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**THE EFFICIENCY OF FOREIGN DIRECT INVESTMENTS IN POLAND
– DOES THE RISK OF INVESTING IN EMERGING MARKET COUNTRY
LEAD TO A HIGH RATE OF RETURN?**

*EFEKTYWNOŚĆ BEZPOŚREDNICH INWESTYCJI ZAGRANICZNYCH W POLSCE
– CZY RYZYKO INWESTOWANIA NA ROZWIJAJĄCYM SIĘ RYNKU WIĄŻE SIĘ
Z WYSOKĄ STOPĄ ZWROTU?*

Key words: foreign direct investments, value, return on investment

Słowa kluczowe: bezpośrednie inwestycje zagraniczne, wartość, rentowność inwestycji

Abstract. The goal of a research was to determine the efficiency of foreign direct investments (FDI) in Poland comparing to alternative forms of capital allocation. The analysis of Polish FDI according to economic activity and geographical zone was conducted. In 2000-2012 the inward position of FDI rose significantly due to a surge in equity capital and reinvested earnings as well as in other capital in form of various debt instruments. Generally the rate of return on FDI in Poland was higher than the Polish and US government bond yields that gave an evidence of a higher efficiency of FDI comparing to a low risk financial instruments.

Introduction

According to International Monetary Fund since the 1990s foreign direct investment flows have become one of the largest components of net capital inflows in emerging market countries (EMC) led by mergers and acquisitions as well as privatization processes [*Foreign Direct...* 2003]. In the region of Central and Eastern Europe the main catalyst for FDI surge were the processes of a fundamental economic and political transformation. Making decisions on investing in emerging markets managers as a rule refer to such key determinants as size and growth prospects of a local market, productivity and cost of labor, the availability of infrastructure, taxation regime and political stability. FDI bring a number of positive effects to the host country such as growth of financial capital, increase in production, tax inflows and the decrease of unemployment. From the other side FDI in traditional branches such as mining or agriculture may not lead to a significant impact to the local development due to a weak linkage with other sectors of national economy [Globerman 1979].

In common investors' opinion one of the main reasons for investing in emerging markets is a higher expected rate of return due to a faster economic growth and increased earnings of local companies. However there is an evidence that in a long period of time there is a weak correlation between the pace of economic growth measured by GDP and returns on stocks [Davis et al. 2010]. Insignificant relation between these two categories could be explained by a higher volatility on stock markets of emerging economies [Wasilewski, Zabolotnyy 2013]. As a result emerging countries are subject to greater fluctuations of global capital flows: international investors willingly invest in emerging economies in the periods of stability and global growth while the first signs of recession lead to a rapid withdrawal of funds from these markets into more safe assets of high-developed countries. Such facts question the rationality of investing in emerging markets because taking greater risk seems not to ensure a higher return.

Material and methods of the research

The goal of the research is to determine the efficiency of foreign direct investments in Poland (FDI) as an opportunity for locating a capital. In the article a foreign direct investment (FDI) is defined as a category of investment that reflects the objective of establishing a lasting interest by a resident enterprise in one economy (direct investor) in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct investor [OECD Benchmar... 2008]. An obligatory condition for qualifying such an investments as FDI is the existence of a long-term relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of this enterprise proved by at least 10% of voting power in it. To determine the efficiency of FDI in Poland the return on investment ratio was used:

$$RI = \frac{R}{I}$$

where: RI – return on FDI in current year, I – income from FDI in current year, R – inward position of FDI in the end of the year (liabilities of Polish economy due to direct foreign investors).

Besides the scale and distribution of FDI by economic activity and geographic region are presented. The material for the research was gathered from the reports of National Bank of Poland, the Committee of Statistical Information of Poland and an professional data services for investors. The research period was 2010-2012.

