

# ANALYSIS OF THE EFFECTIVENESS OF SOCIALLY RESPONSIBLE INVESTMENT FUNDS IN POLAND

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## Abstract

*The purpose of the article is an analysis of the concept of a socially responsible investment. On the basis of the literature, the essence and the genesis of this concept has been shown in the article. The Polish SRI market has been presented as well, in a synthetic way. The article attempts to determine the effectiveness of socially responsible investment by the example of SRI funds. This article attempts to verify the hypothesis, that the funds which take SRI into account achieve better financial results in comparison with the WIG 20. The analysis includes the following investment funds: Inwestor Zmian Klimatycznych, PZU Energia Medycyna Ekologia, SKOK FIO Etyczny 1, SKOK FIO Etyczny 2, PKO Biotechnologii i Innowacji Globalny and one pension fund – OFE Pocztylion. The analysis presented in this paper covered the period 2009-2013.*

*On the basis of the literature review it can be assumed that Poland is in the initial phase of the development of socially responsible investment. The reason for the low demand for this type of investment may be the insufficient knowledge of investors on this topic. What is needed is a broad-based information campaign on SRI among individual and institutional investors.*

*The research conducted in the article shows that:*

- *it is worth to point out that in most periods the investment in the RESPECT index portfolio enabled investors to achieve better-than-market rates of return;*
- *only one of the analysed funds can be described as a worthwhile investment - PZU En-Med-Eco;*
- *in the period 2009-2013, the risk of SRI funds was significantly lower than the market risk over the same period (Sharpe's beta less than 1).*

*The analysis of the risk and returns of SRI funds in Poland in relation to the WIG index, as well as to the WIG20 and the RESPECT index portfolios does not allow us to draw clear conclusions. The differences of their financial performance should be treated rather as a direct result of their investment policies.*

**The type of the article:** Empirical study.

**Keywords:** socially responsible investment, efficiency, SRI funds.

**JEL Classification:** A13, G11, G12.

## 1. Introduction

Socially responsible investing is an investment strategy, which aims to maximize profit while taking into account the ethical standards and the principles of sustainable development. In the literature, a socially responsible investment is defined as an investment that integrates social order, ethical, environmental and governance criteria (Sandberg *et al.*, 2009). The European Social Investment Forum defines SRI as the process of combining financial targets of investors with relevant environmental, social and corporate governance (the so-called ESG Factors) (<http://www.eurosif.org/sri-resources/sri-faq>, 20.12.2013). Munoz-Torres interprets socially responsible investing as an investment combining financial goals with social values (Munoz-Torres *et al.*, 2004, p. 200). Socially responsible investing is not contrary to the essence of traditional investing, and does not put the validity of ethical issues over issues of efficiency (Rogowski,

Ulianiuk, 2012). Unlike conventional types of investments, SRI applies a set of investment screens to select or exclude assets based on ecological, social, corporate governance or ethical criteria, and often engages in the local communities and in shareholder activism to further corporate strategies towards the above aims (Renneboog *et al.*, 2008).

The concept of socially responsible investing has a long tradition, though the name itself has been functioning since relatively recently. The first activities of the mainstream, now called SRI, should be associated with religious orders present in Judaism, Christianity and Islam on the subject of how to use money (Renneboog *et al.*, 2008) (e.g. Judaism requires the use of money in an ethical manner, the Catholic Church in 1139 during the second Lateran Council introduced a ban on usury). Protestant Religious Society of Friends has played an important role in terms of promoting SRI by introducing the prohibition of the slave trade. Some authors relate the change in the approach to investing towards responsible investment to be caused by the consequences of changing morals after the First World War. Perry stated that the events of the war resulted in the return to religion as a primary source of moral guidance (Perry, 1993). According to Martin, the beginning of the development of SRI should be taken as 1940 when there was a retreat of government agencies from companies engaged in unfair labour practices (Martin, 1986).

