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CHANGES IN THE PROFITABILITY OF INVESTMENT FUNDS IN POLAND IN THE PERIOD 2005–2016

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INTRODUCTION

Investment funds act as financial intermediaries and constitute an important part of the financial system. Their products provide households with a savings vehicle and companies with financing and liquidity. The funds' high efficiency and profitability of investment activities motivates both households and institutional customers to invest their financial surpluses in the funds. This leads to a significant amount of money being transferred to the economy as new shares, bonds or other investment assets are purchased. By financing only profitable projects, investment funds support the development of effective business and public sector entities and create favourable conditions for the country's economic development.

As Rouwenhorst has indicated, investment funds initiated capital allocation and joint investment operations in the second half of the eighteenth century. One of the first joint investment institutions was the Dutch investment trust called Eendragt maakt magt, founded in 1774 [Rouwenhorst 2004].

In Poland, investment funds started operations in 1992, regulated by the Act of Public Trading in Securities and Trust Funds. Their formation was associated with the establishment at the same time of the Warsaw Stock Exchange (WSE). Investment fund activities further promoted the development of the capital market in the country. Prior to the financial crisis of 2007–2009, these funds served a crucial role in Poland's financial sector. Their expansion was supported by a new regulation – the Act of Investment Funds from 2004, which provided for a more favourable environment for the creation of new entities. In 2007, the funds took more than 11% of the financial sector's total assets. After the economic downturn, financial crisis and public finance crisis in the EU, investment funds regained their position in the financial sector in Poland. Their rates of return became competitive with interest rates on bank term-deposits. After partially ceasing pension fund operations, investment funds again became important players on the stock and bond markets.

The profitability and efficiency of the funds to a significant extent depend on the macroeconomic situation in Poland and the European Union (EU), developments in the domestic and global financial sector, the state of public finances and the attitude of households to investment. The aim of this article is to examine the rates of return of three main types of investment funds – bonds, equity and mixed funds – in the period of from 2005 to June 2016. The research is based on data published on the websites of Brokerage House BOŚ (www.bossa.pl), Analizy Online (www.analizy.pl) and the Chamber of Fund and Asset Management (www.izfa.pl). Data on interest rates and macroeconomic conditions were taken from the National Bank of Poland (NBP) and the Central Statistical Office of Poland (GUS).

The remaining part of the paper is structured as follows. The next chapter presents conclusions from the review of the literature. This is followed by a presentation of the external conditions of the funds' operations, developments in the investment fund sector, and the results of research on the changes in profitability of investment funds.

INVESTMENT FUND PROFITABILITY – A REVIEW OF THE LITERATURE

Assessment of the long-term efficiency of investment funds with a diversified asset portfolio is a complex process because the funds' offers are constantly expanding [Jurek--Wasilewska 2014]. Evaluating them is significantly affected by a large group of factors that determine the results obtained by individual entities. The main factors include the situation in the financial market, as well as factors directly related to the fund, including its investment policy, past earnings, and the value of assets under management. The lessons learned from the global financial crisis suggest the need to periodically review the effectiveness of investment funds, the quality of asset management and the soundness of the funds.

Based on the analysis of the development of investment funds in Poland in the period 1997–2014, Dawidowicz [2014] indicates the need for constant analysis of their effectiveness. He also discusses the factors that significantly affect the economic and financial situation of funds, i.e. the sector's dynamic asset growth, the changing legal and tax conditions and the improving macroeconomic conditions. For his part, Gabryelczyk [2006] states that macroeconomic factors significantly contribute to the development of the investment fund sector and recognises that new fund types have developed the fastest in this area. He also notes that Poland's accession to the EU and the subsequent introduction of the Law on investment funds in 2004 helped improve the performance of the investment fund sector considerably.

Sekuła [2010] emphasises that the scope of research done on Polish funds is much more limited than that done on their counterparts in the US and other highly developed countries. This is because Poland's financial sector is much less developed. Based on the evaluation of rates of return of equity funds in the period 1999–2009, he further states that actively managed equity funds do not outperform the benchmark index (WIG), and that the variability in earnings and the sequence of returns achieved by the funds in past periods cannot be the only basis for forecasting future income.

Studying specialised funds in Poland such as Exchange-Traded Funds (ETF), Miziołek [2014] found that all of them achieved profitability similar to their investment portfolios. The best results were obtained by iShares MSCI Poland ETF UCITS, which may have resulted from using the lowest values of indicators of error mapping and semi-error mapping, and the highest values of the correlation coefficient and the coefficient of determination.