Results

A constant growth of FDI in Poland in 2000-2012 proved the increasing role of emerging markets in global investment processes. An inward position of FDI rose from 36,792 mln euro in 2000 to 178,257 mln euro in 2012 (Fig. 1). In the analyzed period equity capital and reinvested earnings were the main source of financing of FDI in Poland (mean 75.3% of FDI inward position) with a compound annual growth rate (CARG) of 13.6%. Other capital in form of different debt instruments was less important for investors (mean 24.7% of FDI inward position) with a CARG of 15.3%. An average value of equity capital and reinvested earnings in 2000-2012 was 73,324 mln euro while the average value of other capital was only 24,727 mln euro.

An increase in inward position of FDI was accompanied by a growth of income of foreign investors in Poland (Fig. 2). An income from FDI in Poland rose from 771 mln euro in 2000 to 14,141 mln euro in 2012 (by 1734.1%). The main source of income in 2000-2012 were dividends (mean 4279 mln euro or 53.3% of income). Reinvested earnings were the second largest source of income (mean 2631 mln euro or 32.8% of income) while interest was the least significant (mean 1122 mln euro or 14% of income). An important reason for a considerable volatility of income from FDI in Poland were the external economic factors. The beginning phase of the analyzed period (2000-2003) was characterized by a relatively low level of income from FDI demonstrating a limited capital engage-

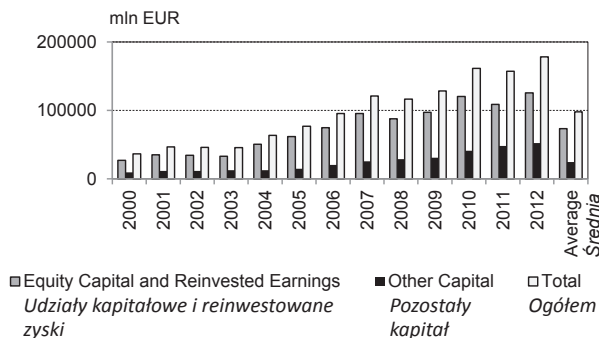


Figure 1. Inward position of FDI in Poland in 2000-2012

Rysunek 1. Stan zobowiązań z tytułu BIZ w Polsce w latach 2000-2012

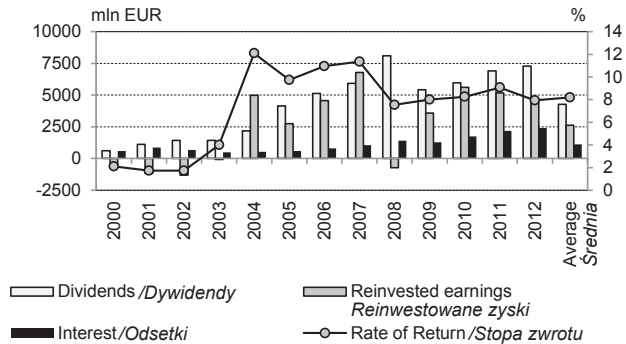
Source: own research based on National Central Bank of Poland data [Polskie inwestycje... 2014]

Źródło: opracowanie własne na podstawie danych Narodowego Banku Polski [Polskie inwestycje... 2014]

Figure 2. The volume of income versus return from FDI in Poland in 2000-2012
 Rysunek 2. Dochód a stopa zwrotu z Polskich BIZ w latach 2000-2012

Source: see fig 1

Źródło: jak na rys. 1



ment of international investors in the Polish market. An average rate of return on FDI in 2000-2003 was 1,85% presenting low efficiency in comparison to alternative opportunities of capital allocation. This could be explained by a limited degree of relation with global financial markets as well as by early stage of the majority of investment projects started in the period of political and economic transformation and characterized by a significant capital demand along with relatively low rate of return.

