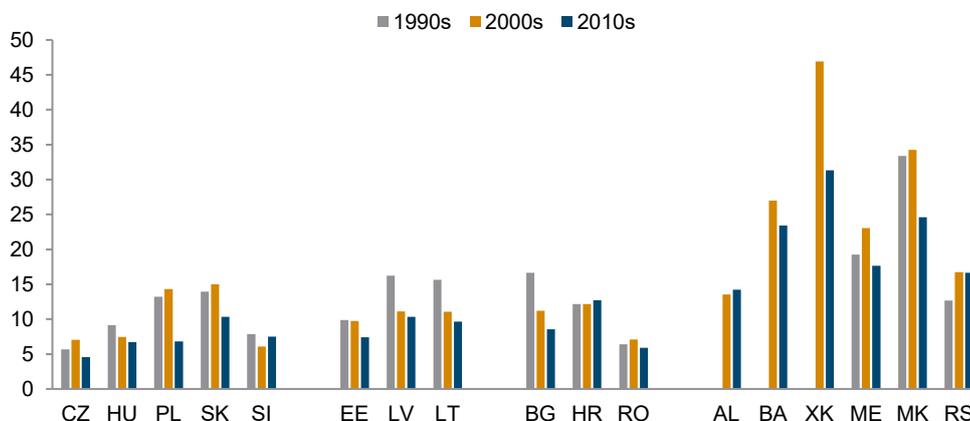Source: wiiw Annual database.

Figure 8 shows the evolution of income inequality in the CESEE countries over the past three decades, measured through the Gini coefficient of the pre-tax national income, from the World Inequality Database. The first thing to note is that all but three of the countries experienced an increase in pre-tax income inequality over this period (Estonia, Kosovo and North Macedonia are the exceptions). Most of the increase came during the first decade, owing to the transition to a capitalist economy, which is well acknowledged in the literature. After that, inequality evolved differently in different countries. In the Baltic region, it declined in two of the three countries. In Visegrád, it fell in two economies, but rose in the other two. In the Balkan EU countries, it increased in all the three countries. In the Western Balkan countries, it increased in four of the economies, and declined in two. It is also noticeable that inequality is lower in the Visegrád sub-region than in the other three sub-regions.

Figure 8 / Average Gini coefficient of pre-tax national income in 17 CESEE economies during 1990s, 2000s and 2010s
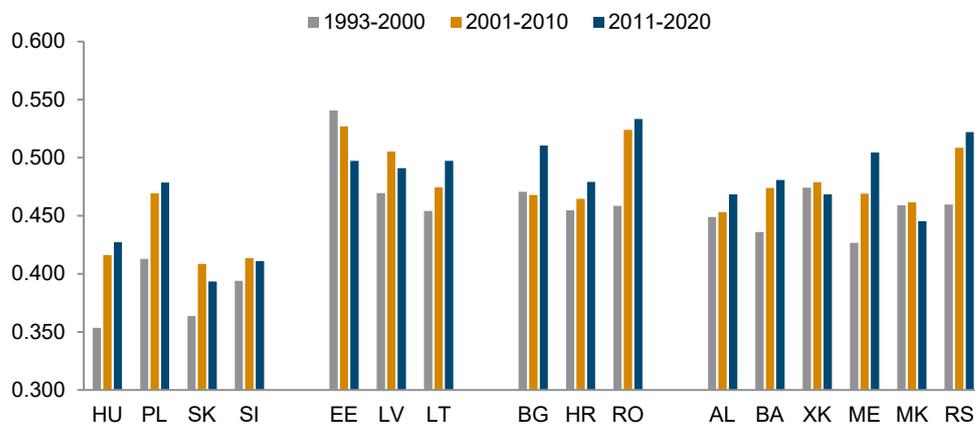
Note: The time period covered may be different for different countries, depending on data availability. Czechia omitted, owing to a lack of data.
Source: World Inequality Database.

4. Econometric analysis of economic and social impacts of FDI inflows in CESEE economies

4.1. ECONOMETRIC SET-UP

The econometric analysis is based on estimating regressions in which the dependent variables are the economic and social outcomes that we want to assess, and the main independent variables are the FDI inflows:

$$Outcome_{t,i} = f(FDI_{t-1,i}, FDI_{t-2,i}, FDI_{t-3,i}, Controls_{t-1,i}) \qquad \text{(Eq. 1)}$$

$Outcome_{t,i}$ refers to a total of nine outcomes, grouped into three groups: 1) economic growth (annual real GDP growth rate, annual real growth rate of household consumption, annual real growth rate of domestic investment, annual real growth rate of exports); 2) labour market (annual change in the unemployment rate, annual growth rate of nominal wages, annual change in labour productivity); 3) social outcomes (Gini coefficient of income inequality and national poverty rate).

$Controls_{t-1,i}$ are various variables that can affect the outcomes, such as government expenditures, exchange-rate changes, interest rates, inflation, growth rate of loans, population growth, regulatory quality and EU membership. They are all entered into the regressions with a lag (i.e., with their previous-year values), to alleviate reverse causality issues.

The FDI variables are also included with their past values (i.e., lags), for the same reason, as the outcomes of interest may also affect FDI inflows (for example, countries that grow faster may attract stronger FDI inflows). Three lags of the FDI inflows are included, in order to capture longer-term effects, as it may take time for FDI to have effects on the economy.

In total, nine different FDI variables are analysed. The first variable is the total annual FDI inflows. The next two variables refer to FDI that comes from the EU15 and FDI that comes from Germany and Austria. The next three variables distinguish between FDI stemming from equity capital, FDI arising from reinvested earnings and FDI coming from intra-company loans. Finally, we have three variables referring to the FDI inflows into different sectors of the economy – primary, secondary and tertiary, where the sectors are classified as shown in Table 1 above. All the FDI variables are defined as shares of GDP.

In total, 81 regressions are estimated (nine FDI variables, multiplied by nine outcomes). The regressions are estimated using panel econometric techniques, which make use of variations across countries and time. The subscript t in Equation 1 (above) denotes the years over which the regressions are estimated (from the late 1990s until 2020), while the subscript i stands for the 17 CESEE countries that are included in the analysis: Czechia, Hungary, Poland, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Bulgaria, Croatia, Romania, Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. All the regressions include both time and country fixed effects, i.e., control for common

global or regional developments that may affect all the countries (such as global financial crises, increases in oil prices etc.), as well as for time-invariant country characteristics (such as culture etc.).

4.2. FIRST RESULTS

Table 2 presents the first results, where the dependent variable is the GDP growth rate, and the FDI variable is the total FDI inflows. The first thing to note is that of the three FDI lags, only the first one is statistically significant (at 1%), meaning that FDI inflows affect GDP growth after one year. The coefficient is positive; higher FDI inflows lead to higher GDP growth. The magnitude of the effect is 0.187, implying that FDI inflows of 1% of GDP lead to higher GDP growth of 0.19 percentage points (pp), which is a moderate effect. For example, the Baltic countries experienced FDI inflows of around 5% of GDP in the 1990s, while the figure for the Western Balkan countries was around 2% of GDP. This difference of 3 pp translates into a GDP growth differential of around 0.6 pp.

Table 2 / Results for the relationship between the GDP growth rate and total FDI inflows

Explanatory variables:	Dependent variable: Real GDP growth
L.FDI_total	0.187***
	(0.0380)
L2.FDI_total	0.0278
	(0.0441)
L3.FDI_total	-0.103
	(0.0651)
L.government_expenditure	-0.0281
	(0.0606)
L.exchange_rate_change	0.00137
	(0.0565)
L.interest_rate	-0.0733
	(0.0953)
L.inflation	-0.302***
	(0.0988)
L.loans_growth	0.0394
	(0.0298)
L.population_growth	0.410
	(0.562)
L.regulatory_quality	-2.017
	(1.255)
EU	-0.181
	(1.051)
Constant	-1.784
	(3.243)
Observations	277
R-squared	0.703
Number of countries	16

Standard errors clustered at country level shown in parentheses.
*** denotes p<0.01, ** denotes p<0.05, * denotes p<0.1. L stands for lag of the variables.
Time and country fixed effects included.
Bosnia and Herzegovina excluded from the regression, owing to unavailability of data on interest rates.

Most of the control variables are insignificant, except inflation, which is significant at 1% and with a negative coefficient, implying that higher inflation leads to lower GDP growth. The insignificance of the

control variables might be due to the time and country fixed effects, which are capturing the time- and country-invariant developments during the analysed period. The number of observations in the regression is 277, and the number of countries is 16, meaning that, on average, 17 years are included for each country.

A total of 81 regressions such as this one are estimated (nine FDI variables, multiplied by nine outcomes). In order to present the results concisely, in the remainder of the text, we will focus only on the FDI coefficients. Instead of showing the whole tables for each of the estimations, we will show figures illustrating the magnitude and significance of the FDI coefficients (the whole regression output tables are available upon request). Figure 9 illustrates this for the results from Table 2. It plots the coefficients of the 'FDI_total' variables, where the blue dots are the point estimates of the coefficients, and the blue lines are the 90% confidence intervals. The vertical red line is the zero axis, and if the lines for the confidence intervals cross the vertical red line, the coefficient is statistically insignificant at 10%. Thus, because the first line on Figure 9 (L.FDI_total) does not cross the vertical red line, we conclude that the first lag of the total FDI inflows has a statistically significant effect on GDP growth, while because the second and the third lines (L2.FDI_total and L3.FDI_total) cross the red line, we conclude that the second and the third lags of the total FDI inflows do not have a significant effect on GDP growth.