Satoła [2010] states that the development of the investment fund sector could be considered one of the key determinants of the development of Poland's entire financial system. The fund sector's performance is affected by such key factors as the macroeconomic situation in the country and condition of the capital market. He concludes that the expanding stock market is a key factor of the inflow of capital to investment funds and consequent improvement of their profitability. Analyzing the funds' performance in Poland in 2006–2014, he notes that equity funds and mixed funds were the highest achievers. However, in periods of uncertainty on the capital markets, the role of funds considered sound – i.e. bond and money markets – increased significantly. The most dynamic development in the fund sector was found in the group of new fund types, which includes securitisation and real estate funds. Although the value of their assets is rather small compared to other investment vehicles, they may well play a far greater role in the future.

POLAND'S MACROECONOMIC SITUATION

During the years 2005–2016, Poland's macroeconomic situation improved significantly. Several factors have played a role. The country's accession to the EU in 2004 was one of the most important. The first signs of economic recovery appeared in mid-2003, after the referendum on EU entry proved positive. In subsequent years Poland's economy grew at a rate much higher than that of its Western European counterparts (Tables 1 and 2).

TABLE 1. Gross domestic product growth of Poland's main trade partners in 2005–2015 (%)

Specification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
France	1.6	2.4	2.4	0.2	–2.9	2.0	2.1	0.2	0.7	0.2	1.9
Germany	0.7	3.7	3.3	1.1	–5.6	4.1	3.6	0.4	0.1	1.6	3.7
UK	2.8	3.0	2.6	–0.3	–4.3	1.9	1.6	0.7	1.7	2.8	1.4
Italy	0.9	2.0	1.5	–1.0	–5.5	1.7	0.6	–2.8	–1.7	–0.4	1.5
China	11.3	12.7	14.2	9.6	9.2	10.4	9.3	7.7	7.7	6.7	6.2
Russia	6.4	8.2	8.5	5.2	–7.8	4.5	4.3	3.4	1.3	0.8	0.5
USA	3.3	2.7	1.8	–0.3	–2.8	2.5	1.6	2.3	2.2	2.4	2.2
Euro zone	1.7	3.3	3.1	0.5	–4.5	2.0	1.6	–0.8	–0.4	0.9	2.9
UE	2.0	3.4	3.1	0.5	–4.4	2.1	1.7	–0.5	0.0	1.3	4.8

Source: the author based on Eurostat and OECD data [WWW 5, WWW 7].

Exports boosted the economy, their overall value increasing steadily throughout the period, and likewise improved trade relations with EU countries. From 2005 onwards, net exports boosted Poland's economic growth. Between 2005 and 2016, exports increased by 169%, imports by 132% (Table 2).

TABLE 2. Gross domestic product and its components in Poland in 2005–2015

Specification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP (bn PLN)	985	1 065	1 187	1 277	1 362	1 446	1 566	1 628	1 656	1 719	1 789
Exports (bn PLN)	289	344	387	405	423	578	666	723	767	815	778
Imports (bn PLN)	328	394	457	497	463	608	697	731	735	793	762
Investments (bn PLN)	131	157	192	213	221	293	324	322	312	337	322
Consumption (bn PLN)	801	856	923	1 021	1 069	1 166	1 246	1 294	1 310	1 348	1 372
GDP growth (%)	3.5	6.2	7.2	3.9	2.6	3.7	5.0	1.6	1.3	3.3	3.6
GDP pc (thous. PLN)	25.6	27.7	30.8	33.2	35.4	37.3	40.4	42.0	43.2	44.9	45.2

Source: the author based on Eurostat and OECD data [WWW 5, WWW 7].

The improving situation on the labour market and wage growth made consumption a major factor in GDP growth. Corporate investments also increased after Poland's EU accession, the result of investment activities implemented after receiving EU funds. An additional inflow of financial resources from the EU tremendously boosted the financial situation of enterprises [MG 2006]. The accelerated economic growth increased households' net financial assets, including savings in investment funds.

Participation in the integrated European economic area affected the growth of Polish exports. In 2006, exports grew at 19%, the highest rate for the period. However, the global financial crisis reduced the annual growth of exports, which in 2009 fell to 4.4%. Economic crisis in the euro zone precipitated by the crisis in Greece contributed to the weakening of positive trends in Polish foreign trade. However, despite the public finance crisis in the euro zone, the average annual GDP growth in Poland amounted to 4.9% in 2011. Such positive performance was enabled by large structural investments, including construction of infrastructure and the implementation of projects related to the organisation of the UEFA European Championship (EURO 2012). High individual consumption and growing exports were other supporting factors [IZFiA 2012].

