

## The Hicksian effects and FDI after Poland’s accession to the European Union

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**Abstract.** The empirical examination is made in order to distinguish between the creation and diversion effects of the foreign direct investment within the European Union after the numerous enlargement in 2004. The study case is Poland, the largest new-entrant, attributed with the highest and stable percentage share of FDI in inflow to the EU-10 (roughly 1/3 over the surveyed period). Even more significant is Poland’s percentage share of outflow from the EU-10 which almost tripled from 2004 till 2010 (22,7% and 60,0%, respectively).

The objective is to verify whether Poland’s accession to the EU has brought about FDI both creation and diversion effects as the welfare measure of integration. The method is statistical analysis based on multistage description of streams of FDI inflows and outflows as well as cumulative FDI (stocks) using the cross-section point of view, by means of statistical tests if necessary.

**Keywords:** FDI, Hicksian welfare effects, creation effect, diversion effect, EU enlargement, Poland

**JEL classification:** F21, F15

### INTRODUCTION

In the world of dynamic changes in all areas the capability of a country to participate and take advantage from the global performance is a crucial determinant of its competitiveness.

A researched area encompasses the following issues:

- the European integration process as the basis (framework) for discussion,
- FDI as a reflection of the most dynamically developed, plausible, and stable form of internationalisation,
- creation and diversion effects as the welfare measure of the EU enlargement results.

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The European Union (earlier the European Economic Communities over 1967-1993) has been expanding its size by number of countries almost since its establishment. There were observed four main 'waves' of enlargement which can be named geographically: the British (1973), the Mediterranean (1981, 1986), the Nordic (1995), the Central and Eastern European Countries (2004). According to the EU treaties, membership of the European Union is open to "any European State which respects the values referred to in Article 2 and is committed to promoting them" (Article 49, TEU, 1992). All the countries have made extensive political, economic, and social efforts to integrate them into the European economy resulting in the single (internal) market that involves four freedoms: circulation of goods, capital, people, services (COM, 1999).

Because of a significant variance for GDP (PPP) per capita within individual EU states, these ranged in 2013 from €12,000 (Bulgaria) to €67,900 (Luxemburg) (Eurostat, 2014), the EU operates within competencies conferred on it by the treaties and according to the principle of subsidiarity (which dictates that action by the EU should only be taken where an objective cannot be sufficiently achieved by the member states alone).

The enlargement process within the EU seems to be a persistent property of creating the European economy. Foreign direct investment is the most promising form of contemporary internationalisation since it links global and local economies in a few ways:

- it may involve parent enterprises introducing equity capital by purchasing shares in foreign affiliates,
- it may take the form of reinvesting the affiliates' incomes,
- it may bring about short and long term lending between parents and affiliates,
- it may establish a new foreign entity (so called Greenfield).

New-entrants to the EU are not homogenous economies that is why Poland was selected as a country of satisfactory attractiveness for FDI (Polska raport..., 2012), i.e. the biggest of the less advanced countries, but of relatively large market, stable economy, developed market economy, and highly skilled labour.

As considers Poland, being a member of the large world community delivers plenty of diversified opportunities to make accelerated progress in a great scope of the EU citizens' activities. That is why it is worth researching whether Poland takes advantage from that form of internationalisation within the EU as the host country and the origin country as well. The purpose of the paper is to verify whether Poland's accession to the EU has brought about FDI both creation and diversion effects.

The recognition of the creation and diversion effects provides the research methodology for verifying the effects of integration. In order to achieve the objective statistical description has been applied, including the analysis of dynamics of inward and outward FDI flows and the analysis of change in geographical structure. The analysis covers the period from 1995 to 2012.

In literature one may find a numerous attempts seeking welfare effects of integration using the Hicksian method of quantitative separation a creation effect from a diversion effect (Nicholls, 1995). Hicksian method of welfare (Hicks, 1946) is based on concepts of compensating and equivalent variations. The method has been adopted in the field of FDI welfare effects to the country accessing the EU. Compensating variation is transferred into the diversion effect and equivalent variation into creation effect. Compensating variation (diversion) refers to the minimum amount by which a enterprises in a given country would have to be compensated (having diverted their foreign investments) after the accession to the economic union (free market) to be as well as before. In origin, this is the amount necessary to keep enterprises (country) at the initial level of utility after accession holding their resources (investments) constant. Equivalent variation (creation) measures the amount of new investments needed to keep the enterprises (country) at the new utility level when faced with no entry barriers (financial and non-financial) in the Union (Weber, 2010).