The initiator of the first SRI funds was the church. In England in the early twentieth century, the Methodist Church founded an investment fund, whose policies forbade the involvement of agents in specific industries, and in 1984 the insurance company Friends Provident, under the auspices of the Society of Quakers, founded one of the first and most prestigious ethical funds in the UK – the Stewardship Fund. The Church of Sweden, in 1965 founded the SRI investment fund Aktie - Ansvar Sverige, and in Finland the Church was involved in the formation of two ethical funds in the country. In the last decade of the XX century in Germany local churches also established first ethical funds. In France, the first SRI fund Nouvelle Strategies Fund was founded in 1983 in Paris by a nun of the Catholic Church Nicole Reille (Czerwonka, 2011).

One of the pioneers involved in responsible investing - the fund called Pioneer Fund - was founded by Philip L. Carreta in Boston in 1928. The investment policy of the fund prohibited the placement of funds in shares of companies involved in the production of alcohol and tobacco (*European SRI ...*, 2012). In the USA, the first SRI fund - Pax World Fund was established in August 1971 in the wake of protests against the Vietnam War and apartheid in South Africa (Sparkes, 2002).

The idea of social responsibility in recent years has been developing very dynamically. An important factor behind the growth of interest in SRI was ethical consumerism, where consumers pay a premium for products that are consistent with their personal values.<sup>1</sup> Issues like environmental protection, human rights, and labour relations have become common in the SRI investment screens. In recent years, a series of corporate scandals has turned corporate governance and responsibility into another focal point of SRI investors. Hence, criteria like transparency, governance and sustainability have emerged as essential SRI screens (Renneboog *et al.*, 2008).

The value of the SRI market in the world in the end of 2011 is estimated at about 10 billion euros. The largest share of the global market for SRI in the European market amounts to 6.7 billion euros. The second largest is the American market of around 2.9 billion euros. The remainder of the SRI investment is in Canada (417 billion), Japan (3 billion euros) and Austria (1.56 billion euros) (Czerwonka, 2013). According to the Sustainable Investment Forum, in 2011 in Germany, more than 20 billion euros were involved in socially responsible investment (Kleine *et al.*, 2013). European countries with the largest SRI market is the Netherlands (91%), Spain (83%), France (74%) (*European SRI ...*, 2010). According to the forecasts of the Dutch investment company, Robeco, the 2015 SRI market will cease to be associated with the niche. The European SRI market is expected to grow to \$ 14.2 trillion, the United States is expected to reach 9.5 trillion, and in Asia, nearly \$ 3 trillion (*Czym jest Socially ...*).

<sup>1</sup> For example, the consumer market for ethical products and services in the UK is valued at \$59 billion in 2005.

According to Eurosif, the socially responsible investment market in Poland in 2012 is estimated at approx. 1.2 billion, which represents approximately 0.3% of assets under management in the country. Compared to the 2010 report, there has been an increase in the SRI market in Poland by 20% (*European SRI ...*, 2010, Czerwonka, 2013).

Based on the results, it can be stated that Poland is still in an early stage of development of socially responsible investment. There is a small number of initiatives that aims to promote taking account of ESG in the investment process. One of them is the creation of Respect Index which is the first in Central and Eastern Europe stock index of social responsibility (Wolska, Czerwonka, 2013). In addition to stock index of social responsibility, in Poland there are a few foreign SRI funds and several Polish for example: Inwestor Zmian Klimatycznych, PZU Energia Medycyna Ekologia, SKOK FIO Etyczny 1, SKOK FIO Etyczny 2, PKO Biotechnologii i Innowacji Globalny. In turn, only one SRI fund can be mentioned among pension funds – OFE Pocztylion (Czerwonka, 2013).

The subject of numerous scientific research projects is the effectiveness of socially responsible investments. The most common test is the relationship between the financial performance of socially responsible investments and traditional investments. Although the issue has been widely studied, it is still controversial among the representatives of science and practice.

The article attempts to determine the effectiveness of socially Responsible Investment on the example of SRI funds. This article attempts to verify the hypothesis, that the funds which take into account SRI achieve better financial results in comparison to the WIG 20. The analysis includes the following investment funds: Inwestor Zmian Klimatycznych, PZU Energia Medycyna Ekologia, SKOK FIO Etyczny 1, SKOK FIO Etyczny 2, PKO Biotechnologii i Innowacji Globalny and one pension fund – OFE Pocztylion. The analysis presented in this paper covered period 2009-2013.