Figure 9 / Plot of the 'FDI_total' coefficients from Table 2
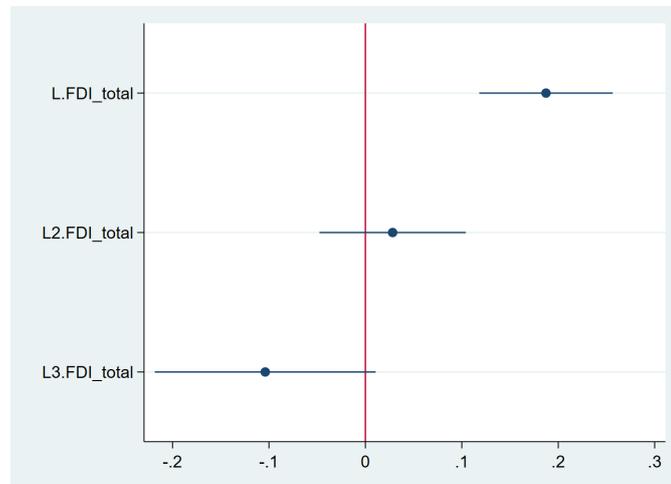
4.3. RESULTS FOR ECONOMIC GROWTH

This sub-section presents the results for the four outcomes related to economic growth: 1) GDP growth rate; 2) growth rate of household consumption; 3) growth rate of domestic investment; 4) growth rate of exports. All of them are defined as annual real growth rates.

Figure 10 shows how GDP growth rates are related to the nine different FDI variables. The upper-left panel presents the results for the total FDI inflows and the FDI coming from the EU15 and from Germany and Austria. The upper-right panel plots the results for the different types of FDI (reinvested earnings, equity capital and intra-company debt). The bottom panel shows the results for the FDI inflows to the primary, secondary and tertiary sectors.

On the upper-left panel *('Country of origin of FDI')*, one can see that the effect of EU15 FDI is slightly stronger than the effect of the total FDI, as here the second lag of the FDI variable is also significant, in addition to the first lag (which is similar to the total FDI). FDI inflows from the EU15 of 1% of GDP lead in total to 0.26 pp higher GDP growth, which is almost a 50% stronger effect than for the overall FDI, but is still only moderate. For German and Austrian FDI, the effect is much stronger. Here all the three lags of FDI are significant, each with a magnitude of around 0.3, which means that FDI inflows from Germany and Austria affect GDP growth over an extended period of time, with an overall effect of 0.9. This means that FDI inflows of 1% of GDP would lead to an increase in GDP by 0.9 pp, which is a very strong effect, five times stronger than the effect for overall FDI. Thus, the conclusion is that FDI inflows have a positive effect on GDP growth in CESEE, but that the magnitude of that effect for total FDI and FDI coming from the EU15 is only moderate, while the size of the effect for the German and Austrian FDI is very strong, much stronger than for the former two FDI sources.

From the upper-right panel *('Types of FDI'),* one can see that the strongest effects on GDP growth arise from FDI that come from reinvested earnings. The effect of reinvested earnings is 0.5, meaning that FDI inflows in the form of reinvested earnings of 1% of GDP lead to higher GDP growth of 0.5 pp, which is almost three times higher than the effect for total FDI. The effect of the equity capital is also significant, with a similar magnitude as that for total FDI. The effect of the intra-company loans is found to be insignificant, meaning that FDI that arises from intra-company loans has no effect on GDP growth. Thus, the conclusion from this chart is that FDI has the strongest effect on GDP when it is in the form of reinvested earnings, but does not have any effect when in the form of intra-company loans.

The bottom panel shows that there are pronounced differences in the GDP effects of FDI flows in different sectors. FDI in the primary sector (agriculture + mining) does not seem to have any effects on GDP. FDI in the secondary sector (manufacturing + energy + construction) has a positive effect on GDP growth after two years, with a magnitude of 0.28, which is a 50% stronger effect than the effect for total FDI. FDI inflows in the tertiary sector (services) affect GDP after a year, with a magnitude of 0.22, which is slightly stronger than the total FDI effects. Thus, only FDI in the secondary and tertiary sectors leads to higher GDP, with the secondary sector having a slightly stronger effect.

Figure 10 / Relationship between different FDI flows and GDP growth in CESEE
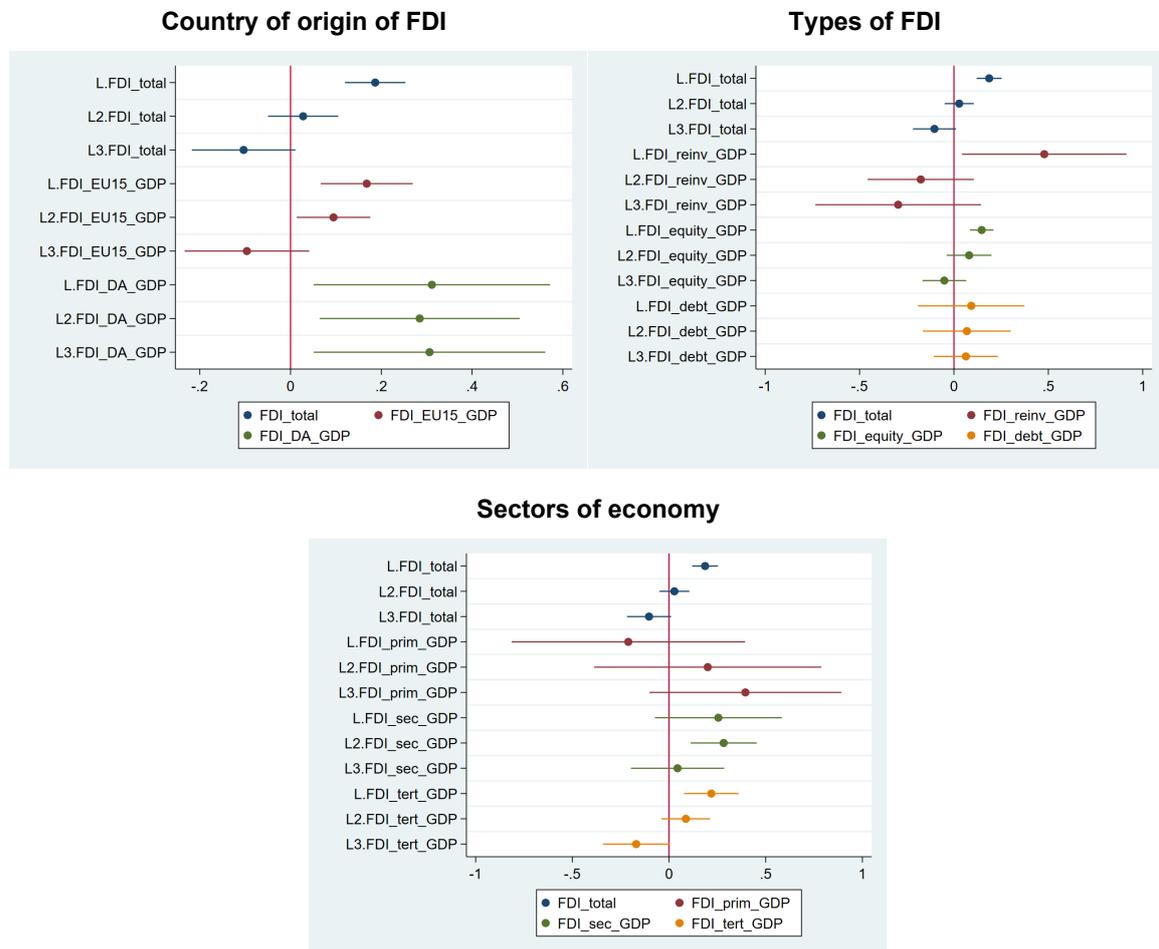

Figure 11 shows the results for the growth of household consumption. From the upper-left panel (*'Country of origin of FDI'*), one can see that total FDI has a positive effect on household consumption, as has EU15 FDI, with a magnitude of 0.2-0.3. Turning to the FDI from Germany and Austria, one can see that the effect is much stronger – around 0.7, which is two to three times higher than the effect of the total FDI or the EU15 FDI. Thus, the conclusion here is that FDI inflows lead to greater household consumption in general, and that the effect is especially strong for FDI from Germany and Austria.

The upper-right panel (*'Types of FDI'*) suggests that none of the types of FDI has a positive and significant effect on household consumption, although the coefficient on the equity capital is close to significance. The bottom panel ('*Sectors of economy*') shows that there are differences between the FDI in different sectors. FDI in the secondary and tertiary sectors has a positive and significant effect on consumption, but this is not the case for FDI in the primary sector. The effect is especially strong for FDI in the secondary sector.