The majority of existing publications focus on applying the Hicksian method into the international trade as the most essential variable characterizing economic convergence of countries (Wilhelmsson, 2006).

Only a few examined the effects of integration on FDI. The research method most commonly used is the estimation of gravity model for the specification, that allows for testing the creation and the diversion effects (Egger and Pfaffermayr, 2002). In our paper we deliberately decide on the analysis of the statistics, resigning from the estimation of the econometric model. This approach allows for thorough insight in the ongoing processes and study of the FDI flows destinations. It also brings the novelty to the existing scientific solutions. However the method is also the source of certain restrictions. In particular the conclusions of the analysis relate to Poland and cannot be generalized, e.g. for other Eastern EU countries.

Achieving the cognitive purpose requires first the theoretical approach in order to look through attainment connecting issues taken into account, then suggested hypothesis needs to be verified empirically, and results of inquiries are to be interpreted, finally.

## 1. LITERATURE REVIEW

In existing empirical models (Carsten and Toubal, 2004) traditional determinants of FDI (e.g. market potential, low labour costs, a skilled labour and endowments, level and method of privatisation, country risk) to Central and Eastern European Countries have been confirmed (Egger and Pfaffermayr, 2004).

It is commonly proved that FDI has the potential to provide huge benefits to less advanced economies. At least several theories of main stream explain why countries of various economic level of development invest abroad (macroeconomic approach, beginning by Kojima, 1978), and why a single enterprise invests abroad (microeconomic approach, opening by Hymer, 1976). Both groups of theories clarify the impact of FDI on the economy of origin country as well as on the economy of host country (Dunning and Lundman, 2008). In capital-scarce economies alike Poland, where the gap between savings and investment still exists, foreign firms' participation in domestic business encourages the transfer of advanced technologies to the host country. It also supports development of more mature financial sectors as well as it promotes human capital improvement by providing employee training. Moreover, it may also strengthen corporate institutions by revealing host economies to developed economies' best business practices and corporate governance. Some economists believe capital flows also help discipline governments' macroeconomic policies, and FDI as the most stabile capital flow in turbulent times is sometimes called "good cholesterol" for developing economies (Kumar, 2007).

On the other hand, foreign direct investment is one of the most sophisticated forms of internationalisation, having both "pretty" and "ugly" sides regarding the multinational corporations' effects of activity, in particular (Forsgren, 2008). However, multinational firms might be called "globalisation agents" since they firmly link together countries and regions (Umiński, 2012).

## 2. THE EMPIRICAL METHOD

An idea of the verification method is based on the Hicksian approach to contemplate a result of the change in a given economic variable (in the paper it is the enlargement of the EU) which may cause in the context of FDI two effects:

creation, what means increased quantity of inward and outward flows;

diversion, what means change in geographical directions of outflows to host countries.

The creation effect is assessed by considering dynamics of inward and outward FDI flows over 1995-2012 period. The first mentioned year is the beginning of Poland's association with the EU, as some authors claim that having been associated is the satisfactory condition to create new FDI flows (Carstensen, Tou-

bal, 2004). The diversion effect is evaluated by the analysis of change in geographical structure in selected years. The measure is the coefficient of structure similarity.

The source of data is the OECD International Direct Investment Statistics database (OECD, 2014). Because of the difficulties in capturing FDI data national statistics on bilateral FDI differ depending on the reporting country. In the first part of the analysis, designed to verify the creation effect, we base on the data reported by Poland. But we confront some of the data reported by Poland with the aggregated data from the EU-15 countries, where the data were taken from the reports of those countries. This is important also because of the second part of our analysis – the verification of the diversion effect – which is based on the FDI outflows data from EU countries as reporting countries.

Creation effect is considered from two points of view. First the creation of FDI outflows from Poland is verified. Then the analysis of Poland's FDI inflows from the EU-15 with respect to the total EU-15 FDI outflows is conducted to verify the creation effect of FDI inflows to Poland.