In 2012, the Polish economy fell into a down phase, resulting mainly from the deterioration of the economic situation of the country's main trade partners, primarily Germany, Italy and France, which were suffering due to the failure of government programmes to capably combat financial crisis. In addition, the decline in GDP growth in 2012 may be traced to weakened domestic demand, mainly private consumption. In 2012, the current indicator of consumer confidence, BWUK, fell from –25 to –29.5 points, while the leading indicator of consumer confidence, WWUK, fell from –29.8 to –36.7 points. These factors contributed to the decrease in demand for units of investment funds and the decrease in their assets (www.stat.gov.pl).

Another important factor influencing the situation of investment funds is unemployment. Poland's accession to the EU was a boon to its employment rate, while further development of the Polish economy likewise contributed. Between 2005 and 2015, the number of employed increased from 12.9 million to 14.8 million. At the same time, the unemployment rate fell from 17.7 to 9.8%. The improved labour market conditions also boosted wages, with the minimum wage increasing from 849 in 2005 to 1,750 PLN in 2014, and the average gross monthly salary from 2,361 in 2005 to 3,900 PLN in 2015. As a result, GDP per person shot up – from 25,600 in 2005 up to 45,000 PLN in 2015 (Table 2).

THE STATE OF POLAND'S INVESTMENT FUND SECTOR

In the years 2005–2015, the investment fund sector in Poland became an important part of the financial sector: fund assets grew roughly fourfold to reach nearly a quarter of a trillion PLN (Table 3).

In the development of the sector, 2008 was critical as it brought a significant drop in the value of fund assets. The drop was due to, among other factors, the fall in prices on the Warsaw Stock Exchange and the lower valuation of fund investment portfolios (a decrease of 31.3 billion PLN, i.e. 52% impact) and the outflow of funds (a decline of 28.6 billion PLN, i.e. 48% impact) [NBP 2008].

TABLE 3. Investment fund sector assets in Poland in 2005–2015

Specification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fund assets (bn PLN)	61.3	99.2	133.8	73.9	93.4	116.5	114.9	151.3	195.0	219.5	273.0
Poland's share in the EU (%)	0.24	0.30	0.47	0.28	0.32	0.36	0.32	0.60	0.60	0.49	0.50
Balance of payments/ /redemptions (bn PLN)	15.8	24.0	30.8	–29.0	2.9	9.4	0.4	19.0	29.6	17.2	13.5

Source: the author, based on NBP and EAFMA data.

Another breakdown in the development of investment funds occurred in 2011, this time the result of falling stock prices in the second half of 2011, amid increasing uncertainty among investors and the decline in share prices on global stock exchanges. Such negative developments caused fund investors to withdraw, mainly from equity, balanced and stable growth funds. At the same time, significant sums moved into safer funds investing in treasuries (2.6 billion PLN inflow in 2011) and money market funds (2 billion PLN) [NBP 2011].

In 2005, individual investors were locating their savings particularly in debt market funds, though at that time funds that invested in equity, particularly in stable growth funds, were successful. Over the period, the number of investment funds and sub-funds rose fourfold (from around 200 in 2005 to more than 1,100 in 2015) – Table 4. This helped reduce the market concentration in the investment fund sector. In 2005, the share of the three largest TFIs was 54.8%, while by 2015 it had fallen to 25.8% [IZFiA 2015].

Table 5 presents the structure of investment fund portfolios in the years 2005–2015. The changes resulted from developments in financial markets. In 2005, funds increased the amount they held in domestic government bonds, while reducing the share of stocks

TABLE 4. Number of investment funds and investment companies in Poland in 2005–2015

Specification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Funds and sub-funds	203	263	376	503	578	673	787	907	981	1 079	1 124
TFI	23	27	33	39	43	50	50	54	55	59	60
Foreign investment funds	22	34	81	67	64	70	51	82	47	49	48

TFI – investment fund management company

Source: the author, based on IZFiA data [WWW 4].

TABLE 5. Structure of financial instruments in the portfolio of investment funds in 2005–2014 (%)

Specification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Shares	31.5	47.5	51.1	40.3	47.1	45.4	39.8	37.3	37	30.6
Debt papers	68.6	52.5	44.4	53.5	47.3	48.3	51.4	46.8	45.7	44.8
Other investments	–	–	4.5	4.9	4.0	4.8	6.6	15.4	7.5	15.4
Bank deposits	–	–	–	1.3	1.5	1.6	2.2	8.1	9.7	9.2

Source: the author, based on IZFiA data [WWW 4].

and Treasury bills. This prompted a large inflow of funds into domestic bonds. In the years that followed, the funds significantly increased their involvement in equity thanks to the substantial inflow of new household savings [NBP 2008].