A period after accession to the EU (2004-2007) was featured by a rapid growth of both income from reinvested earnings and dividends. An evidence for increasing efficiency of capital allocation was a growing rate of return on FDI fluctuating from 9.74% to 12.09% in this period. It also should be mentioned that these years were characterized by a relatively low level of income from interest that proved the decreasing cost of international capital. Nevertheless a record value of 6783 mln euro from reinvested earnings in 2007 was followed by a loss in this position (-714 mln euro) due to a financial crisis of 2008. This happened along with a surge in the volume of income from dividends and interest that only accelerated the process of capital outflow from Poland. In 2008 an increase of income from dividends by 36.6% and income from interest by 33.0% comparing to 2007 was noticed. The next years brought a gradual growth of income from 10,279 mln euro in 2009 to 14,141 mln euro in 2012. Probably such a growth was achieved due to a further increase in dividends and interest while reinvested earnings fell. In 2011-2012 an income from reinvested earnings went down accordingly by 7.9% and 14.2% year over year. At the same time dividends rose by 15.7% in 2011 and 5.5% in 2012. A simultaneous growth of dividends and decrease of reinvested earnings gave an evidence of diminishing capital requirements of FDI projects and an increasing cash flow from this project being distributed back to the investors. The post-financial crisis period was characterized by a significant decrease of rates of return on FDI comparing to the earlier years. An average rate of return for 2008-2012 was 8.16% and was by 2.88 p.p. lower than the rate for 2004-2007.

A level of income from FDI in Poland was greatly differentiated depending on the sector of economic activity during this period (Tab. 1). The highest level of income was noticed in services amounting to 7617.4 mln euro at the average that was 54.8% of total income from FDI in Poland. In 2012 in total services sector the highest income was achieved in financial services and insurance (38.6% of income in this sector), wholesale and retail trade (29.2%) and information and communication services (10.4%) [*Polskie inwestycje...* 2012]. Manufacturing generated average income at the level of 5270.2 mln euro giving 37.9% of total income. Investing in Energy Supply sectors and Construction gave respectively 4.5% and 2.1% of total income on the average. Mining and Quarrying resulted in financial losses to foreign investors (-28 mln euro at the average). Agriculture and Water Supply Management sectors brought insignificant income due to their small share in total FDI. Agriculture also showed the fastest growth of income by 86.2% in 2012 comparing to 2010.

An income from FDI in Poland was also greatly diversified depending on the country of residence of investing party (Tab. 2). EU countries were the main beneficiaries of FDI in Poland achieving 12,392.6 mln euro of income at the average that gave 89.1% of total income. In 2012 the highest income from FDI was received by investors from Germany (20.3% of EU residents'

Table 1. Income from FDI in Poland by economic activity of the direct investment enterprise
Tabela 1. Dochód z tytułu BIZ w Polsce w podziale na rodzaje działalności gospodarczej podmiotów bezpośredniego inwestowania

Activity/Działalność	Income [mln EUR]/Dochód [mln euro]				Growth/Wzrost 2012/2010 [%]
	2010	2011	2012	average/ średnia	
Agriculture, Forestry and Fishing/Rolnictwo, leśnictwo i rybactwo	41.3	70.8	76.9	63.0	86.2
Mining and Quarrying/Górnictwo i wydobywanie	-8.0	-11.2	-64.9	-28.0	-
Manufacturing/Przetwórstwo przemysłowe	4730.9	5363.7	5716.1	5270.2	20.8
Electricity, Gas, Steam and Air Conditioning Supply/Wytwarzanie i zaopatrywanie w energię elektryczną, gaz, parę wodną i powietrze do układów klimatycznych	578.9	631.4	672.4	627.6	16.2
Water Supply, Sewerage, Waste Management and Remediation Activities/Dostawa wody, gospodarowanie ściekami i odpadami oraz działalność związana z rekultywacją	82.2	51.6	33.5	55.8	-59.2
Construction/Budownictwo	651.8	304.6	-100.7	285.2	-115.4
Total Services/Usługi łącznie	7211.9	7834.8	7805.4	7617.4	8.2
Not allocated/Niesklasyfikowane	34.2	10.3	2.2	15.6	-93.6
Total/Ogółem	13,323.2	14,256.0	14,140.9	13,906.7	6.1

Source: see fig. 1

Źródło: jak na rys. 1

income), Netherlands (19.1%) and France (12.5%). Investors from North America, mainly from the USA and Canada got 769.9 mln euro or 5.5% of total income in Poland. EFTA countries generated 438.3 mln euro or 3.2% of income from FDI on the average.