The change of the FDI outflows level (creation effect after year 2004) is verified with the Wilcoxon Signed-Rank test. The research period is divided into two time periods - before and after 2004, which gives two equal periods of 9 years. The statistical test is applied to assess whether the mean value of FDI before and after 2004 is statistically different. The choice of the statistical test was determined by the sample size and the fact that the population cannot be assumed to be normally distributed. The observations are not independent, and although they are not matched samples they are related, therefore we decided on Wilcoxon Signed-Rank test (Wilcoxon, 1945).

With respect to diversion effect the analysis consists of several steps. The study focus on the FDI stocks of the EU countries in the direction of the EU countries. Indeed we are interested in the change of FDI stocks distribution within EU after 2004. First the shares of FDI stock in Poland in cumulative stock in EU-27 countries by country of origin is under study. Next, the directions of diversion are questioned. The analysis of selected EU-15 countries is conducted in order to find the patterns in the diversion directions. The FDI outflows directions of the chosen countries are being studied. Six considered countries are: Germany, Netherlands, France, Italy, Spain, Sweden. The main criterion for selection was the share of the country FDI stocks in total cumulative inflows to Poland. The countries providing the most FDI to Poland were chosen. The choice was made based on the most recent data from 2012, however this ranking was similar in previous years therefore the choice of the year was not decisive.

### 3. THE FINDINGS

Poland lacks both physical and financial capital as a result of two interrelated reasons, i.e. remains of planned economy and underdevelopment. This explains prevailing difference in value between inward flows of FDI and the Polish outward flows of FDI that caused a low outflow/inflow ratio reaching hardly 0.45 in the best year of a booming economy (Kamińska, 2010), 0.51 in 2010, and merely 0.11 in 2012 (Figure 1).

The fivefold decrease in the ratio might have proved neither long run nor reliable direct investment abroad. Moreover, the highest ratio was observed when the global economy stuck in recession, and the slightest ratio level occurred when the world was about to raise of recession. U-shape tendency of inward FDI flows to Poland is shorter than U-shape tendency of outward flows (i.e. six years of outflows vs. five year U-shape tendency of FDI inflows, respectively). Outflows reached their minimum level a year earlier (2008 vs 2009) than inflows did. It might be interpreted as a time lag for a peripheral economy. At the financial crisis background such a kind of time lag may be essential and should be taken into account while welfare effects of integration process are considered.

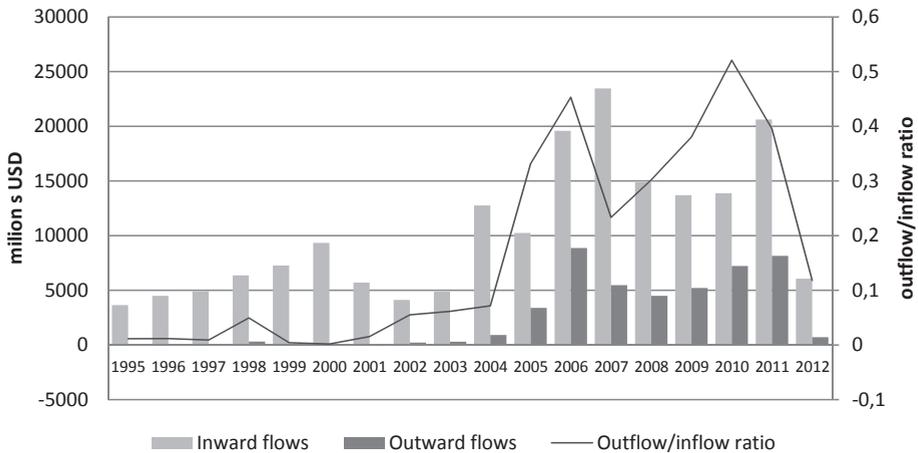


Figure 1. Annual inward flows of direct foreign investments to Poland and outward flows of the Polish direct investments over 1995 – 2012

Source: Own study based on the statistics of the OECD (2014).

Figure 1 also brings the general overview of the data that are to be thoroughly considered in the next sections.

### 3.1. Creation effect

Firstly, the FDI outflows from Poland are considered to check, whether there was the creation effect of FDI outflows. Figure 2 presents the outflows of FDI from Poland in millions USD in the period 1995-2012.