The turmoil in global markets in 2008 caused a change in the structure of investment funds. From 2008, the share of equity instruments steadily declined as investors withdrew their money. The share of these instruments continued to decline and at the end of period amounted to around 28% of total investment fund sector assets.

RATES OF RETURN OF EQUITY, BOND AND MIXED FUNDS

The results achieved by investment funds over the 10-year period largely reflected the state of the economy and financial markets in Poland and in the major global economies. A rise in asset prices in 2005–2007, increased prosperity and optimism in the business community and among consumers alike accelerated growth in the value of the funds' individual components, especially equity funds (Table 6).

For investment funds, 2008 was an off year as their rate of return was negative, with funds that invest in domestic shares suffering the largest losses. Share prices listed on the WSE began to decline in the second half of 2007. Another factor reducing the profitability of the instruments purchased on the domestic market was the strong depreciation of the Polish złoty from mid-2008, which rendered domestic equity funds much weaker than those investing in foreign markets. To take one example, funds investing in the Japanese stock market index lost 42% of their value, but the Japanese yen gained around 51% against the Polish złoty. The collapse of the real estate market further reduced the profitability of funds investing in real estate. The average value of an investment certificate dropped 62.7% in 2008 [IZFiA 2009]. The continuing uncertainty among investors favoured shifting to safer domestic debt funds. In 2008, their rate of return, at 9%, was relatively high. Another alternative for the households with a high risk aversion were

TABLE 6. Rates of return of investment funds in Poland in 2005–2014

Type of funds	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Equity	22.9	47.7	12.4	–52.7	40.6	18.9	–15.4	15.5	15.7	–2.9
Domestic debt papers	6.5	3.9	2.1	9.3	6.2	6.4	4.8	7.5	1.6	5.0
Money market	4.7	3.6	3.6	4.2	4.6	4.9	4.3	4.8	3.2	2.7
Stable growth	11.6	12.8	6.3	–17.2	15.5	9.3	–9.6	15.4	8.3	3.5
Mixed	18.1	21.5	8.3	–31.5	23.3	7.3	–13.5	13.8	6.3	1.3
Foreign shares	12.2	6.0	–2.2	–44.5	43.7	13.8	–16.1	16.2	1.1	3.1
Foreign debt papers	7.6	–4.6	–8.0	7.8	16.1	7.6	7.5	6.9	1.0	5.3
Average for the fund sector	12.0	20.4	6.1	–19.7	20.4	20.6	–5.5	11.0	5.7	3.0

Source: the author, based on IZFiA data [WWW 4].

investments in vehicles considered to be safer, i.e. bank deposits and unit-linked life insurance [NBP 2009].

Moving forward, in 2011, the Polish investment fund sector suffered due to the financial disturbances in the euro zone. The rising sovereign debt crisis in the countries comprising the zone became one of the reasons for the weak performance of investment funds in Poland, as little as 30% of which registered positive annual returns. Most of those were domestic debt and money market funds characterised by a lower investment risk. Foreign equity funds investing primarily in European markets experienced larger losses. Funds with portfolios denominated in foreign currencies gained from the depreciation of the Polish złoty against the major global currencies. Among others, bond funds from the United States returned around 15%.

In 2011, funds investing in Polish treasury bonds increased on average around 5%, while money market funds grew by approximately 4%. Equity funds suffered the greatest losses. Only 10 of more than 180 equity funds achieved positive returns, and in more than 150 the rates of return were double-digit negative. Rates of return on all types of investment funds were lower than in 2010. Only the funds with assets denominated in foreign currencies received positive returns [IZFiA 2012]. The results achieved by money funds were lower than CPI inflation and the rate of return on their units were also lower than bank deposit rates. In 2011, the average interest rate on new bank deposits with a maturity of six months was 4.5% for households and 5.4% for companies (NBP interest rate statistics).

In 2014, the profitability of investment funds improved significantly. Foreign equity funds and investments in the debt market came in with the highest rates of return. A strong upward trend in global stock markets and the continued increase in the prices of debt instruments were important factors contributing to the funds' strong results. Investments in emerging markets (including Turkey, India, China and other rapidly developing Asian countries) and the USA had high returns. Funds specialising in investments in the US returned around 19% [IZFiA 2015], while those investing in the US debt market also performed well. This was attributable in part to the significant depreciation of the Polish złoty against the US dollar. Funds investing on the Polish debt market returned roughly 7%, and were mainly engaged in Treasury securities and other domestic debt securities.