Figure 11 / Relationship between different FDI flows and household consumption growth in CESEE

Country of origin of FDI

Types of FDI
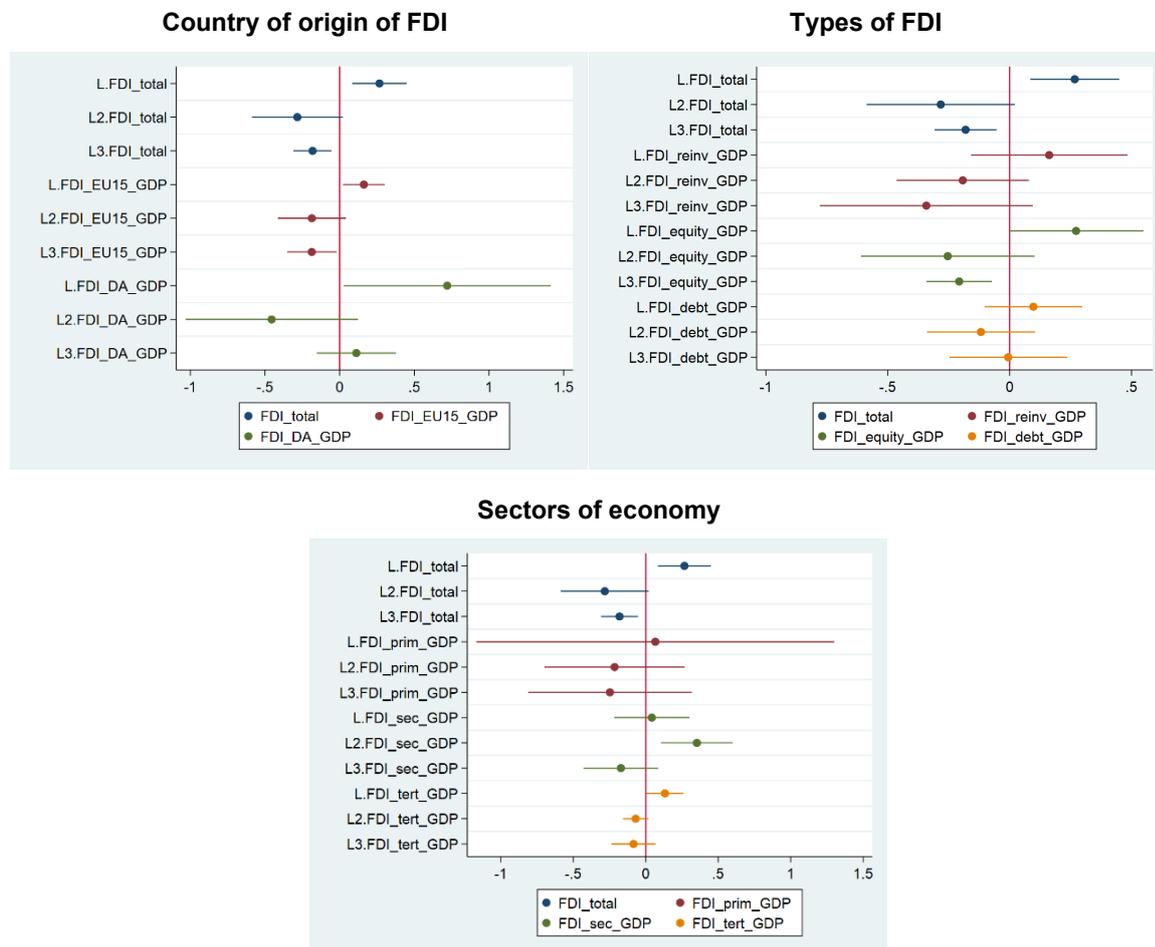
Sectors of economy

Figure 12 shows the results for the growth of domestic investment (i.e., total investment in the country, minus FDI). One can see from the upper-left panel *('Country of origin of FDI')* that neither total FDI, nor FDI from the EU15, nor FDI from Germany and Austria, have a positive effect on domestic investment. This means that FDI inflows in CESEE do not seem to crowd in domestic investment, but they also do not seem to crowd it out. The story is very similar on the upper-right panel *('Types of FDI'),* where, again, none of the types of FDI has any effect on domestic investment. In the bottom panel *('Sectors of economy'),* on the other hand, one can see that FDI in the tertiary sector has a positive effect on domestic investment, while FDI in the primary and secondary sectors does not. Hence, the conclusion from this is that FDI in CESEE is found not to crowd out domestic investment, and that FDI in the tertiary sector is even found to crowd it in.
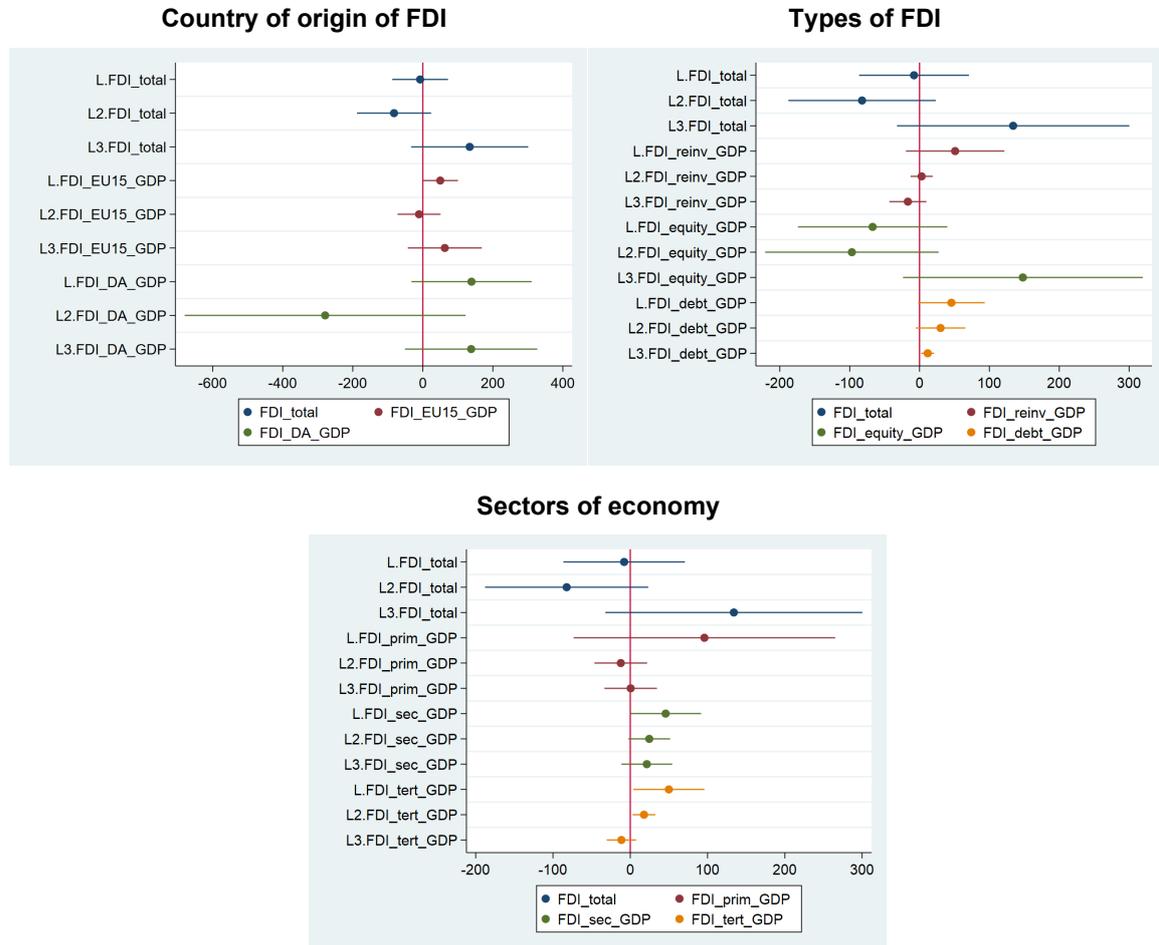
Figure 12 / Relationship between different FDI flows and growth of domestic investment in CESEE

Figure 13 shows the results for the growth of exports. One can see from the upper-left panel *('Country of origin of FDI')* that, although total FDI does not seem to have a significant effect on exports, both EU15 FDI and German and Austrian FDI seem to have a significant and positive effect. The effect is especially strong for FDI from Germany and Austria, which has a magnitude of around 0.9. Interestingly, the effect comes only after two years, which means that the new foreign companies need time to start exporting. Looking at the types of FDI (upper-right panel), one can see that only FDI in the form of equity capital leads to higher exports, again after two years. Interestingly, FDI in the form of reinvested earnings does not increase exports, which might be explained by the notion that exports had already increased when the foreign company entered the country initially. Turning to the sectors of the economy (bottom panel), it can be seen that FDI in the primary and secondary sectors leads to higher exports, while FDI in the tertiary sector does not.

Figure 13 / Relationship between different FDI flows and growth of exports in CESEE
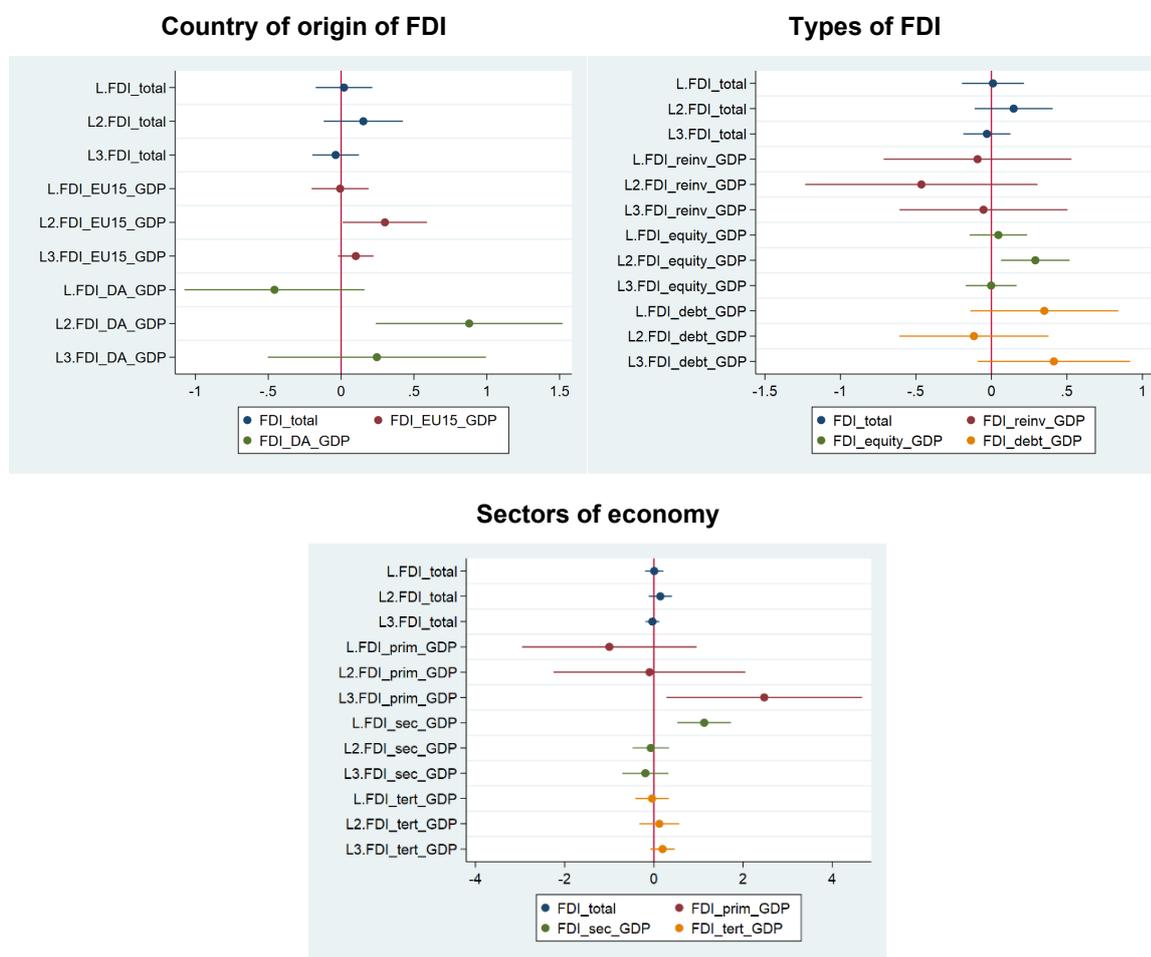
Therefore, the conclusions about the GDP effects of the FDI inflows in CESEE can be summarised as follows:

› FDI inflows in CESEE have had a positive effect on GDP growth.

› The effects have been particularly strong for FDI that come from Germany and Austria.

› The positive effects come from higher household consumption and exports.

› There is no evidence of crowding out of domestic investment, and there is even some evidence of crowding in, when FDI has gone into services.

› There are differences between the effects of the different types of FDI, with reinvested earnings and equity capital having, in general, greater effects than intra-company loans.

› There are differences between the sectors, with FDI in the secondary and tertiary sectors having, in general, a greater effect than FDI in the primary sector.

4.4. RESULTS FOR LABOUR MARKET OUTCOMES

We next turn to the labour market outcomes, where we explore how different FDI inflows have been affecting: 1) the unemployment rate; 2) the annual growth rate of wages; 3) the productivity of labour.

Figure 14 shows the results for the unemployment rate. One can see from the upper-left panel *('Country of origin of FDI')* that all FDI that we assess has a negative and significant effect on unemployment. The effects are especially strong for FDI from Germany and Austria, twice as strong as the effects for total FDI or EU15 FDI. Interestingly, the effects come with a lag of two years, which could be either because the new foreign companies initially employ people who are already working in other companies, and so begin to add unemployed people to their workforce only after some time, or because the foreign investment requires some time to reach full operating capacity. As for the types of FDI, shown in the upper-right panel, only reinvested earnings lower the unemployment rate, which suggests that unemployment starts to decline only when the foreign companies start to reinvest the earnings they are making in the country of operation. Turning to the sectors of the economy that receive the FDI (bottom panel), only FDI in the secondary sector is found to reduce unemployment, which is again plausible, as FDI in the tertiary sector is mostly brownfield.

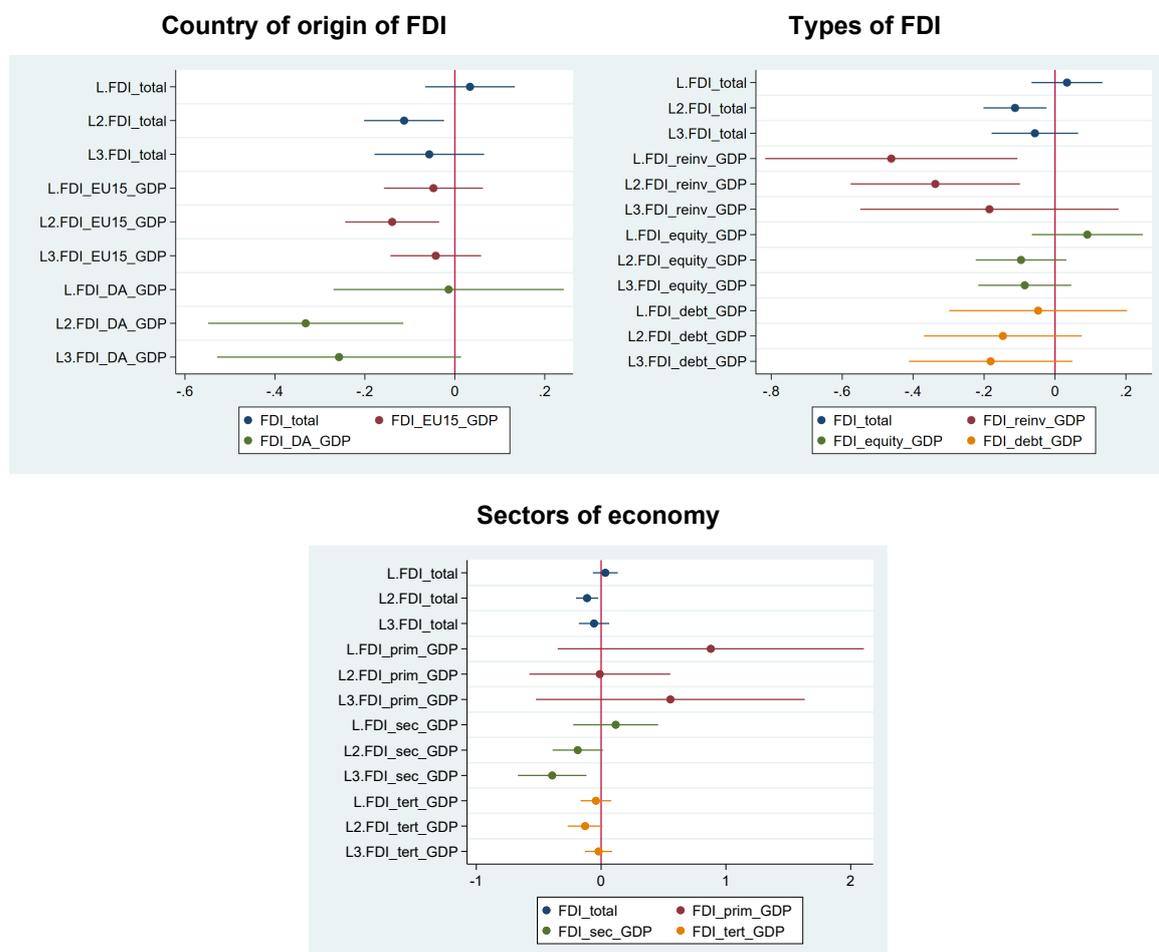**Figure 14 / Relationship between different FDI flows and the unemployment rate in CESEE**

Figure 15 shows the results for the growth of wages. From the upper-left panel *('Country of origin of FDI')*, one can see that all FDI from all places of origin has had a positive effect on the growth of wages, and that the effect is especially strong for FDI from Germany and Austria, some five times stronger than for total FDI or EU15 FDI. Similarly, all types of FDI have had a positive effect on wages growth (upper-right panel), and the effect has been strongest for reinvested earnings. For the recipient sectors (bottom panel), only FDI in the secondary and tertiary sectors leads to higher wages.

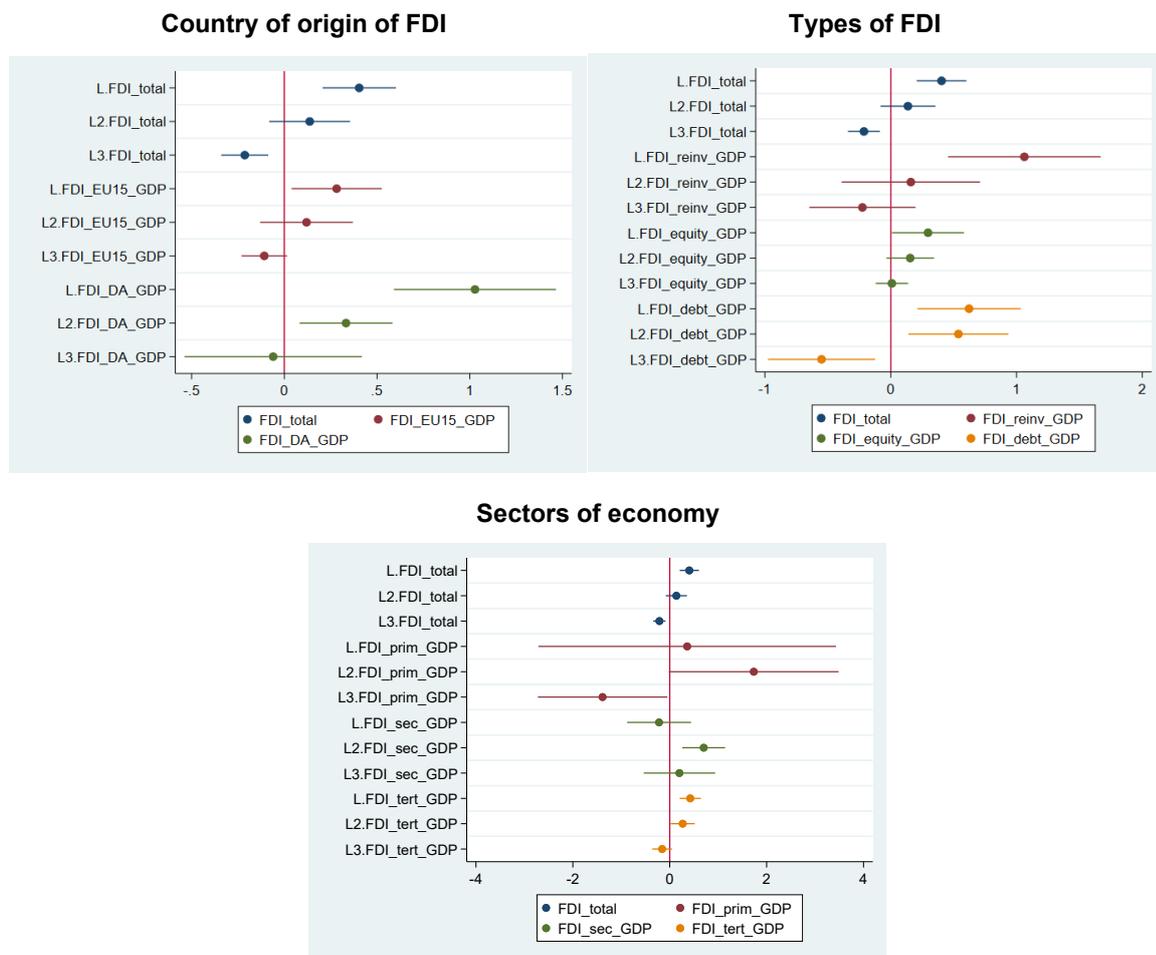**Figure 15 / Relationship between different FDI flows and the growth of wages in CESEE**