The outflows from Poland before year 2003 were quite insignificant. The EU accession in 2004 resulted with the increase of the FDI outflows from Poland. The data presented on Figure 2 confirm the creation effect of FDI outflows from Poland, which is the result of welfare effect of accession to the EU.

The three overlapped bars in each year represent the FDI outflows: the total outflows in black, to 27 EU countries in dark-grey and to 15 EU countries in light-grey. This is to show the share of the two groups of countries (EU-27 and EU-15) in the total FDI Poland’s outflows, to identify the directions of the Polish investments. The main destination of the Polish investments are the European countries that were EU members before year 2004 (EU-15) but Polish investments are directed also to other European countries, that joined EU after 2004. In 2005 and 2007-2009 large share in the Polish FDI outflows accounted for the outflows to non-EU countries. Simultaneously, diminishing outflows are accompanied by a rising share of non-EU countries (rest of the world).

The solid line on the Figure 2 was added to confront the data reported by Poland with the data reported by other European countries (EU-15 countries, for the sake of distinguishing noted as re\_EU-15). In comparison to the light-grey bars the solid line displays the fact, that due to the EU-15 countries reports the FDI outflows from Poland to the 15 EU countries were lower than reported by Poland. The fact will be taken into account in farther analysis.

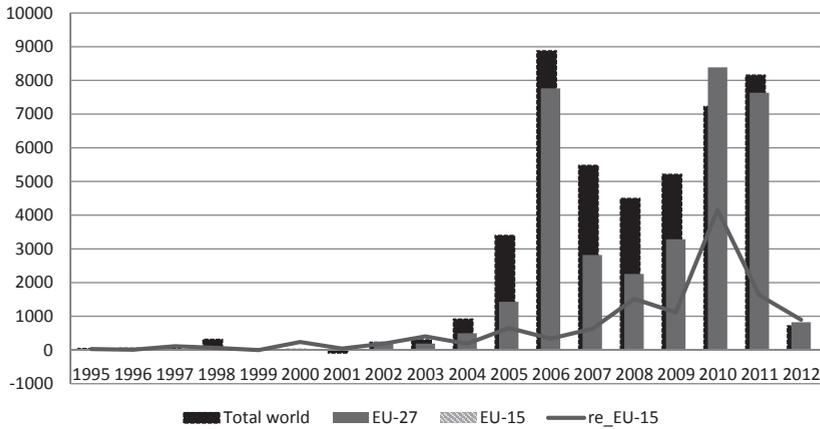


Figure 2. FDI outflows from Poland in millions USD  
 Source: Own calculations based on OECD (2014).

Secondly, the creation effect within the inflows of FDI to Poland is questioned. Figure 3 presents the inflows of FDI to Poland in millions USD in the period 1995-2012. The volumes of FDI inflows to Poland had been growing since the beginning of the research period until the year 2000. The decrease of the FDI flows after year 2000 is probably due to the dot-com bubble that started in 2001. In 2004, which is the year of Poland's accession to the EU, the FDI volumes increased rapidly, and, after the adjustment in year 2005, continued the growth until the financial crisis, that started in year 2008. In last two years of the analysis the FDI inflows to Poland seems to be very unstable – first growing rapidly in 2011 to note the sudden drop in year 2012. According to the Central Bank of Poland it happened due to the huge withdraw of capital shares in the frame of capital in transit transactions (NBP, 2014). However the explanation has a wider context because 2012 was the second biggest decline in FDI which occurred in all global regions since the beginning of the world crisis. Political and economic uncertainty was thought to have been a major factor behind the decrease in FDI (FDI Intelligence, 2013).

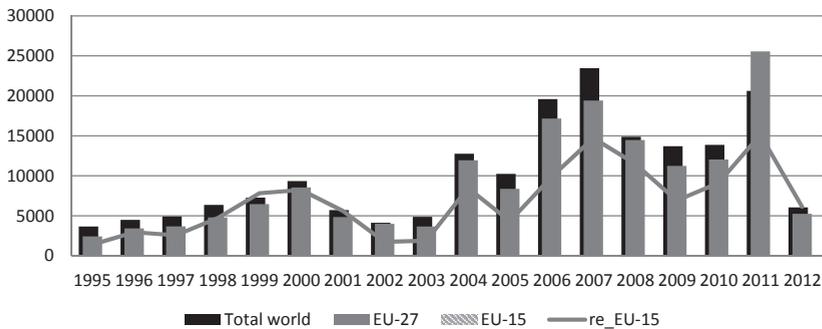


Figure 3. FDI inflows to Poland in millions USD  
 Source: Own calculations based on OECD (2014).

