Investment Funds of Emerging Markets as Alternative Forms of Capital Investment in the Conditions of Low Interest Rates

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Abstract:

Purpose: *The present paper aims to analyze the Polish investment funds of emerging markets in 2015-2019 based on selected measures of investment effectiveness. The research problem formulated in this way is supposed to answer whether these funds are an attractive and secure form of investing capital in the conditions of meager interest rates offered by commercial banks.*
Design/Methodology/Approach: *The study's methodology comprises a descriptive part, which deals with the typology of emerging markets, and an empirical part referring to the analysis of the economic effects of Polish investment funds active on these markets. The empirical part makes use of the data included in information prospectuses of the funds as well as in financial statements. The descriptive part conducts literature studies in the subject area under discussion, above all the non-serial literature, reports, and information from the websites of financial institutions.*
Findings: *Meager reference rates of central banks do not make traditional and safe forms of investing the capital very attractive. Moreover, they do not even ensure the maintenance of the value of the deposited means. In this situation, it becomes necessary both for individual and institutional investors to search for alternative forms of multiplying the capital. Higher rates of return on capital can offer stock investments, including those realized through specialized investment funds.*
Practical implications: *The added value resulting from the conducted studies confirms that financial investments on capital markers of emerging countries can be an excellent alternative to the traditional financial instruments characterized by a meager rate of return.*
Originality/Value: *The originality and innovativeness of the present paper have two dimensions, namely the analytical one - consisting in the assessment of the new Polish market of investments funds, and the practical one - indicating new investment possibilities for individual and institutional investors.*

Keywords: *Emerging countries, emerging markets, investment funds.*

JEL classification: *F30, G11, G15, G23.*
Research type: *Research article.*

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1. Introduction

In conditions of meager interest rates offered by a considerable majority of central banks globally, making profits becomes a severe challenge to institutional and individual investors alike. Seeking attractive forms of capital investment is a challenging task for professionals managing the assets. From the perspective of an individual investor finding a safe and profitable form of capital investment is also a significant challenge, and the safe forms of multiplying the means such as time deposits offered by banks or government bonds do not even secure the protection of their value. In this situation, whether investing in financial instruments on capital markets of emerging countries can be an attractive alternative for unstable markets of highly developed countries. The paper aims to find the answer to the question formulated in this way based on the analysis of financial results of Polish investment stock funds of emerging markets in the years 2015-1019.

The genesis of the Polish investment funds goes back to the end of the 1990s when only the funds of domestic shares were found in the offer of Polish trustees. With time, however, funds of European and later American or Asian shares began to appear. Finally, the offer of the stock funds was extended with the stock funds of issuers coming from countries with unstable economic growth, meaning the markets of emerging countries (Krawiec, 2015). On the one hand, those markets are characterized by more than average economic and demographic growth dynamics. At the same time, on the other, they carry considerable investment risk, frequently connected with the unpredictability of the existing political, economic, and social systems. This will be briefly discussed in the next point.

The methodology applied in the present paper, i.e., in the empirical part including the analysis of information contained in information prospectuses as well as the data from financial statements of the funds, and in the descriptive part comprising literature studies from the area of the subject under discussion seems to be adequate to reach the assumed research aim. The descriptive part uses the literature data first of all from financial reports of international corporations and rating agencies (PricewaterhouseCoopers, Standard and Poor) as well as the information from the World Bank, whereas the empirical part bases on financial statements of investment funds. The analysis of the effectiveness was conducted using the chosen financial measures, in detail described in the content of the present publication. The object of the studies was the actively functioning stock funds of global emerging markets operating in the period between January 2015 and December 31, 2019, and the economic effects obtained by them.

2. Literature Review

The notion of emerging markets is not sufficiently precise, and it refers both to the countries of a relatively high level of development such as China or Russia, an average level - such as Indonesia or Brazil, and poorly developed ones but showing

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high dynamics of economic growth such as Vietnam or Malaysia. The differences in the values of the compared macroeconomic indicators such as GDP per capita are significant, and the analysis of more precise economic and social measures only makes the disproportions between the countries above deeper. Therefore, it is hard to find a common denominator that would make it possible to include or not to include particular economies within the group of emerging markets and, what is more, classify and group them. In the literature, we also do not find one coherent definition describing this group of countries or uniform criteria allowing their classification (Fu-Chiang, 2017). There are only selected macro-economic parameters that enable including countries within the group of "emerging markets."

Emerging markets are defined in publications in a variety of ways, sometimes as fast-developing economies at the stage of market transformation, sometimes as dynamically industrialized countries introducing the rules of the market, or - in still other sources - as those countries which depart from agriculture and raw material industry for the benefit of economies based on innovative knowledge and modern technologies. Some descriptions define emerging markets more based on what they are not than based on what they are.

These concepts draw attention to market regulations and political stability, arguing that emerging markets have considerably less developed political and financial institutions than liberal markets and social standards, which are very distant from democratic, highly developed countries (Tiku, 2014). Despite a relatively high number of definitions of emerging markets, all of them use similar criteria to identify the countries that can be included within emerging markets. These essential criteria are the fast economic growth, low GDP per capita as compared to developed economies, the ongoing processes of transforming economies from those based on raw materials towards modern technologies, social reforms aimed to improve the citizens' standard of living and their total employment, and increased incomes and level of consumption. Other features characteristic of "emerging markets" include fast demographic growth and a significant proportion of the working-age population in the age structure of the society. A characteristic feature is also a very dynamic inflow of foreign direct investment, which answers the permanent lack of local capitals.