Figure 16 shows the results for the growth of labour productivity. From the upper-left panel *('Country of origin of FDI')*, one can see that only FDI from the EU15 has a positive effect on the growth of productivity; this is not the case for total FDI, nor for FDI from Germany and Austria. From the upper-right panel, it appears that none of the types of FDI seems to have any effect on productivity. Similarly, in the bottom panel, none of the three recipient sectors appears to see an improvement in productivity as a result of the FDI inflows.

Figure 16 / Relationship between different FDI flows and the growth of labour productivity in CESEE
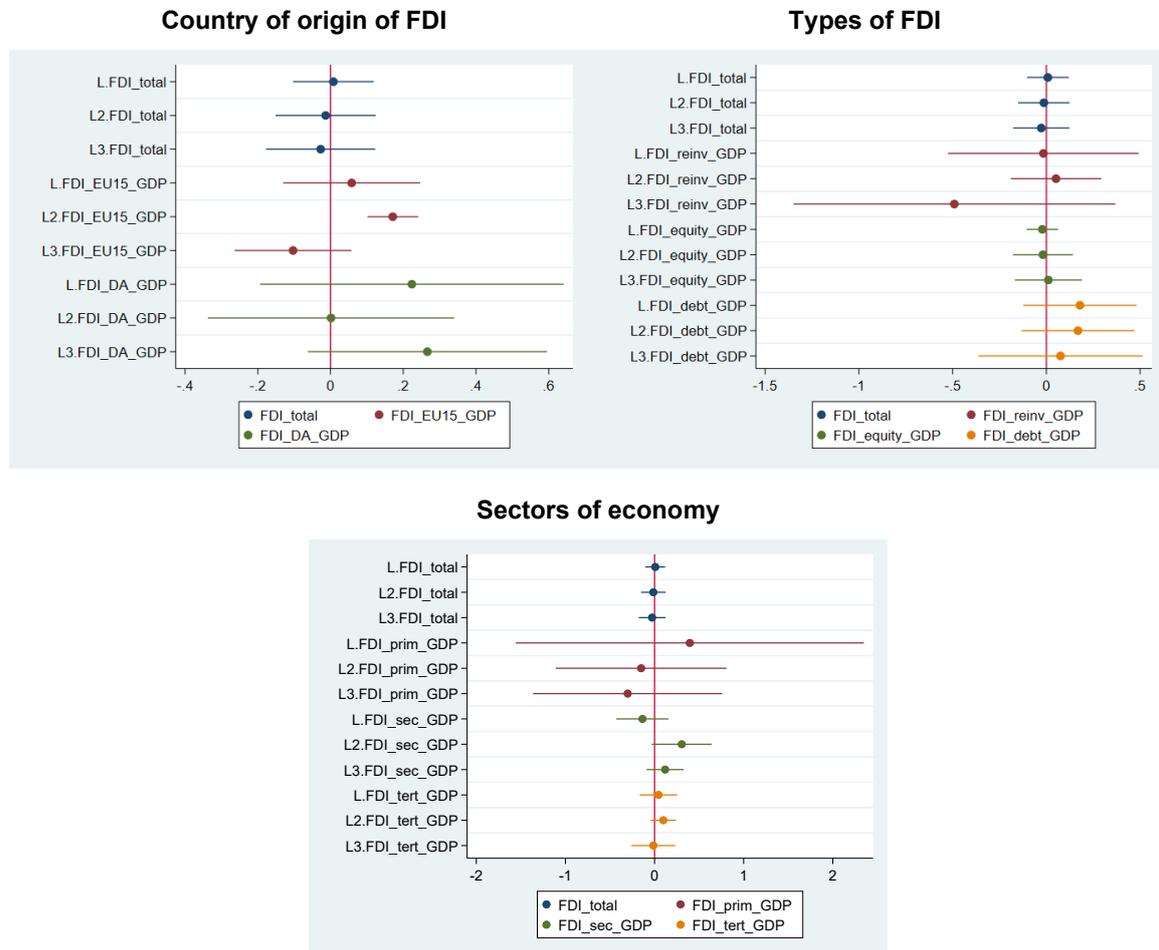
Hence, the main conclusions in relation to labour market outcomes can be summarised as follows:

› FDI inflows in CESEE have reduced unemployment, and this is especially the case for German and Austrian FDI.

› The unemployment-reducing effect comes after two years, and the effect is present only for FDI that come as reinvested earnings.

› FDI from all the places of origins, and in all forms, is found to increase wages in CESEE, and again this effect is especially strong for German and Austrian FDI.

› Despite the positive effects on unemployment and wages, FDI is not found to have increased labour productivity in CESEE. This is perhaps not surprising, and is in accordance with previous findings, as FDI inflows have led to higher GDP, and at the same time to greater employment, which means that output per worker has remained largely unchanged.

4.5. RESULTS FOR SOCIAL OUTCOMES

Finally, we observe the effects of the different FDI inflows in relation to two social outcomes: 1) Gini coefficient of the income distribution in the country; 2) the poverty rate in the country, according to the national poverty line.

Figure 17 shows the results for the Gini coefficient. The upper-left panel *('Country of origin of FDI')* indicates that FDI from the EU15 and FDI from Germany and Austria reduce income inequality, with the effect particularly strong for FDI from Germany and Austria. From the types of FDI (upper-right panel), perhaps surprisingly, only FDI that comes through intra-company loans seems to reduce income inequality. Looking at the bottom panel, FDI inflows into the secondary and tertiary sectors are found to reduce inequality.

Figure 17 / Relationship between different FDI flows and the Gini coefficient of the income distribution in the CESEE countries
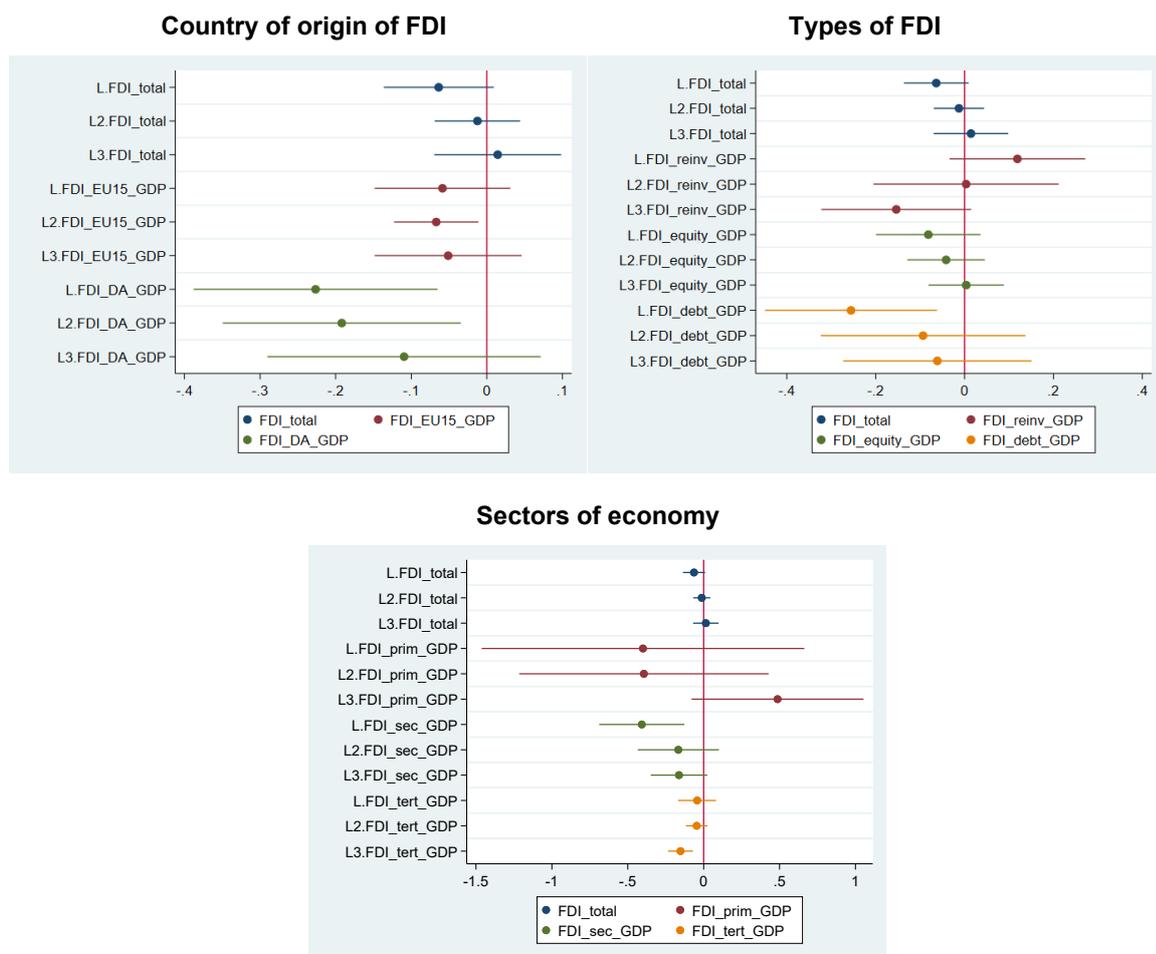

Figure 18 shows the results for the national poverty rate. The results for the country of origin (upper-left panel) are the same as for income inequality – FDI from the EU15 is found to reduce poverty, as is FDI from Germany and Austria, with the effect being particularly strong for FDI from Germany and Austria.