Both the periods of the increase of FDI inflows to Poland, 1995-2000 and 2003-2007, suggest the effect of FDI creation: first of applying for the accession process and second of EU accession. The three overlapped bars in each year represent the FDI inflows: the total inflows in black, from 27 EU countries in dark-grey and from 15 EU countries in light-grey. The vast majority of direct investments in Poland comes from EU, in particular from the EU-15 countries.

To verify whether the source of the increase of FDI inflows to Poland was the creation or the diversion effect we compare the dynamics of FDI inflows to Poland from the 15 EU countries with the total FDI outflows of these countries. The results are presented in Figure 4.

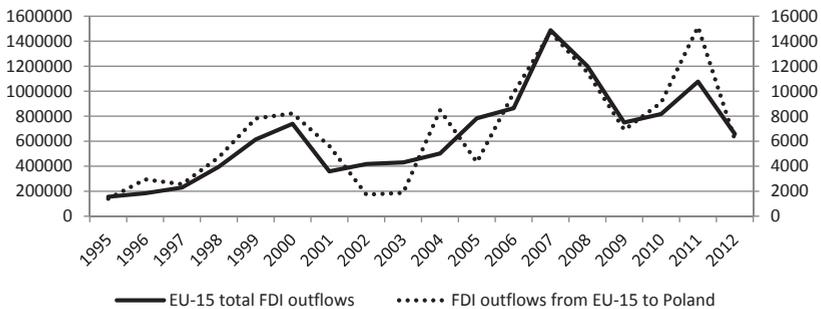


Figure 4. FDI outflows from EU-15 countries  
Source: Own calculations based on OECD (2014).

The dynamics of total outflows of FDI from 15 EU countries (values on the left axis) is very similar to the dynamics of FDI outflows from these countries to Poland (values on the right axis). Considering 15 countries (old members), in the periods 1995-2000 and 2002-2007 occurred the creation effect of FDI outflows, so the increase of FDI inflows to Poland would not have to be due to the shift of the FDI directions. Therefore the increase of FDI inflows to Poland was the result of the creation effect.

Finally, we verify the hypothesis that there was the significant increase of FDI inflows to Poland after the accession to the EU. For that purpose we divide our 18 years sample into two samples of 9 years each – before and after the accession. Next we conduct the Wilcoxon Signed-Rank test on the two samples to assess whether the mean ranks differ. We verify the null hypothesis ( $H_0$ ) that the two samples have the same distribution (the data from year 1995 is compared to 2004, from 1996 to 2005 etc.) against the alternative hypothesis ( $H_1$ ) that the distributions are different. The descriptive statistics and test results are presented in Table 1.

Table 1

Descriptive statistics and test results for FDI inflows to Poland

FDI inflows to Poland depending on the origin	Mean		Wilcoxon test	
	1995-2003	2004-2012	Z	p-value
1	2	3	4	5
Total World	5638.91	15021.51	2.66	0.0077
EU-27	4613.60	13198.20	2.66	0.0077

1	2	3	4	5
EU-15	4646.54	13938.11	2.66	0.0077
re_EU-15	4101.23	9577.37	2.55	0.0109

Source: Own calculations.

According to the test results, the  $H_0$  should be rejected. The test was conducted for all statistics presented in Figure 3, and all of tests confirmed, that the distribution of data after the accession of Poland to the EU was different, than before the year 2004. The most questionable was the change of data reported by the EU-15 countries (solid line in the Figure 3). In this case the p-value was 0.0109, therefore at the significance level 0.05 the null hypothesis is rejected. The difference between the FDI inflows to Poland in the two periods is statistically significant.

### 3.2. Diversion effect from the EU-15 countries

The second part of the analysis is devoted to the diversion effect, which is regarded as the change of geographical directions of FDI. In the result of the accession of new members to the EU, the FDI distribution between old and new members and among old members might be affected. It is due to the increasing attractiveness of Central and Eastern Union countries in the result of the completion of the transition process.