Despite the literature lacking the aforementioned uniform definition describing emerging markets' markets, we can observe relatively numerous attempts at their classification. Such a typology is presented in scientific literature and various rankings, reports, prospectuses, and investment analyses. The most recognizable examples are classification FTSE, PricewaterhouseCoopers, and Standard & Poor, which took over the methodology from the World Bank. Departing from the categorization of the countries of emerging markets, the latter introduced new rules of classifying the economies of world countries based on the income criterion, i.e., the value of the national income per capita. This way of comparing the levels of development of countries - according to the explanation which we can find on the

pages of the World Bank - is more objective and makes it possible to avoid objections concerning the impartial assessment of the state of the development of the economy. While disregarding some significant methodological issues, it should be remarked that the primary aim of classifying emerging markets in various listings and rankings is not only a sheer attempt at ordering them but, above all, a need to identify the most precise criteria which would enable assessing the risk and identifying the threats connected with business activity on those markets.

A comparison of the ways of classifying emerging markets presented below and proposed by international institutions and economic entities allows for a comparison of different ways of approaching the problem of quantitative and qualitative evaluations of the level of development of particular countries as well as refer to the issue of business risk (Table 1).

Table 1. *A comparison of the ways and criteria of classifying the countries of emerging markets.*

Institution	Criteria	Classification	Examples (classification 2018)
Financial Times Stock Exchange (FTSE Global Equity Index)	A review of countries in a year's period.	1. Developed countries 2. Advanced emerging countries 3. Secondary emerging countries 4. Frontier countries	1. Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, Poland, Singapore, UK, USA 2. Brazil, the Czech Republic, Hungary, Greece, Malaysia, Mexico, RSA. 3. Chili, China, Columbia, India, Indonesia, Russia. 4. Argentina, Bangladesh, Bulgaria, Rumania.
Pricewaterhouse Coopers (PwC)	Macroeconomic trends Infrastructure Consumer Distibution channels Industry	1. Established countries 2. Emerging countries 3. The rest of developing world	1. USA, Germany, UK 2. China, India, Brazil 3. Vietnam, Malaysia
Standard&Poor	Initial classification (Initial Eligibility Criteria) based on the level of capitalization of financial markets and additional, more detailed criteria (Additional Criteria)	1. Established countries 2. Emerging countries 3. The rest of developing world	1. Australia, Canada, Belgium, Denmark, Norway, Singapore 2. Brazil, China, India, Indonesia, Malaysia, Poland, Turkey 3. Argentina,Bahrain, Bulgaria, Kuwait, Lithuania. Latvia, Romania, Slovakia, Slovenia.

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| World Bank | Criterion GNI per capita USD

Low-income < 1025
Lower-middle income
1026-3995
Upper-middle income
3996-12375
High income >12375. | 1. Low-income countries
2. Lower-middle income countries
3. Upper-middle income countries
4. High-income countries | 1. Afghanistan, Burkina Faso Syria, Tanzania, Tajikistan, Uganda Yemen
2. Angola, Bangladesh, Bolivia, Cameroon, Congo, India
3. Albania, Algeria, Argentina, Belarus, Brazil, Libya, Thailand, Turkey.
4. Australia, Austria, Belgium, Denmark, Canada, Poland, Portugal, Sweden. |

Source: *The authors' own analysis on the basis of: FTSE Annual Country Classification Review, 26 September 2018, Emerging Markets, 2013 PricewaterhouseCoopers Brasil Ltd. S&P Dow Jones Indices' 2018 Country Classification.*

These comparisons do not exhaust the problem concerning the classification and identification of emerging markets because they include only selected countries and selected criteria. Certain listings, such as FTSE, concern only capital markets, and they cannot have a universal application to all emerging countries. The World Bank, whose classification is the most precise and comprises the majority of the world countries, does not provide information on the criterion that would directly refer to emerging markets, and it does not separately distinguish such a group of countries. Hence, there is a clear need for further in-depth research and interdisciplinary studies on this significant group of countries, i.e., emerging markets, aimed at their better identification and practical classification, which could be of crucial importance for further business development.

Measures of the effectiveness of investing investment funds: The activity of investment funds is frequently measured only by the mean rate of return throughout possessing a given investment. However, one should remember that the measurement of funds exclusively from the angle of the obtained rate of return is an incomplete analysis. The high rates of return presented to the new clients are encouraging, but the obtained historical effects do not guarantee similar effects in the future. While estimating the effects of funds, attention should be paid to the scale and the rate of growth of the size of funds, the investment policy, the moment and principles of the valuation of assets, and the current inflation (Jamróz, 2011).