As for the types of FDI (upper-right panel), the findings are also the same as for income inequality: only FDI that comes through intra-company loans seems to reduce poverty. In terms of the sectors that receive the FDI inflows (bottom panel), none of the effects is found to be significant.

Figure 18 / Relationship between different FDI flows and the national poverty rate in the CESEE countries
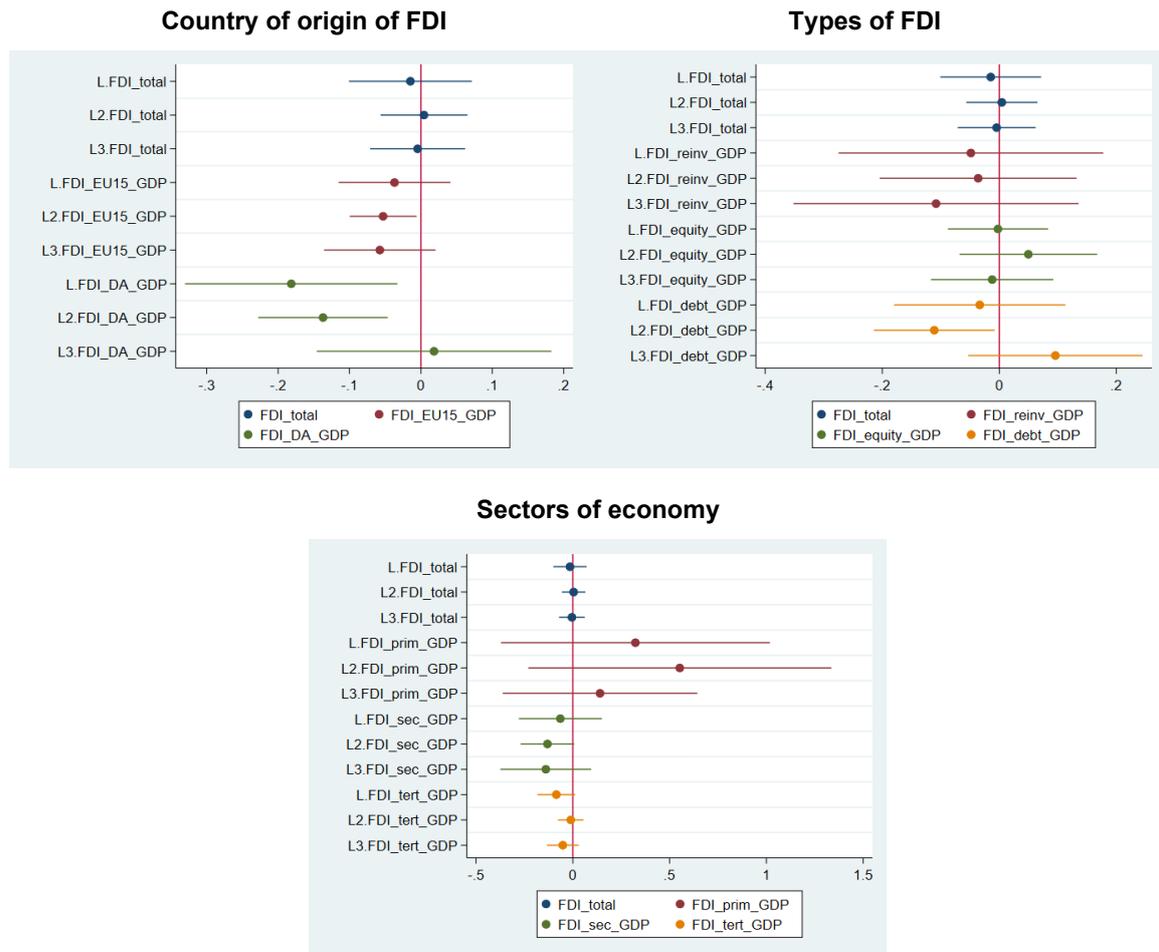
So, the main conclusions from the impact on social outcomes are as follows:

› Total FDI inflows in CESEE are not found to have any effects on income inequality and poverty, but FDI from the EU15 and FDI from Germany and Austria are found to reduce both income inequality and poverty.

› The effects are particularly strong for FDI from Germany and Austria.

› For the types of FDI – perhaps surprisingly – only FDI in the form of intra-company loans is found to reduce inequality and poverty.

› As for the recipient sectors of the FDI, only inflows to the secondary and tertiary sectors are found to reduce income inequality, while inflows to none of the sectors are found to reduce poverty.

5. Conclusions

One of the defining features of the economic model that the CESEE economies adopted after the collapse of communism was a reliance on foreign investment as a means for ensuring economic and social progress. All the countries put huge efforts into attracting FDI, adopting FDI-friendly policies, and presenting themselves as favourable destinations for investment. These efforts paid off, at least in relation to FDI inflows – the CESEE economies, on average, received FDI inflows equivalent to 4.4% of GDP each year between 1993 and 2020, which is almost twice as high as the global average (2.5% of GDP).

Nevertheless, despite the sustained inflows of FDI, the CESEE economies did not manage to grow very strongly during this period. Their average annual growth rate was just 2.6%, which was below the global average (2.9%). Furthermore, almost all the CESEE countries experienced a notable increase in income inequality, and many of them have poverty rates that are among the highest in Europe.

Do these sub-par results in CESEE in terms of economic growth and social indicators mean that FDI inflows do not lead to higher GDP growth and improving social conditions? We have tried to assess that question in this study, investigating the economic and social effects of the FDI inflows in 17 CESEE economies, focusing on three socioeconomic areas: 1) economic growth; 2) labour markets; 3) social outcomes.

In addition to assessing the effects of the overall FDI inflows, we have also assessed the effects of different types of FDI. First, we have differentiated between total FDI, FDI from the EU15, and FDI from Germany and Austria, in order to see whether the place of origin of FDI has an impact on its economic and social effects. Second, we have evaluated whether there are differences in the effects of the FDI that arises when foreign companies invest equity capital, the FDI that arises when foreign companies reinvest the earnings they have made in the CESEE country, and the FDI that arises from intra-company loans between related entities. Third, we have assessed whether there are differences in the effects of FDI inflows into different sectors of the economy, distinguishing between the primary sector (agriculture and mining), the secondary sector (manufacturing, energy and construction) and the tertiary sector (services).

We have found that FDI inflows in CESEE have had, in general, a positive effect on GDP growth, and that this effect has been particularly strong for FDI from Germany and Austria. Total FDI inflows of 1 pp of GDP have led to 0.19 pp higher annual GDP growth in CESEE. The effect of German and Austrian FDI has been five times stronger – in this case, FDI inflows of 1 pp of GDP have brought higher GDP growth of 0.9 pp, which is a very strong effect.

The growth-enhancing effects of FDI have come from two channels – from the higher domestic consumption that the FDI has induced, and from the increase in exports that has resulted. We have found no effects on domestic investment. FDI has not crowded out domestic investment, but has not crowded it in either, perhaps as a consequence of the weak linkages between foreign and local companies.

The higher household consumption has stemmed from the lower unemployment that the FDI has induced, as well as from the higher wages. Again, these effects have been especially pronounced in the case of FDI from Germany and Austria. We find no effects of FDI on labour productivity, which is not particularly surprising – the higher GDP has been followed by an increase in employment and because of this, output per worker has remained unchanged.

Turning to the effects on income inequality and poverty, we have found that only FDI from the EU15 and FDI from Germany and Austria have reduced inequality and poverty in CESEE, but this is not the case for total FDI inflows.

We have also found that there are differences in the effects of the different types of FDI, with equity capital and reinvested earnings having, in general, much more beneficial effects than intra-company loans. Moreover, FDI into the secondary and tertiary sectors of the economy has had more positive effects than FDI inflows into the primary sector.

These findings have several important implications for policy makers in CESEE. The first, and most obvious, is that they lend support to the efforts that the CESEE governments have put into attracting FDI during the past decades. These policies should, in principle, continue as FDI does indeed seem to have beneficial economic and social effects.

However, the results also highlight that there are notable differences in the effects of the different kinds of FDI, depending on where they come from, in which form, and to which sector they go. This implies that efforts to attract FDI should be more targeted and should focus on FDI that carries the most beneficial economic and social effects.

Finally, our results indicate that the reasons for the perhaps unsatisfactory economic and social outcomes in the CESEE countries – such as the limited economic growth and the significant level of social disparities – should not be attributed to the foreign investment. Instead, one should look at domestic factors, such as weak support for domestic private investment, insufficient public investment in infrastructure, a modest level of spending on public services and the limited scope of government redistribution. Also worthy of attention in this regard is the modest growth during the past two decades of the European Union – the CESEE economies' main trading partner – which could have inhibited the growth of CESEE countries.

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Appendix – Results for the effects of FDI on the separate sectors of the economy

Here we show the results for the effects of the FDI inflows in different sectors of the economy, when the sectors are not aggregated as primary, secondary, and tertiary, but are instead at the level of the NACE letters, as shown in Table A1 below.