The research task is to explore whether Poland has increased the share of FDI within the EU. This would prove that Poland became more attractive as the destination of FDI. To meet this objective, for each old member of EU (EU-15) the stocks in all 27 EU countries were summed up to constitute 100 percent. Subsequently, for each of EU-15 countries the share of FDI stock in Poland with respect to total share in EU (EU-27) was calculated. The results are presented in Table 2.

Table 2

Share of FDI stock in Poland in cumulative stock in EU-27 countries (in %)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	1.83	2.44	3.71	3.44	4.10	4.81	5.46	4.97	6.59	9.80	15.43	5.82	5.36	5.15	4.67	4.64	4.31	4.90
Belgium	--	--	--	--	--	--	--	--	--	--	--	--	--	1.03	0.70	0.90	0.73	0.74
Denmark	--	--	--	3.10	3.27	3.36	4.71	3.98	3.81	2.83	2.23	3.17	4.22	3.56	3.50	3.74	3.24	3.76
Finland	0.21	0.31	0.44	0.32	0.85	0.79	0.87	0.80	0.99	0.95	1.71	1.62	1.75	1.73	1.52	1.54	1.63	1.43
France	0.41	0.50	0.70	0.93	1.46	2.73	2.96	1.36	2.23	3.62	2.05	1.93	2.22	2.03	1.99	2.06	2.08	2.16
Germany	1.12	1.39	2.43	3.05	2.89	2.92	3.06	2.31	2.16	2.70	2.92	3.13	3.26	2.96	3.54	3.82	3.24	--
Greece	--	--	--	--	--	--	0.44	0.51	0.42	0.47	0.59	0.41	0.36	-0.50	0.27	0.27	4.13	0.14
Ireland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	0.19
Italy	--	--	--	--	--	2.22	2.05	1.91	1.29	1.29	1.14	2.82	3.04	3.07	3.69	3.98	3.49	4.35
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	0.99	1.65	1.82	2.35	2.31	2.28	2.30	2.30	2.28	2.33	2.07	2.02	2.11	2.25	2.22	2.05	1.84	2.05
Portugal	--	0.00	0.34	0.72	5.69	3.16	4.20	2.78	1.51	1.76	2.66	--	6.76	2.64	2.77	5.44	3.39	2.72
Spain	--	--	--	--	--	--	--	--	--	--	0.90	1.44	1.75	1.82	1.95	1.98	3.28	3.66
Sweden	--	0.72	0.88	1.11	1.30	1.67	2.17	2.23	2.07	1.53	1.50	1.35	2.01	2.00	1.86	1.98	1.95	3.48
United Kingdom	0.16	0.20	0.32	0.57	0.53	0.35	0.67	0.82	0.82	0.66	0.58	0.80	0.62	0.57	0.78	0.68	0.72	0.79

Source: Own calculations based on OECD (2014).

Data presented in Table 2 provide evidence for the diversion effect. Of the 15 old members countries insufficient or missing data are from Belgium, Ireland and Luxembourg. For all the remaining countries apart from Greece, the share of the Polish FDI stock in total EU stock has increased over the period 1995-2012. This means that in the period the investments in Poland increased at the expense of some other European countries, or that the investments in Poland grew faster than in some other economies in the EU.

The fact is in line with some previous studies concerning trade effects of integration (Wilhelmsson, 2006), and claim the substitution of FDI to Southern EU countries with the FDI to Eastern EU countries. To check if this kind of allocation took place, the last part of analysis was focused on data aggregated in four groups of countries. Country groups used in the study are:

- Northern EU countries, i.e. Denmark, Finland, and Sweden,
- Western EU countries, i.e. Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, and United Kingdom,
- Southern EU countries, i.e. Cyprus, Greece, Italy, Malta, Portugal, Spain, and Slovenia,
- Central and Eastern EU countries (called shortly Eastern EU), i.e. Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, and Slovakia.

The analysis is based on the structure indices showing the structure of FDI outflow stocks to four groups of countries within EU-27. Strictly speaking, only the FDI from the old European members to EU-27 are considered.