To enable comparisons of the effectiveness of managing the portfolios of investment funds, measures adjusted to the risk were applied. A few ways of measuring the rate of return about the risk borne are the most popular selectivity measures, including the Treynor ratio, the Jensen ratio, and the Sharpe ratio. The common feature of these methods is calculating these ratios, which are the quotient of the measure of the rate of return and the measure of risk. All the three ratios originate from the Capital Asset Pricing Model (CAPM), which assumes that the required rate of return from investments depends on the expected rate of return from risk-free instruments, e.g., treasury bonds and bonuses for the undertaken investment risk (Mikulec, 2004).

The Treynor ratio is the measure of the rates of return about the borne systematic risk (market risk, non-diversifiable) with the assumption that the market is in balance and the investors' expectations are realized on the average level, and its formula is the following (Tarczyński, 1997):

$$T_p = \frac{R_p - R_{RF}}{\beta_p}$$

(1)

where:
R_p - average portfolio return in the analyzed period;
R_{RF} - average risk-free rate of return in the analyzed period;
β_p - Beta coefficient, measure of sensitivity to the rate of return from the market portfolio.

The Sharpe ratio is the relation of the bonus for the risk undertaken to standard deviation of the rate of return of the investment fund[3]. The Sharpe ratio is calculated from the following formula (Brown and Reilly, 2011).

$$S_p = \frac{R_p - R_f}{S_p}$$

(2)

where:
S_p - Sharpe ratio
R_p - rate of return of the investment fund
R_f - average rate of return from risk-free instrument in the same time,
S_p - standard deviation of the rate of return of the investment fund in a given time.

The higher investment, the higher value of the Sharpe ratio, which estimates the portfolio's profitability based on the rate of return and diversification, take. In a well-diversified portfolio, by using the Treynor and the Sharpe ratios, one can obtain similar rankings. On the other hand, a poorly diversified portfolio could achieve high assessment according to the Treynor ratio and much lower in the Sharpe ratio. Both ratios provide complementary, though different, pieces of information, so it is recommended that they be applied simultaneously (Brown and Reilly, 2011).

Sharpe's Alpha is an improved Sharpe ratio. The former considers the investors' expectations created by the current market conditions replaced by the level of a wide market index. Sharpe's Alpha of j-th fund (AS) can be expressed by means of the following formula (Czekaj, Woś, 2001).

$$AS = (R_p - R_f) - (R_m - R_f)\frac{S_p}{S_m}$$

(3)

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[3] *The risk premium is the difference between the investment fund's rate of return and the rate of return on risk-free instruments.*

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where:

AS - Sharpe's Alpha,

R_p - rate of return on investment fund,

R - rate of return from risk-free instrument,

R - rate of return from market portfolio,

S_m - standard deviation of the rate of return from market portfolio,

S_p - standard deviation of the rate of return of the investment fund.

This measure is sensitive to the total situation on the market[4] (it considers investors' expectations dictated by the market conditions, owing to which it is suitable to compare the returns of investment funds obtained in different periods (Czekaj and Woś, 2001).

The Jensen ratio, also called Jensen's Alpha, is a counterpart of the index of differential profit. Its construction is also based on the pattern portfolio, with the measurement of risk being, in this case, the Beta coefficient. This measurement is based on accepting the line of securities for comparisons. Hence, the rate of return depends on the risk-free rate, the bonus for the risk (i.e., the value by which the rate exceeds the risk-free rate), and the Beta coefficient of a given investment fund (Mayo, 1997). Jensen's Alpha is calculated using the formula:

$$J = (R_p-R_f) - (R_m-R_f)\beta_p \qquad (4)$$

where:

J - Jensen's Alpha,

R_p - rate of return of the investment fund,

R_m - rate of return from the market portfolio (model of reference),

β_p - Beta coefficient of the investment fund.

Jensen's Alpha is a relative measurement (Brown and Reilly, 2001). The use of Jensen's Alpha is especially recommended to investment funds whose portfolios are well diversified. This follows from the fact that the expected return rate depends on the Beta of a given investment fund (Dzielnicki and Gudaszewski, 2005). An advantage of Jensen's Alpha is that it is theoretically insensitive to the market trend (i.e., bull market or bear market) and the differences in the level of the investment risk (Haugen, 1996).

A disadvantage of Jensen's Alpha is that it can be applied only to estimate the effectiveness of investment funds whose portfolios contain shares, i.e., the stock investment funds, balanced investment funds, and stable growth funds. This index is not used to estimate bond funds and the money market. When the rate of return from the investment fund is higher than the expected rate of return considering the risk,

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[4] *This measure, like Jansen Alpha, is a diversified measure.*

then Jensen's Alpha assumes positive values. Positive values show how much the fund effects are higher than the expected ones. On the other hand, when Jensen's Alpha has negative values, they indicate that the investment fund achieved worse effects than the expected ones and is placed below the SML line (Haugen, 1996).

Jensen's measure is helpful for properly diversified investment portfolios, and its advantage is theoretical insensitivity to the stock exchange situation. *Jensen's Alpha* is an absolute measure, which is why while using it, portfolios of different levels of risk cannot be compared unless it is divided by beta coefficient. Then it can be a criterion of estimation (Witkowska, 2009).