Table A1 / Sectors on the level of NACE letters

A	Agriculture, forestry and fishing
B	Mining and quarrying
C	Manufacturing
D_E	Electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H_J	Transportation and storage; information and communication
I	Accommodation and food service activities
K	Financial and insurance activities
L	Real estate activities

Note: The sectors are selected and grouped in such a way to minimise inconsistencies between the NACE 1 and NACE 2 classifications, which different countries have started reporting at different times. That is also the reason why some sectors are excluded.

Figure A1 shows the effects of the sectoral FDI inflows on **GDP growth**. One can see that there are pronounced differences in the effects. Sectors that stand out as significant are Manufacturing (C), Accommodation and food (I), Finance and insurance (K) and Real estate (L). FDI inflows into Real estate (L) and Accommodation and food (I) seem to have the strongest effect. Finance and insurance (K) inflows, surprisingly, appear to have a negative effect on GDP growth, although only after three years; this might be explained by the financial crisis of 2007-2008, which had more damaging effects in countries with a greater presence of foreign banks.

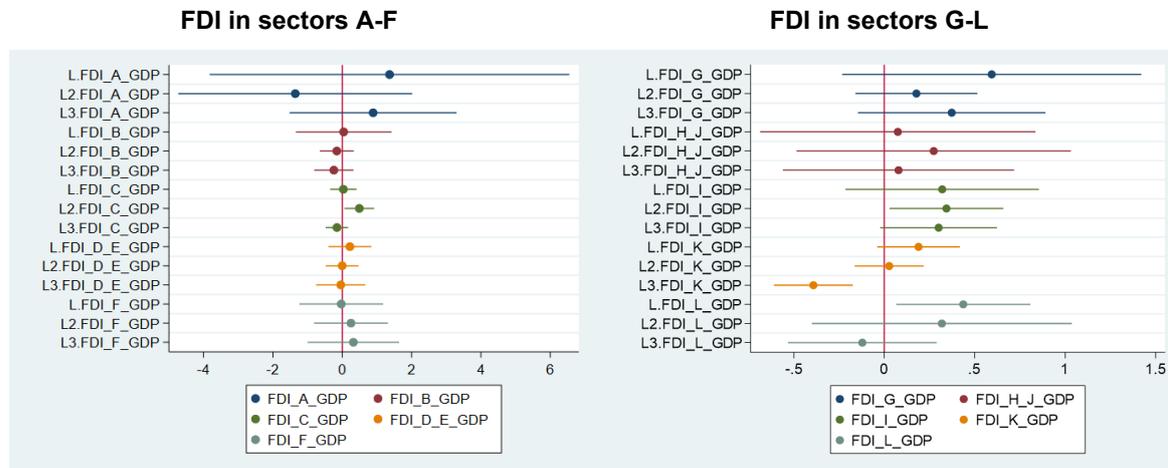**Figure A1 / Relationship between FDI flows to separate sectors of the economy and GDP growth in CESEE**

Figure A2 shows the effects of the sectoral FDI inflows on **household consumption growth**. One can again see that there are differences between the sectors, with Manufacturing (C), Accommodation and food (I) and Real estate (L) inflows having positive effects. Again, FDI inflows into finance and insurance (K) have negative effects on household consumption, which can be explained in the same way as for the GDP growth.

Figure A2 / Relationship between FDI flows to separate sectors of the economy and household consumption growth in CESEE
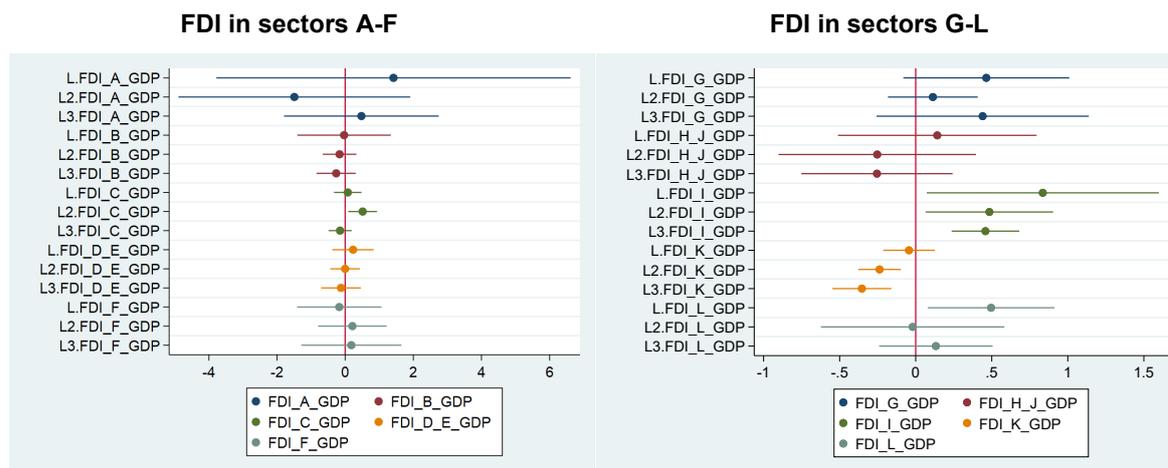
Figure A3 shows the results for the effects of the sectoral FDI inflows on the growth of **domestic investment**. The only two sectors found to have a significant and positive effect on domestic investment are Trade (G) and Real estate (L).

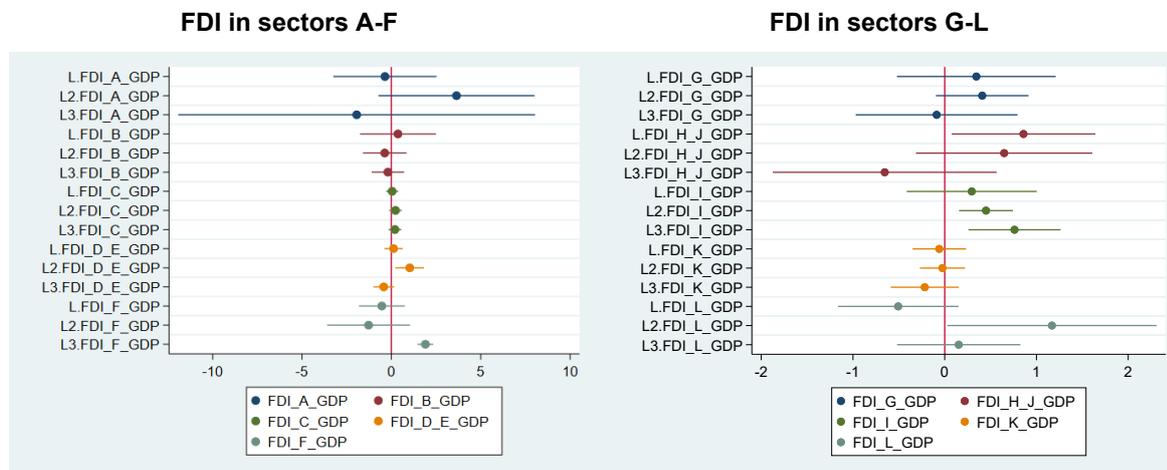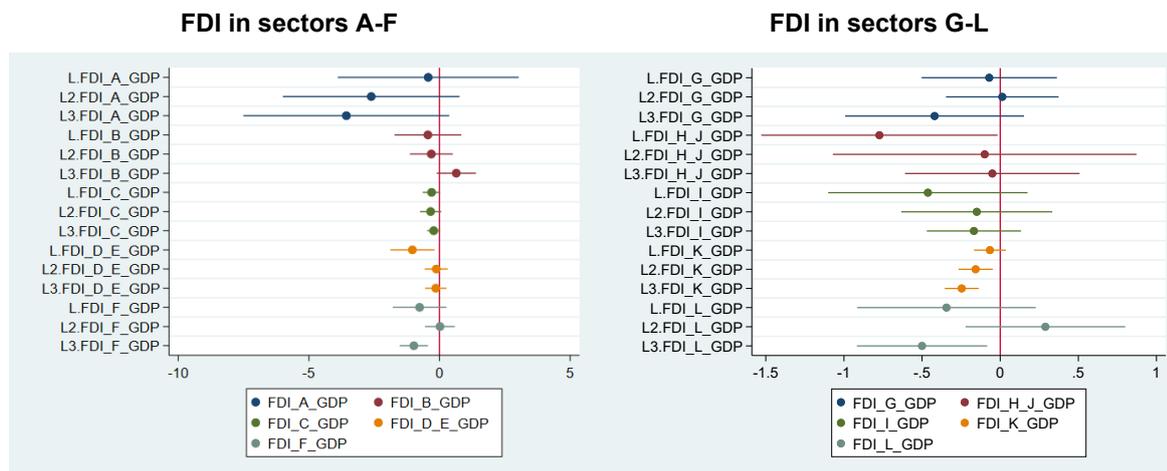**Figure A3 / Relationship between FDI flows to separate sectors of the economy and growth of domestic investment in CESEE**
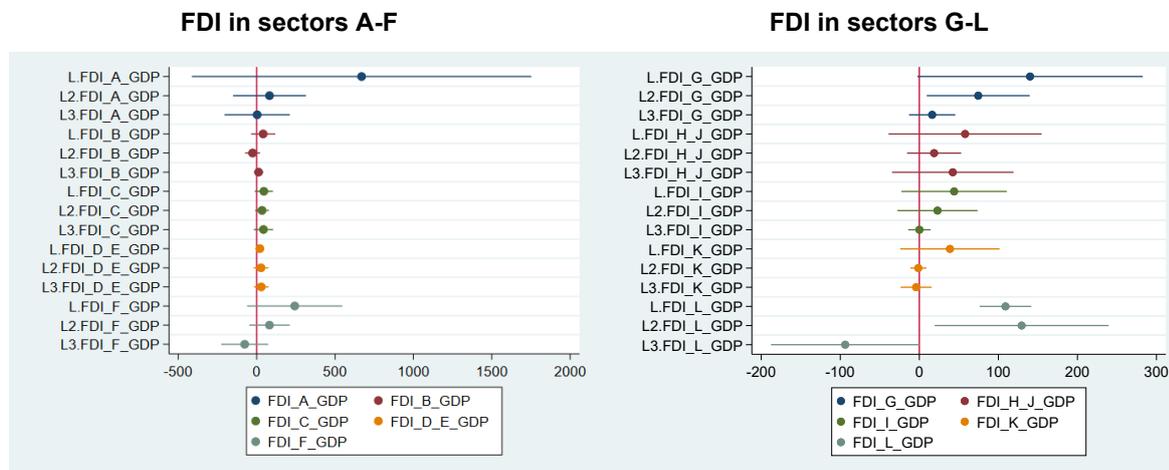
Figure A4 shows the results for the effects of the sectoral FDI on **growth of exports**. The only two sectors found to have a significant and positive effect on exports are Manufacturing (C) and Transportation and communication (H_J). FDI inflows to the Real estate sector (L), on the other hand, are found to have negative effects on exports.