Moreover, from 15 European countries we have chosen 6, which are the most important home countries of FDI inflows to Poland. The 6 chosen countries together covered almost 70% of Polish cumulative FDI inflows in 2012.

Firstly, the structure indices in selected years are given in Table 3, and additionally the dynamics of structure indices is shown in Figure 4.

Table 3

Shares of chosen countries' FDI outflows stocks by the four EU groups in selected years

	1995	2000	2004	2008	2012	1995	2000	2004	2008	2012
	France					Italy				
Northern EU	0.01	0.02	0.02	0.01	0.01	--	0.01	0.01	0.02	0.02
Western EU	0.78	0.82	0.78	0.80	0.81	--	0.84	0.89	0.76	0.75
Southern EU	0.19	0.12	0.14	0.15	0.13	--	0.11	0.07	0.16	0.15
Eastern EU	0.02	0.04	0.06	0.05	0.05	--	0.04	0.03	0.06	0.08
	Germany*					Spain**				
Northern EU	0.04	0.05	0.07	0.05	0.05	--	--	0.01	0.02	0.02
Western EU	0.74	0.72	0.71	0.70	0.70	--	--	0.74	0.69	0.73
Southern EU	0.16	0.14	0.12	0.15	0.15	--	--	0.17	0.18	0.13
Eastern EU	0.06	0.09	0.10	0.10	0.10	--	--	0.08	0.12	0.11
	Netherlands					Sweden				
Northern EU	0.07	0.04	0.04	0.03	0.03	--	0.28	0.34	0.32	0.27
Western EU	0.76	0.81	0.79	0.79	0.83	--	0.62	0.54	0.53	0.57
Southern EU	0.14	0.10	0.12	0.13	0.10	--	0.07	0.07	0.07	0.06
Eastern EU	0.02	0.05	0.05	0.04	0.05	--	0.03	0.06	0.08	0.10

\* For Germany the last available data are in 2011 (in column 2012 are data for 2011).

\*\* For Spain the first reliable data was in 2005 (in column 2004 are data for 2005).

Source: Own calculations based on OECD (2014).