The use of the Treynor, Sharpe, or Jansen ratios is possible only to a limited extent because using those measures, it is impossible to estimate the degree to which the ability to feel the market by the fund manager contributes to an improvement of investment profitability. A common problem with these measures is that the level of risk is constant in time. This assumption not being fulfilled in the case of investment funds was the conclusion drawn from several empirical studies, for example, discussed by Klemkosky and Maness (1978), Kon and Jen (1978), Fabozzi and Francis (1979), Miller Gresis (1980) or Bos and Newbold (1984). The fund manager has no obligation to keep the constant proportion of risky and secure assets since this might lead to considerable losses during the period of the bear market. In practice, the managers frequently change the level of their involvement in shares, expecting a change in the stock exchange situation (Jamróz, 2011). The use of the above measures allows the analysis of stock funds on emerging markets, emphasizing the factors influencing their effectiveness.

3. Research Methodology

The Analysis of the Effectiveness of the Stock Fund on Emerging Markets in the Years 2015- 2019: The effectiveness of an investment fund is established based on a pattern of such a fund (the pattern can be the stock exchange index or an investment portfolio constructed specially for this purpose). Referring to the reference pattern, the fund managers prepare the optimization of investment portfolios of the managed funds. That is why "the model portfolio is the basic instrument to study the economic effects of managing the stock portfolio of an open investment fund, which means that the model portfolio constitutes the reference value. Because investment decisions are made by the entity managing the fund on behalf of the fund members, studying the economic effects of the stock fund portfolio should be identified with studying the manager's abilities."

The conducted studies include the analysis of annual return rates, often chosen stock funds of emerging markets from December 31, 2015, to December 31, 2019, whose investment policy assumes investing most of their assets in participation titles of foreign investment funds. Therefore, these funds do not invest directly from assets in equity instruments on particular markets, like is the case for the group of European

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funds. The cause of this situation can be assumed to be the fact that assets management, frequently geographically located on very distant markets, is made complex and can generate costs. That is why those managing these funds often use the knowledge and experience of other funds which are already specialized in investments of this type on the market. Besides, it cannot be excluded that in some cases, domestic funds of global shares of emerging markets acquire participation titles of foreign investment funds because of the sales policy applied within their capital group. Finally, the additional advantage for the acquisition of participation titles of foreign investment funds can be the economies of scale achieved by them.

According to the investment policy of the above funds , the proportion of participation titles in their investment portfolios should be placed within the range from 50% to 100%. At the end of December 2019 there were 13 funds satisfying such requirements, i.e. Allianz Akcji Rynków Wschodzących (Allianz SFIO), AXA Akcji Rynków Wschodzących (AXA FIO), in PZU Goldman Sachs ActiveBeta Akcje Rynków Wschodzących (inPZU SFIO), Investor Akcji Rynków Wschodzących (Investor SFIO), MetLife Akcji Rynków Wschodzących (Światowy SFIO), MetLife Akcji Rynków Wschodzących (Światowy SFIO) (USD), Pekao Akcji Rynków Wschodzących (Pekao Funduszy Globalnych SFIO), PKO Akcji Rynków Wschodzących (Parasolowy FIO), PZU Akcji Rynków Wschodzących (PZU FIO Parasolowy), Rockbridge Akcji Rynków Wschodzących (Rockbridge FIO Parasolowy), Santander Prestiż Akcji Rynków Wschodzących (Santander Prestiż SFIO), Skarbiec Emerging Markets Opportunities (Skarbiec - Global Funds SFIO).

For the needs of analysis, MSCI Emerging Markets Index was accepted as the reference pattern. The measures calculated for all stock funds of emerging markets are included in Tables 1-5. The values written in bold are higher than the value of the reference value for a given measure.

The investment funds, without being placed in the ranking, were qualified depending on the applied measure within two groups of funds, namely:

- effective (whose effects are written in bold),
- ineffective (the other results).

The group of adequate funds includes those funds whose effects were higher than for the reference pattern. All measures were taken into consideration while qualifying the funds within effective or ineffective groups.

In 2015, per 10 examined stock investment funds, 6 reached a positive rate of return, and after correcting such measures as (Rp), standard deviation, J, Sp, (positive rate of return) M2, TE, IR (information ratio), six funds can be included within adequate funds. It can be suggested that it was not a good year for investors because the economic slowdown in China or problems in Russia increased the wave of distrust towards emerging markets (Table 2).