European investors increased their income from FDI by 7.3% (EU) and 10.8% (EFTA) in 2012 in comparison to 2010. North American as well as African investors decreased their income respectively by 24.4% and 38.8% in the last year of analysis. Higher volatility of income could be also connected to the use of capital in transition¹. The rate of return on FDI in Poland was distributed uneven depending on the sector of economic activity of investor (Tab. 3). The highest average rate of return was noticed in Water Supply sector (12.1%) while Mining and Quarrying gave a negative rate (-3.6%). Total services gave an average rate of return of 7.9% while Agriculture demonstrated a return of 9.9% that was higher by 1.5 p.p. than an average for all activities. Manufacturing achieved relatively high average rate of return (10.1%) reaching its highest value of 10.8% in 2011.

According to geographic criterion of FDI classification the highest average rate of return was noticed in Africa due to large income in form of dividends from a single project (brewery) (Tab. 4). It should be mentioned that the rate of return of FDI from this region fell by 110.32 p.p. in 2012 comparing to 2010. EU-countries and EFTA countries demonstrated average rates of return reaching accordingly 8.7% and 7.0%. North American investors received 9.1% return that was by 0.7 p.p. higher than average. Generally a significant level of volatility of income by particular geographic zones could be explained by rapid changes in net FDI flows characterizing a risk of the Polish market.

To learn the dependencies between the efficiency and risk of Polish FDI the return on FDI was compared with return on low risk financial instruments such as government bonds of Poland and USA (Tab. 5). In the period under research Polish government 10-year bonds were characterized by an average yield 5.57% falling from 5.80% in 2010 to 4.94% in 2012. US 10-year government bonds demonstrated the decline in yields from 3.13% in 2010 to 1.76% in 2012. Thus a

¹ According to the OECD recommendations capital in transition is presented as a part of FDI.

Table 2. Income from FDI in Poland by geographic zone of residence of investor
Tabela 2. Dochód z tytułu BIZ w podziale na strefy geograficzne inwestorów

Geographic zone/ <i>Strefa geograficzna</i>	Income [mln EUR]/ <i>Dochód [mln euro]</i>				Growth/ <i>Wzrost</i> 2012/2010 [%]
	2010	2011	2012	average/ <i>średnia</i>	
EU Countries/ <i>Kraje UE</i>	11,802.1	12,714.4	12,661.4	12,392.6	7.3
EFTA	380.8	512.4	421.8	438.3	10.8
Other EUCountries/ <i>Pozostałe kraje UE</i>	-70.4	195.6	115.7	80.3	-
Africa/ <i>Afryka</i>	168.7	125.4	103.3	132.5	-38.8
North America/ <i>Ameryka Północna</i>	974.2	598.8	736.6	769.9	-24.4
Central America/ <i>Ameryka Centralna</i>	2.6	-17.8	7.6	-2.5	192.3
South America/ <i>Ameryka Południowa</i>	1.6	0.8	0.7	1.0	-56.3
Asia/ <i>Azja</i>	53.7	121	89.3	88.0	66.3
Oceania and Polar Regions/ <i>Oceania i Regiony Polarne</i>	14.9	5.3	4.6	8.3	-69.1
World not allocated/ <i>Niesklasyfikowane</i>	-4.9	0.2	0.1	-1.5	-102.0
Total World/ <i>Wszystkie kraje</i>	13,323.3	14,256.1	14,141.1	13,906.8	6.1

Source: see fig. 1

Źródło: jak na rys. 1

Table 3. Return on FDI in Poland by economic activity of the resident direct investor