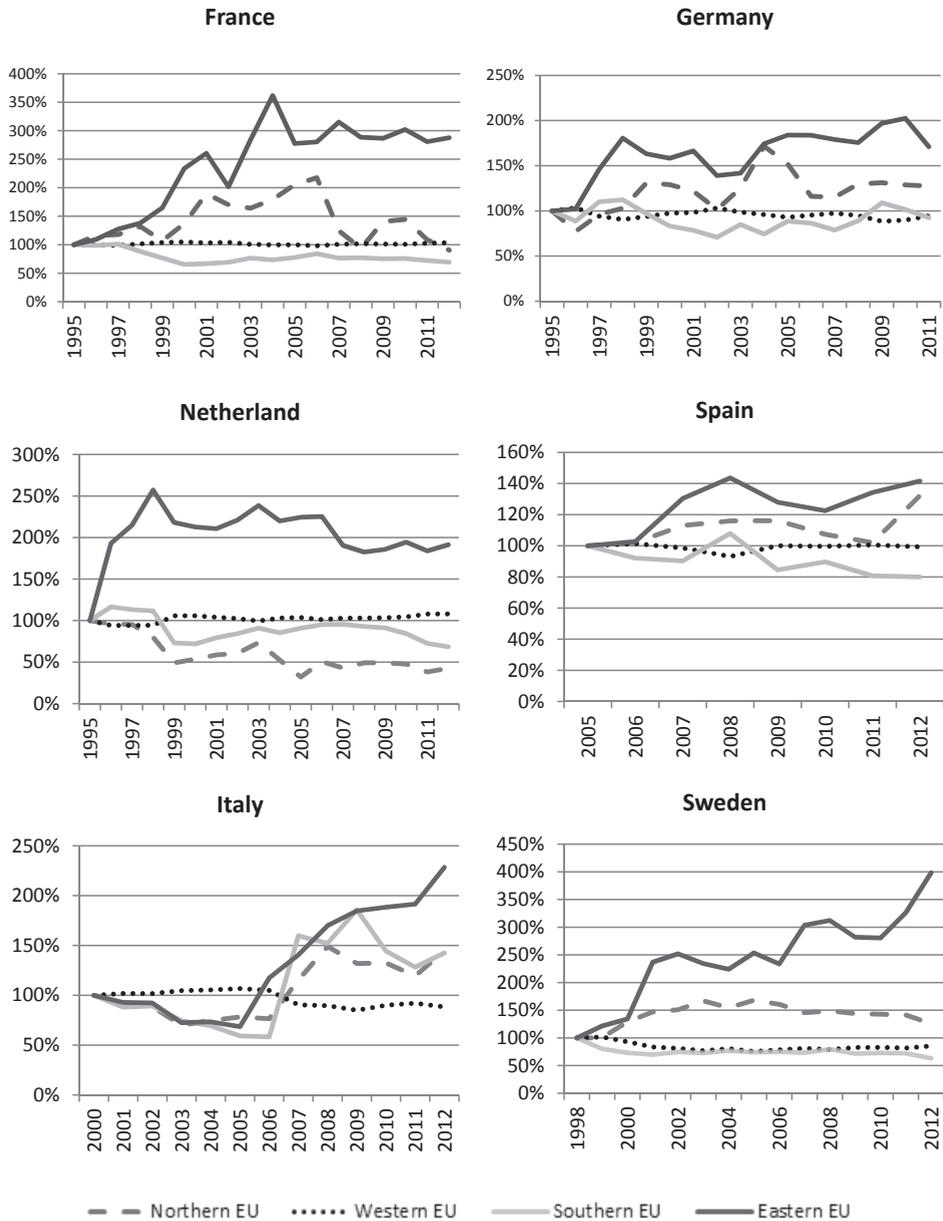


Figure 5. Dynamics of structure indices of chosen countries' FDI outflows stocks by the four EU groups (1995 = 100%)

Source: Own calculations based on OECD (2014).

The analysis of cumulative FDI outflows structure for selected countries aims at identifying the directions of FDI allocation. Figure 4 shows the dynamics of the structure indices presented in Table 3 (in the whole period 1995-2012, if available), with the beginning of the period as 100% (for France, Germany and Netherlands this is 1995, for Sweden 1998, for Italy 2000 and for Spain 2005).

Diversion effect might be verified positively since all examined countries increased in the share of FDI stock to the Central and Eastern EU (the growth was from 3 to 7 percentage points in the examined period). Particular growth was observed up to the year of accession. However, the increment varies within the selected countries. Western countries (France, Germany and Netherlands) were attracted earlier, i.e. during the adjustment period, and they stabilized the share after the accession. Southern countries, Italy and Spain, intensified the internationalization after 2005. Sweden, as the Northern country, is the example of the economy benefiting from the FDI expansion throughout the examined period.

In general, the increase of Central and Eastern countries (CEC) was at the expense of different groups of countries. As regards Western countries, the source of FDI share increase in Central and Eastern Europe destination was the decrease of FDI share in the Southern economies. Similar effect was observed in Spain. The change in structure in Italy differs from previously described ones, as the increase resulted from the decline in the share of FDI to Western countries. In Sweden the shift influenced both – the Southern and Western countries.

## CONCLUSIONS

The examination of the welfare brought by the economic integration, taking FDI as the example of the economic convergence allowed to achieve the scientific goal. The Hicksian method was useful in separating effects of integration welfare. Both effects, i.e. the creation and diversion, have been perceived by means of statistical analysis.

In Poland as the case of study, the creation effect occurred in two separate periods, 1995-2000 and 2003-2007, as a result of the FDI outflows creation in old EU members. Moreover it was confirmed, that the increase of FDI inflows to Poland after the accession was statistically significant. Additionally, slowing down economy may become the stronger factor than integration for changing the direction of FDI outflows from Poland.

On the other hand, the diversion effect was also observed, what was stated on the basis of the FDI stock share increase to Poland in the structure of EU FDI outflows. However the search for the directions of FDI shifts gave no satisfactory results. While the increase of attractiveness of new members as a destination for FDI was undeniable, it is hard to discover, which directions became less attractive instead. The problem requires deeper investigation.

Further examination will be in two directions oriented, i.e. verifying the mentioned effects taking more countries into consideration and confronting the results with the ones obtained from the econometric estimation of the gravity model specification.

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