Table 2. *Funds of global shares of emerging markets in 2015*

Name of fund	Rp	Sp	ER	CVp	RP	Beta	DR	J	Sp	AS	Tp	M2	TE	IR
Allianz Akcji Rynków Wschodzących (Allianz SFIO)	**92.93**	7.45	**109.89**	0.08	89.43	0.4362	3.68	**79.51**	**12.00**	**57.10**	2.05	**66.40**	**17.90**	**3.73**
AXA Akcji Rynków Wschodzących (AXA FIO)	**94.93**	6.54	**111.89**	0.07	91.43	0.8652	69.32	**71.76**	**13.98**	**63.05**	1.06	**76.76**	**10.52**	**6.53**
Investor Akcji Rynków Wschodzących (Investor SFIO)	**76.92**	9.42	**93.88**	0.12	73.42	0.8256	45.93	**54.65**	**7.79**	**32.54**	0.89	**44.34**	**12.28**	**4.13**
MetLife Akcji Rynków Wschodzących (Światowy SFIO)	**7.36**	6.61	24.32	0.90	3.86	0.6345	50.30	-10.57	0.58	-24.83	0.06	**6.56**	11.66	-1.62
MetLife Akcji Rynków Wschodzących (Światowy SFIO) (USD)	**1.90**	1.20	18.86	0.63	-1.60	0.8635	86.35	-21.24	-1.33	-6.81	-0.02	-3.49	10.18	-2.39
NN Spółek Dywidendowych Rynków Wschodzących (L) (PLN)	**90.48**	9.29	**107.44**	0.10	86.98	0.9426	94.26	**65.55**	9.36	**46.66**	0.92	**52.56**	**11.74**	**5.47**
Pekao Akcji Rynków Wschodzących (Pekao Funduszy Globalnych SFIO)	**6.42**	6.56	23.38	1.02	2.92	0.8664	0.87	-16.78	0.45	-25.55	0.03	5.83	9.38	0.31
PKO Akcji Rynków Wschodzących (Parasolowy FIO)	**81.87**	9.46	**98.83**	0.12	78.37	0.7634	76.34	**61.01**	**8.28**	**37.32**	1.03	**38.88**	**14.79**	0.20
PZU Akcji Rynków Wschodzących (PZU FIO Parasolowy)	**90.90**	7.75	**107.9**	0.09	87.4	0.6564	65.64	**72.47**	**11.28**	**53.77**	1.33	62.59	5.78	11.19
Skarbiec Emerging Markets Opportunities (Skarbiec - Global Funds SFIO)	**99.73**	8.23	**116.7**	0.08	96.23	0.0756	7.56	94.51	**11.69**	**60.51**	12.73	**64.77**	**10.67**	**6.89**
Reference pattern	**10.80**	**5.2**			-16.96	0.00			6.85					

Source: *Own elaboration, based on: https://www.biznesradar.pl/fundusze/krajowe-akcji-globalnych-rynkow-wschodzacych.*

In 2016 considerable differentiation occurred since such measures of effectiveness as (Rp), standard deviation (Sp), extra return rate (ER), coefficient of variability and CVp make it possible to include the following 4 funds within effective funds: Allianz Akcji Rynków Wschodzących (Allianz SFIO), AXA Akcji Rynków Wschodzących (AXA FIO), AXA Akcji Rynków Wschodzących (AXA FIO), Investor Akcji Rynków Wschodzących (Investor SFIO). On the other hand, when we consider such measures as M2, TE, IR- coefficient of variability, we can speak about the effectiveness of 7 investment funds (Table 3).

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Table 3. *Funds of global shares of emerging markets in 2016*

Name of fund	Rp	Sp	ER	CVp	RP	Beta	DR	J	Sp	AS	Tp	M2	TE	IR
Allianz Akcji Rynków Wschodzących (Allianz SFIO)	**90,,51**	**8.45**	**81.93**	**0.09**	88.01	0.4561	22.67	**77.18**	10.42	40.25	1.93	**46.24**	**17.90**	**3.59**
AXA Akcji Rynków Wschodzących (AXA FIO)	**98.75**	**6.51**	**90.17**	**0.07**	96.25	0.8654	55.58	**75.71**	14.72	59.28	1.11	**64.31**	**10.52**	**6.89**
Investor Akcji Rynków Wschodzących (Investor SFIO)	**80.21**	**8.40**	**71.63**	**0.10**	77.71	0.8946	44.62	**56.47**	9.23	30.12	0.87	**41.26**	**12.28**	**4.39**
MetLife Akcji Rynków Wschodzących (Światowy SFIO)	8.01	6.40	-0.57	0.80	5.51	1.2345	80.89	-23.80	0.86	-30.72	0.04	6.11	11.66	-1.56
MetLife Akcji Rynków Wschodzących (Światowy SFIO) (USD)	1.92	0.96	-6.66	0.50	-0.58	0.9645	96.45	-23.48	-0.60	-6.01	-0.01	-0.04	10.18	-2.39
NN Spółek Dywidendowych Rynków Wschodzących (L) (PLN)	**105.76**	**9.8**	**97.18**	**0.09**	103.26	0.7456	74.56	**85.56**	10.55	47.92	1.38	**46.80**	**11.74**	**6.77**
Pekao Akcji Rynków Wschodzących (Pekao Funduszy Globalnych SFIO)	7.89	7.6	-0.69	0.96	5.39	0.8562	0.86	-14.94	0.71	-37.34	0.06	5.49	9.38	0.57
PKO Akcji Rynków Wschodzących (Parasolowy FIO)	**83.66**	**9.26**	75.08	**0.11**	81.16	0.9624	96.24	**58.31**	8.76	28.82	0.84	**31.58**	**14.79**	**0.36**
PZU Akcji Rynków Wschodzących (PZU FIO Parasolowy)	**83.66**	**9.06**	75.08	**0.11**	81.16	1.0584	105.84	**56.03**	9.07	30.57	0.77	**40.59**	**5.78**	**9.93**
Skarbiec Emerging Markets Opportunities (Skarbiec - Global Funds SFIO)	**115.49**	6.2	106.9	**0.05**	112.99	0.0756	7.56	**111.20**	18.14	77.78	14.95	**78.67**	**10.67**	**8.37**
Reference pattern	**9.80**	**4.2**		**0.49**	8.58	**1.00**			**9.45**					

A similar situation also occurred in 2017, when the calculated measures of effectiveness (Rp), standard deviation (Sp), extra return rate (ER), coefficient of variability, and information ratio (IR) made it possible to indicate seven adequate funds. The year 2017 proved to be very good for all groups of products, which achieved a positive rate of return, which mainly refers to the stock funds of emerging markets, in particular:

- − Asian shares without Japan (+23.3%),
- − global shares of emerging markets (+14.7%),
- − universal Polish shares (+13.8%).