Tabela 3. Stopa zwrotu z BIZ w Polsce w podziale na rodzaje działalności gospodarczej podmiotów bezpośredniego inwestowania

Activity/ <i>Działalność</i>	Return on FDI/ <i>Stopa zwrotu [%]</i>				Growth/ <i>Wzrost</i> 2012/2010 [p.p.]
	2010	2011	2012	average/ <i>średnia</i>	
Agriculture, Forestry and Fishing/ <i>Rolnictwo, leśnictwo i rybolówstwo</i>	6.7	11.4	11.6	9.9	5.0
Mining and Quarrying/ <i>Górnictwo i wydobywanie</i>	-2.5	-1.5	-6.7	-3.6	-4.2
Manufacturing/ <i>Przetwórstwo przemysłowe</i>	9.4	10.8	10.1	10.1	0.8
Electricity, Gas, Steam and Air Conditioning Supply/ <i>Wytwarzanie i zaopatrywanie w energię elektryczną, gaz, parę wodną i powietrze do układów klimatyzacyjnych</i>	11.1	10.9	10.4	10.8	-0.7
Water Supply; Sewerage, Waste Management and Remediation Activities/ <i>Dostawa wody, gospodarowanie ściekami i odpadami oraz działalność związana z rekultywacją</i>	16.2	12.2	7.9	12.1	-8.3
Construction/ <i>Budownictwo</i>	8.8	3.4	-1.1	3.7	-9.9
Total Services/ <i>Usługi łącznie</i>	7.5	8.6	7.5	7.9	0.0
Not allocated/ <i>Niesklasyfikowane</i>	6.7	-2.6	1.9	2.0	-4.7
Total/ <i>Ogółem</i>	8.3	9.1	7.9	8.4	-0.3

Source: see fig. 1

Źródło: jak na rys. 1

return on FDI in Poland was higher than the bond yields that gave an evidence of a risk-return concept [Wędzki 2003]: more risky and volatile Polish FDI gave higher rates of return than investments in low risk instruments. An average rate of return on FDI was by 2.8 p.p. higher than bond yields. It should be mentioned that a high level of differentiation of particular investment projects depending on a kind of economic activity and geographic zone could additionally influence average values [Zabolotnyy 2014]. For example, comparing to government bond yields the

Table 4. Return on FDI in Poland by geographical region of residence of investor
 Tabela 4. Stopa zwrotu z BIZ w Polsce w podziale na strefy geograficzne inwestora

Geographical zones/ <i>Strefa geograficzna</i>	Return on FDI/ <i>Stopa zwrotu [%]</i>				Growth/ <i>Wzrost</i> 2012/2010 [p.p.]
	2010	2011	2012	average/ <i>średnia</i>	
EU-Countries/ <i>Kraje UE</i>	8.7	9.2	8.1	8.7	-0.6
EFTA	4.8	9.5	6.7	7.0	1.9
Other European Countries/ <i>Pozostałe kraje Europejskie</i>	-1.7	5.9	2.8	2.3	4.5
Africa/ <i>Afryka</i>	150.9	40.5	40.7	77.4	-110.2
North America/ <i>Ameryka Północna</i>	10.1	8.2	8.8	9.1	-1.3
Central America/ <i>Ameryka Centralna</i>	2.1	-3.5	7.7	2.1	5.6
South America/ <i>Ameryka Południowa</i>	8.3	3.6	3.8	5.2	-4.6
Asia/ <i>Azja</i>	1.7	4.4	3.3	3.2	1.5
Oceania and Polar Regions/ <i>Oceania i Regiony Polarne</i>	10.7	15.8	7.7	11.4	-3.0
World not allocated/ <i>Inne kraje</i>	163.3	0.0	1.1	54.8	-162.2
Total World/ <i>Wszystkie kraje</i>	8.3	9.1	7.9	8.4	-0.3