Funds investing in shares of domestic companies did not obtain good results. Warsaw Stock Exchange indices were volatile and fell somewhat. Funds holding shares of Polish small and medium-sized companies (–7%) and mixed Polish active allocation (–5%) had the largest losses. From mid-2014, the armed conflict in Ukraine and other economic sanctions imposed on Polish and European and other Russian companies had a material adverse impact on the economic results of companies and their share prices [IZFiA 2015].

AN ASSESSMENT OF THE RATES OF RETURN ON EQUITY, BOND AND MIXED FUNDS

To assess the performance of investment funds, the rates of return on investments in units of investment funds were calculated. The annual rate of return of the fund in month t is measured by the formula [Witkowska 2009]:

$$r_t = \left[\ln\left(\frac{p_t}{p_{t-1}}\right)\right]^{12}$$

where:
r_t – annual rate of return achieved in month t;
p_t, p_{t-1} – values of the fund units, respectively, at month t and t – 1.

Covering the period of from 2005 to June 2016, the research sample of examined funds is made up of 120 equity funds, 55 bond funds and 60 mixed funds. The data on the value of fund units were taken from the Brokerage House BOŚ [WWW 2] and the data on the funds' profiles from Analizy Online [WWW 1]. Other macroeconomic and financial data came from Central Statistical Office of Poland (GUS) [WWW 3] and National Bank of Poland (NBP) [WWW 6]. The statistics of mean, median, Quartiles 1 and 3 were applied to analyze the developments of the funds' rates of return.

The values in Table 7 lead to the conclusion that, on average, the mean rates of return of all types of funds are higher for the entire period than the interest rate on long-term bank deposits. This means that all types of funds provided more competitive investment opportunities than safe bank deposits. Equity funds had the highest returns and bond funds the lowest. More than 50% of all types of funds gained higher returns than interest rates on long-term deposits.

TABLE 7. Deposit interest rates and rates of return of funds in Poland in the period of from 2005 to June 2016 (%)

Specification	Equity funds	Bond funds	Mixed funds
Deposits 1 + year	3.6	3.6	3.6
Average	17.5	5.6	7.0
Median	14.8	5.0	5.5
Quartile 1	–3.2	1.4	–1.8
Quartile 3	32.9	8.9	14.0

Source: the author, IZFiA and NBP data [WWW 4, WWW 6].

The higher rates of return achieved by equity funds are also probably accompanied by higher risk. The interquartile spread amounted to 36 p.p., while for bond funds it was 10 and for mixed funds 16 p.p. It can be assumed that the higher return on the equity funds is the premium for the taken risk.

CONCLUSIONS

For investment funds in Poland, the period of from 2005 to June 2016 was marked by high volatility. The macroeconomic conditions influenced by Poland's EU accession and the outbreak of the financial crisis had a significant impact on the performance of investment funds, i.e. mostly positive during the economic growth and negative during the crisis and slowdown. However, each fund type was affected differently by external conditions.

The periods of growth on the WSE contributed to high rates of return of domestic equity funds. The periods of financial crises in the global and EU markets frequently caused depreciation of the zloty against global currencies, making the conditions favourable for those funds with assets denominated in foreign currencies to produce better returns. At the same time, uncertainty on the financial markets and growing risk aversion on the part of investors helped raise the returns of funds investing in safer assets (bond and money market funds).

The research conducted for three main types of funds for the period of from 2005 to June 2016 confirms conclusions reached in the literature on the development of the funds' rates of return. Equity funds provided the highest returns, though their performance was volatile and marked by high risk. Bond funds were the most stable investment of the three, but had the lowest returns. Mixed portfolios combining equities had return and risk rates that fell between those of the portfolios containing only bonds and those containing only equities.

For the entire period, the average rates of return of the three types of funds were higher than long-term interest rates. The level of median for all three types of funds indicate that more than 50% of funds provided higher returns than interest rates on deposits, making funds a more competitive investment vehicle than bank deposits.

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Summary. The paper examines the rates of return of three main types of investment funds in the period of from 2005 to June 2016. The analysis covers 120 equity, 55 bond and 60 mixed funds and is based on data taken from www.bossa.pl, www.analizy.pl and www.izfa.pl. The results of analysis indicate that macroeconomic conditions significantly shape fund returns, though the impact is diversified by fund type. Better stock market conditions benefit equity and mixed funds, and the periods of economic slowdown are favorable for safer funds, including bond and money market funds. For the entire period, equity funds achieved the highest returns, but with the highest risk. The opposite situation concerned bond funds. The average returns of every type of fund were higher than deposit rates – more than 50% of the funds outgained them.

Key words: financial sector, investment funds, profitability

JEL: O16, G23, G32

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