An economic recovery supported the stock market, which is why stock funds coped very well. The weakening of the dollar, the price rebound of raw materials, and stabilization of the market situation in China (after a few years' downward trends) strongly promoted emerging markets, which was why the assets connected with those markets became more expensive. Effects of the stock funds of emerging markets got to the top (median 12.4 proc.). They achieved excellent investment effects already the second year in a row. Naturally, this is the effect of reversed macro-economic trends on emerging markets and the weakened dollar, which generally promoted the inflow of portfolio capital onto those markets (Table 4).

Table 4. *Funds of global shares of emerging markets in 2017*

Name of fund	Rp	Sp	ER	CVp	RP	Beta	DR	J	Sp	AS	Tp	M2	TE	IR
Allianz Akcji Rynków Wschodzących (Allianz SFIO)	115.36	10.99	81.01	0.10	112.2	0.9363	45.15	10.21	90.59	1.20	64.38	57.29	17.90	4.98
AXA Akcji Rynków Wschodzących (AXA FIO)	105.58	9.75	71.23	0.09	102.4	1.2233	66.50	10.50	74.20	0.84	60.00	58.85	10.52	7.54
Investor Akcji Rynków Wschodzących (Investor SFIO)	89.09	7.45	54.74	0.08	85.89	1.1532	82.04	11.53	59.32	0.74	53.50	64.30	12.28	5.12
MetLife Akcji Rynków Wschodzących (Światowy SFIO)	9.3	5.7	-24.82	0.60	6.33	0.6746	62.73	1.11	-9.21	0.09	-18.45	9.09	11.66	-1.43
MetLife Akcji Rynków Wschodzących (Światowy SFIO) (USD)	2.81	1.9	-31.54	0.68	-0.39	0.9749	97.49	-0.21	-22.5	0.00	-8.65	2.11	10.18	-2.30
NN Spółek Dywidendowych Rynków Wschodzących (L) (PLN)	117.47	9.99	83.12	0.09	114.27	1.0651	106.51	11.44	89.73	1.07	70.84	63.82	11.74	7.77
Pekao Akcji Rynków Wschodzących (Pekao Funduszy Globalnych SFIO)	7.89	6.34	-26.46	0.80	4.69	1.1455	1.15	0.74	-21.70	0.04	-22.87	7.12	9.38	0.50
PKO Akcji Rynków Wschodzących (Parasolowy FIO)	104.25	9.36	69.9	0.09	101.1	1.0593	105.93	10.80	76.64	0.95	60.36	50.16	14.79	0.32
PZU Akcji Rynków Wschodzących (PZU FIO Parasolowy)	114.70	9.55	80.35	0.08	111.5	1.1254	112.54	11.68	85.57	0.99	69.98	65.08	5.78	15.30

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Name of fund	Rp	Sp	ER	CVp	RP	Beta	DR	J	Sp	AS	Tp	M2	TE	IR
Skarbiec Emerging Markets Opportunities (Skarbiec - Global Funds SFIO)	**137.95**	**10.1**	**103.6**	0.07	**134.8**	0.8263	82.63	**115.71**	13.34	90.84	1.63	73.91	10.67	10.47
Reference pattern	**14.70**	**5.3**		0.15	**34.35**	1.0			5.88					

Source: *Own elaboration, based on: https://www.biznesradar.pl/fundusze/krajowe-akcji-globalnych-rynkow-wschodzacych.*

The year 2018 proved suitable for the market of funds of global shares where all measures, except the information ratio, indicated six funds as effective. Investing in the shares of companies from the emerging markets was favored by such advantages as favorable global macro-economic conditions, higher growth of GDP, or an improvement in the fundamental economic rates under the effect of the realized reforms. The companies from emerging markets also observed a stable increase in gains, and the stock valuation dropped in the period of increased market variability (Table 5).