Source: see fig. 1

Źródło: jak na rys. 1

Table 5. Return on Polish FDI versus Long-Term Polish and US Government Bond Yields (10 year)
 Tabela 5. Stopa zwrotu z BIZ w Polsce a rentowność 10-letnich obligacji skarbowych Polski i USA

Description/ <i>Wyszczególnienie</i>	Return on FDI/ <i>Stopa zwrotu [%]</i>				Growth/ <i>Wzrost</i> 2012/2010 [p.p.]
	2010	2011	2012	average/ <i>średnia</i>	
Return on Polish FDI/ <i>Stopa zwrotu z inwestycji</i>	8.26	9.07	7.93	8.42	-0.32
Polish 10-Y Bond Yields/ <i>Rentowność 10-letnich Polskich obligacji skarbowych</i>	5.80	5.98	4.94	5.57	-0.23
US 10-Y Bond Yields/ <i>Rentowność 10-letnich obligacji skarbowych USA</i>	3.13	2.73	1.76	2.54	-1.37

Source: own research based on [10-Year 2014]

Źródło: opracowanie własne na podstawie [10-Year... 2014]

higher rates of return were shown by all economic activities except of Construction and Mining and Quarrying. Geographically higher returns were demonstrated by the FDI of European and North American investors.

Conclusions

1. The increasing role of global investors in Polish economy was proved by a constant growth of FDI in 2000-2012. The inward position of FDI rose significantly due to a surge in equity capital and reinvested earnings as well as in other capital in form of various debt instruments. A gain in inward position of FDI led to a growth of income for investors in Poland. An income from FDI was formed mainly by dividends and reinvested earnings while interest was the least significant source.
2. The volume of income and rate of return from FDI were to a great extent subject to external factors such as integration with the EU and global financial crisis. A limited capital engagement was demonstrated before entering the EU resulting in lower efficiency of FDI comparing to other forms of capital allocation. A rapid growth in FDI volume as well as in returns was noticed after accession the EU reaching its maximum in 2008. The global financial crisis led to a significant fall in income from FDI followed by a gradual growth of this position in 2009-2012.

3. A level of income from FDI in Poland varied greatly depending on the sector of economic activity during 2010-2012. The highest level of income from FDI was noticed in Services, while investments in Manufacturing, Energy Supply and Construction were less efficient. Agriculture and Water Supply Management industries brought insignificant income from FDI and investments in Mining and Quarrying sector led to financial losses.
4. Country of residence of investing party was an important factor differentiating the rate of return on FDI. The main beneficiaries of FDI were European countries, such as Germany, France and Netherlands. This region also demonstrated a relatively high rate of return on FDI. The highest average returns were received on FDI from Africa due to activity in brewing industry. North American FDI gave higher average rates of return than the investments from EU-Countries and EFTA.
5. Generally the rate of return on FDI in Poland was higher than the Polish and US bond yields that gave an evidence of a higher efficiency of FDI comparing to a low risk financial instruments. A hypothesis stated in the article was verified positively that proved the principle of a risk-return concept: the high risk associated with investing in Polish economy was accompanied by a high return from FDI.

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Streszczenie

Celem badań było określenie efektywności polskich bezpośrednich inwestycji zagranicznych (BIZ) w porównaniu z alternatywnymi formami inwestowania kapitału. Przeprowadzono analizę polskich BIZ według rodzaju działalności gospodarczej oraz strefy geograficznej. W latach 2000-2012 stan zobowiązań z tytułu BIZ znacząco wzrósł na skutek zwiększenia wartości zobowiązań z tytułu udziałów kapitałowych i reinwestowanych zysków, a także pozostałego kapitału w formie instrumentów dłużnych. Stopa zwrotu z BIZ w Polsce była wyższa niż rentowność polskich i amerykańskich obligacji skarbowych, co potwierdzało wyższą efektywność BIZ w porównaniu z instrumentami finansowymi o niższym poziomie ryzyka.

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