Figure A4 / Relationship between FDI flows to separate sectors of the economy and growth of exports in CESEE
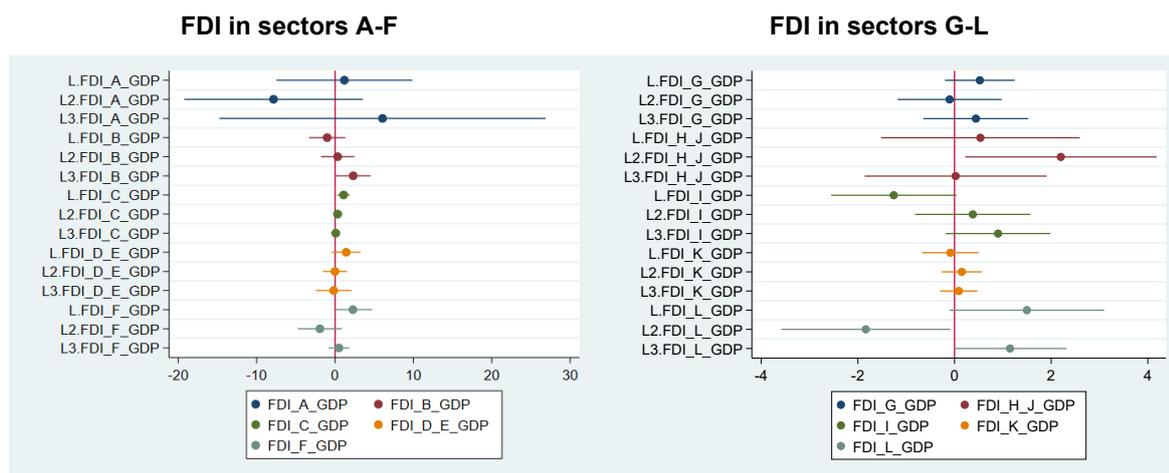
Figure A5 shows the results for the sectoral FDI and the **unemployment rate**. Only FDI in Manufacturing (C) and Construction (F) seems to lower unemployment.

Figure A5 / Relationship between FDI flows to separate sectors of the economy and the unemployment rate in CESEE

Figure A6 / Relationship between FDI flows to separate sectors of the economy and the growth of wages in CESEE
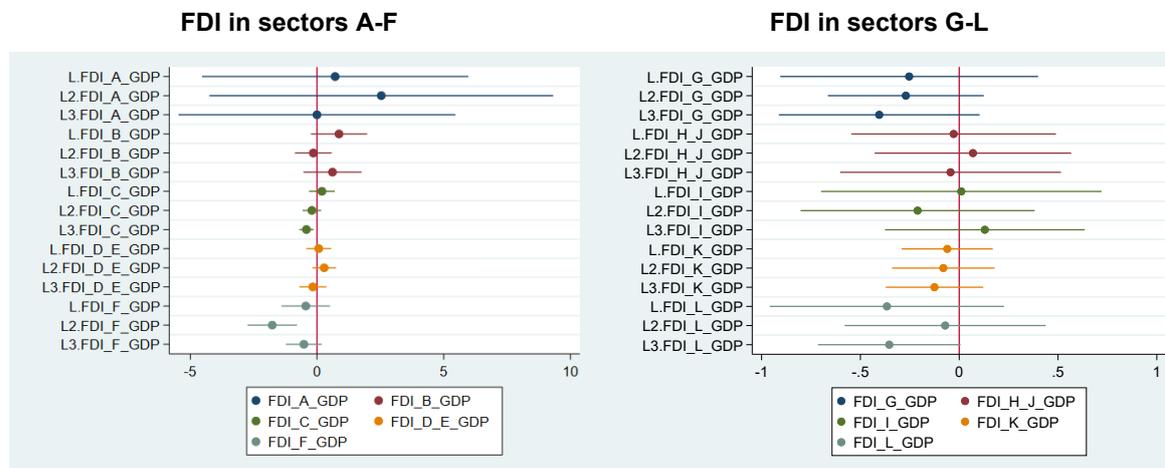
Figure A6 shows the results for the growth of **wages**. Positive effects are observed in Manufacturing (C), Construction (F), Trade (G) and Accommodation and food (I).
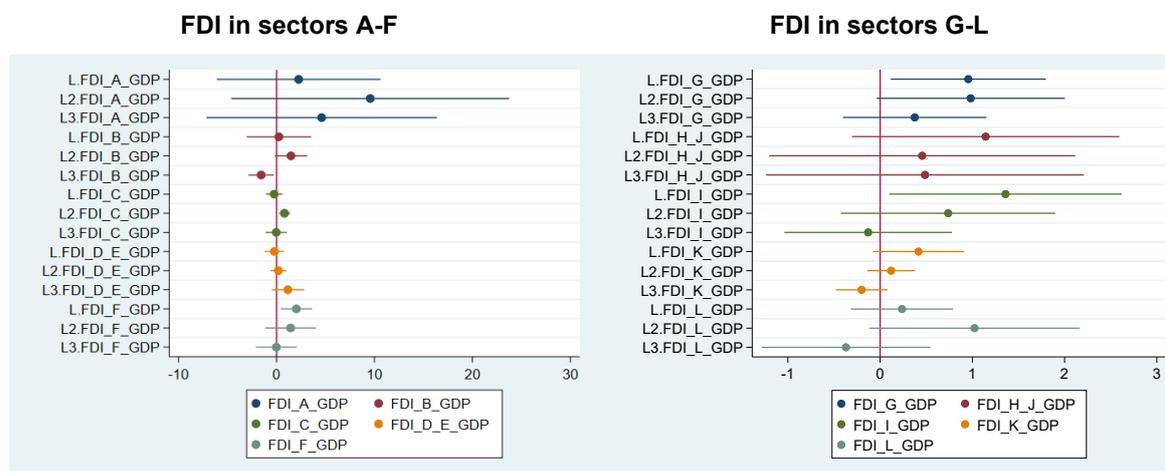
Figure A7 shows the results for the growth of **labour productivity**. FDI inflows seem to have a positive effect on productivity in Energy (D_E), Construction (F), Transportation and communication (H_J), Accommodation and food (I) and Real estate (L).

Figure A7 / Relationship between FDI flows to separate sectors of the economy and the growth of labour productivity in CESEE
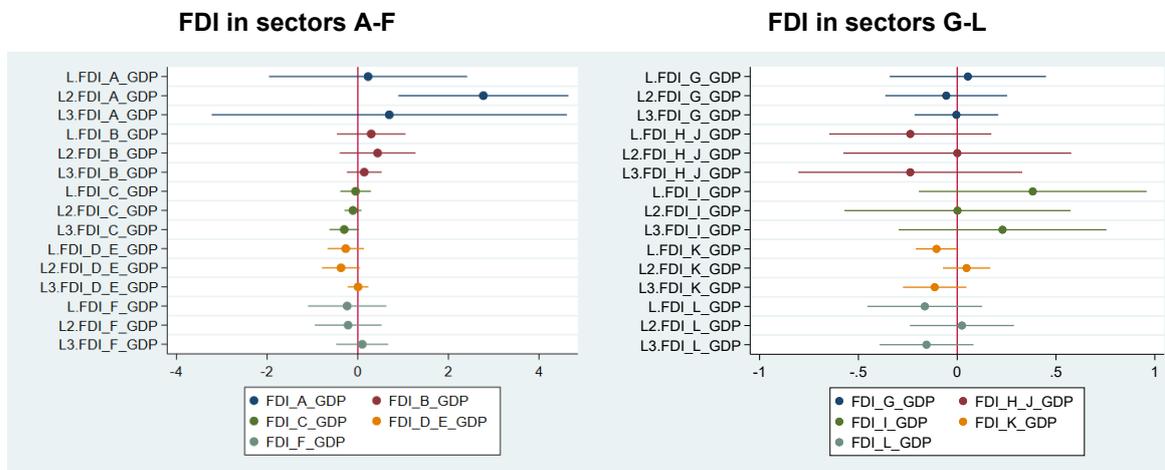

Figure A8 shows the results for the **Gini coefficient.** FDI inflows seem to reduce income disparities in Energy (D_E), Construction (F), Transportation and communication (H_J), Finance and insurance (K) and Real estate (L).

Figure A8 / Relationship between FDI flows to separate sectors of the economy and the Gini coefficient of the income distribution in the CESEE countries

Lastly, Figure A9 shows the results for the **national poverty rate**. FDI inflows into Agriculture (A) are found to increase poverty, while inflows into Finance (K) reduce it.

Figure A9 / Relationship between FDI flows to separate sectors of the economy and the national poverty rate in the CESEE countries

FDI in sectors A-F

FDI in sectors G-L