Table 5. *Funds of global shares of emerging markets in 2018*

Name of fund	Rp	Sp	ER	CVp	RP	Beta	DR	J	Sp	AS	Tp	M2	TE	IR
Allianz Akcji Rynków Wschodzących (Allianz SFIO)	**92.93**	7.45	**109.89**	0.08	89.43	0.4362	30.68	**79.51**	**12.00**	**57.10**	2.05	**66.40**	**17.90**	**3.73**
AXA Akcji Rynków Wschodzących (AXA FIO)	**94.93**	6.54	**111.89**	0.07	91.43	0.8652	69.32	**71.76**	**13.98**	**63.05**	1.06	**76.76**	**10.52**	**6.53**
Investor Akcji Rynków Wschodzących (Investor SFIO)	**76.92**	9.42	**93.88**	0.12	73.42	0.8256	45.93	**54.65**	**7.79**	**32.54**	0.89	**44.34**	**12.28**	**4.13**
MetLife Akcji Rynków Wschodzących (Światowy SFIO)	**7.36**	6.61	24.32	0.90	3.86	0.6345	50.30	-10.57	0.58	-24.83	0.06	**6.56**	**11.66**	-1.62
MetLife Akcji Rynków Wschodzących (Światowy SFIO) (USD)	**1.90**	1.20	18.86	0.63	-1.60	0.8635	86.35	-21.24	-1.33	-6.81	-0.02	-3.49	10.18	-2.39
NN Spółek Dywidendowych Rynków Wschodzących (L) (PLN)	**90.48**	9.29	**107.44**	0.10	86.98	0.9426	94.26	**65.55**	9.36	**46.66**	0.92	**52.56**	**11.74**	**5.47**
Pekao Akcji Rynków Wschodzących (Pekao Funduszy Globalnych SFIO)	**6.42**	6.56	23.38	1.02	2.92	0.8664	0.87	-16.78	0.45	-25.55	0.03	5.83	9.38	0.31
PKO Akcji Rynków Wschodzących (Parasolowy FIO)	**81.87**	9.46	**98.83**	0.12	78.37	0.7634	76.34	**61.01**	**8.28**	**37.32**	1.03	**38.88**	**14.79**	0.20

Name of fund	Rp	Sp	ER	CVp	RP	Beta	DR	J	Sp	AS	Tp	M2	TE	IR
PZU Akcji Rynków Wschodzących (PZU FIO Parasolowy)	**90.90**	7.75	**107.9**	0.09	87.4	0.6564	65.64	**72.47**	**11.28**	**53.77**	1.33	62.59	5.78	**11.19**
Skarbiec Emerging Markets Opportunities (Skarbiec - Global Funds SFIO)	**99.73**	8.23	**116.7**	0.08	96.23	0.0756	7.56	**94.51**	**11.69**	**60.51**	12.73	**64.77**	**10.67**	**6.89**
Reference pattern	**10.80**	**5.2**			-16.96	0.00		6.85						

Basing on Table 6, that is the effects of investment funds compared to the reference patterns, it can be stated that in 2019 ten funds of global shares of emerging markets were submitted to evaluation and 7 can be included within the group of effective funds, namely Allianz Akcji Rynków Wschodzących (Allianz SFIO), AXA Akcji Rynków Wschodzących (AXA FIO), Investor Akcji Rynków Wschodzących (Investor SFIO), NN Spółek Dywidendowych Rynków Wschodzących (L) (PLN), PKO Akcji Rynków Wschodzących (Parasolowy FIO), PZU Akcji Rynków Wschodzących (PZU FIO Parasolowy), Skarbiec Emerging Markets Opportunities (Skarbiec - Global Funds SFIO).

The measures which enabled classification within the group of effective funds were the rate of return (Rp), standard deviation (Sp), extra return rate (ER), coefficient of variability and the information ratio (IR). Besides, good monthly effects in the group of funds which included such funds also affected this success. These are the following funds: AXA Akcji Rynków Wschodzących (+7.32%), PKO Akcji Rynków Wschodzących (+7.18%) and MetLife Akcji Rynków Wschodzących (+6.33%). How it was shaped in the last five years is presented in the diagram below.
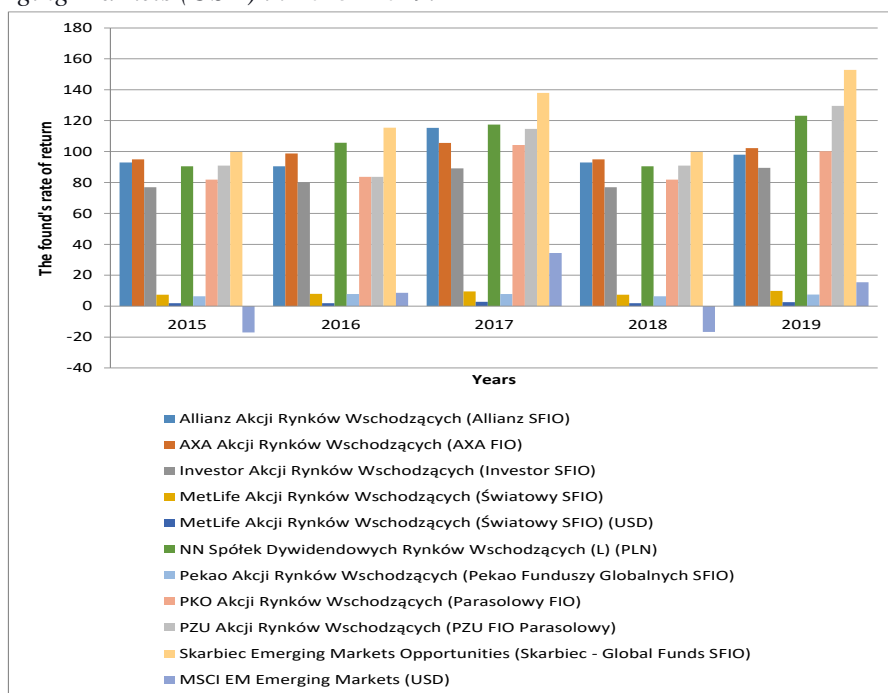
Tabel 6. *Fundusze akcji globalnych rynków wschodzących w 2019 roku*

Name of fund	Rp	Sp	ER	CVp	RP	Beta	DR	J	Sp	AS	Tp	M2	TE	IR
Allianz Akcji Rynków Wschodzących (Allianz SFIO)	**98.04**	7.88	**82.61**	0.08	93.56	0.9363	113.35	**73.19**	**11.87**	**75.59**	1.00	**117,5**	17.90	4.01
AXA Akcji Rynków Wschodzących (AXA FIO)	**102.27**	**9.55**	**92.72**	0.09	97.79	1.2233	122.20	**71.17**	**10.24**	**76.01**	0.80	**102.17**	10.52	**7.23**
Investor Akcji Rynków Wschodzących (Investor SFIO)	**89.49**	8.54	**74.06**	0.10	85.01	1.1532	128.82	**59.92**	**9.95**	**65.53**	0.74	**99.44**	12.28	**5.15**
MetLife Akcji Rynków Wschodzących (Światowy SFIO)	9.91	4.51	-5.52	0.46	5.43	0.6746	142.70	-9.25	1.20	-4.86	0.08	15.97	11.66	-1.40

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MetLife Akcji Rynków Wschodzących (Światowy SFIO) (USD)	2.61	1.8	-12.82	0.69	-1.87	0.9749	97.49	95.57	-1.04	-5.98	-0.02	-5.43	10.18	-2.32
NN Spółek Dywidendowych Rynków Wschodzących (L) (PLN)	123.23	9.83	107.80	0.08	118.75	1.0651	106.51	-21.94	12.08	96.33	1.11	119.73	11.74	8.26
Pekao Akcji Rynków Wschodzących (Pekao Funduszy Globalnych SFIO)	7.47	5.34	-7.96	0.71	2.99	1.1455	1.15	72.71	0.56	-9.19	0.03	9.82	9.38	0.32
PKO Akcji Rynków Wschodzących (Parasolowy FIO)	100.24	9.08	84.81	0.09	95.76	1.0593	105.93	100.62	10.55	75.05	0.90	82.99	14.79	0.20
PZU Akcji Rynków Wschodzących (PZU FIO Parasolowy)	129.59	9.78	114.16	0.08	125.1	1.1254	112.54	130.36	12.79	102.80	1.11	126.52	5.78	17.88
Skarbiec Emerging Markets Opportunities (Skarbiec - Global Funds SFIO)	152.82	11.1	137.39	0.07	148.3	0.8263	82.63	97.20	13.36	123.02	1.80	131.97	10.67	11.86
Reference patter	0	9.54 10.1			5.24	15.43	1.00			9.22				

Figure 1. *Rates of return on global emerging market equity funds and MSCI EM Emerging Markets (USD) in 2015- 2019.*

It should be emphasized that the assets of European investment funds grew for two reasons. Firstly, 2019 was one of the best ones in this century for global stock markets. Indexes in the United States, West European countries, and many emerging markets' stock exchanges grew by at least several percent. A drop in profitability accompanied that, so the prices of treasury bonds increased, which raised the evaluation of the means collected in debt funds. Another reason for the increase in the value of assets was a high balance of fund sales. Inflows on the level of net Euro 546 billion are almost twice as high as a year earlier.

4. Conclusions

Summing up, it can be said that funds of global shares of emerging markets are an exciting complement of the range of products offered by investment fund companies. However, compared to other investment funds, they are characterized by a considerable variety, and due to the involvement of assets on many markets, they should be rather meant for more experienced participants in the market. Besides, when deciding on this kind of fund, one should first analyze their activity so far and accept a higher level of risk in advance. The analysis of the effectiveness of ten funds of global shares of emerging markets in the years 2015-2019 points out that:

1. In the period 2015-2019 they were characterized by high effectiveness, which largely determined the choice of those funds by potential investors.
2. They seek the solutions of high potential of growth, at the same time accepting a very high investment risk resulting from the investment of even up to 100% of the value of the assets of the sub-fund in foreign stock funds, as well as from the fact that a great part of the investments of the sub-fund is concentrated in the countries considered to be so-called emerging markets;
3. The funds directly or indirectly acquire financial instruments of the issuers from Austria, Poland, the Czech Republic. Hungary and Turkey.
4. Considering all measures of risk, the examined funds show that they can constitute an alternative source of investment.

Therefore, it seems based on the conducted studies that investment stock funds of emerging markets can be an excellent alternative to invest the capital in conditions of meager interest rates offered within the essential bank products such as time deposits or treasury bonds. However, it should be emphasized that the risk connected with the unpredictability of the situation on emerging markets is relatively high, and it instead speaks for a long-term strategy of multiplying the means as compared to short time investment since - according to the analysis conducted here - it can bring negative rates of return. The changeability of the situation is an immanent feature of

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emerging markets, which results from their economic and political immaturity. On the other hand, however, the potential of their growth, following from the rate of economic and demographic growth, is in a long perspective a guarantee of satisfying gains from investments in capital markets.

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