## 2. Method

The subjects of the study were five investment funds and a pension fund using different strategies of socially responsible investing (see Table 1).

**Table 1.** Socially responsible investment funds in Poland (2009-2013)

ID	Name	Original name
INV Climate	INVESTOR climate's changes	Inwestor zmian klimatycznych
PKO BIO INNO	PKO Biotechnology and Innovation – Global	PKO Biotechnologii i Innowacji Globalny
PZU Med-En-Eco	PZU Energy, Medicine, Ecology	PZU Energia Medycyna Ekologia
SKOK Eth1	SKOK Ethical 1	SKOK FIO Etyczny 1
SKOK Eth2	SKOK Ethical 2	SKOK FIO Etyczny 2
OFE Pocz	Pocztylion pension fund	OFE Pocztylion

Source: own work

With regard to the selected SRI funds an extended profitability analysis was performed (covering both the analysis of market rates of returns and investment risk as well). The analysis presented in this paper covered the period 2009-2013.

As a measure of income derived from the ownership of each of the analyzed portfolios (achieved only as a result of changes in market prices of assets) the average logarithmic daily rate of return realized by the surveyed funds was assumed (Formula 1).

$$r_t = \ln \frac{P_t}{P_{t-1}} = \ln P_t - \ln P_{t-1} \quad (1)$$

where:

- $r_t$  – logarithmic rate of return from portfolio of securities,
- $P_t$  – value of portfolio of securities in period  $t$ ,
- $P_{t-1}$  – value of portfolio of securities in the base period.

The risk was described by a symmetric measure, which is the standard deviation of the returns (Formula 2).

$$V = \frac{1}{N} \sum_{t=1}^N (r_t - \bar{r})^2; \quad s = \sqrt{V} \quad (2)$$

where:

$V$  – logarithmic rate of returns variance in the period of  $N$  quotations,

$r_t$  – logarithmic rate of return from portfolio of securities,

$\bar{r}$  – average logarithmic rate of return from portfolio of securities in the period of  $N$  quotations.

The study on the performance of investment funds was designed to answer the question of an additional rate of return that the surveyed funds were able to develop as a result of their investment policy. In addition, the investment risk was analysed. Such analysis allowed authors to conclude how the selection of some specific investment parameters (i.e. socially responsible investment policy) could influence the results achieved by the investment fund. Additionally, the risk premium (excess profit realized by the fund over the risk-free rate of return) in relation to the total risk was calculated. In order to obtain comparable results, the Treynor Ratio (reward-to-volatility ratio) was used as a measure of the investment efficiency (Formula 3).

$$T_p = \frac{\bar{r}_p - r_f}{\beta_p} \quad (3)$$

where:

$r_f$  – risk free rate of return.

As a result, a pooled analysis of the return on investment and the accompanying risk (risk premium), using the Treynor Ratio was performed. The financial results of the analyzed investment funds were also interpreted in relation to the market in which they operate (portfolio performance analysis). In this paper the measures adopted from Capital Assets Portfolio Management (CAPM) model (Jajuga, 2005) were used to estimate the excess rate of return in relation to the relevant indices of the Warsaw Stock Exchange (benchmarks) (Formula 4).

$$r_{p,t} = \alpha_p + \beta_p r_{m,t} + \varepsilon_{p,t} \quad (4)$$

where:

$r_{p,t}$  – excel return of portfolio  $p$  over period  $t$ ,

$\alpha_p$  – performance of the fund manager in relation to the market (Sharpe's alpha),

$\beta_p$  – systematic risk of portfolio (Sharpe's beta),

$r_{m,t}$  – market (benchmark) excess return,

$\varepsilon_{p,t}$  – error term.

In addition, the results of SRI funds were examined in relation to the actual situation on the stock exchange. The main sources of data for the analysis, presented in that paper, were the official market data services of the Warsaw Stock Exchange, the BOS brokerage house and investment funds.

### 3. Results

Socially responsible investment market in Poland in 2012 was estimated at around EUR 1.2 billion, which stands for approximately 0.3% of total the value of assets under management in the country. According to the recent studies, although the SRI concept is widely known, most of the

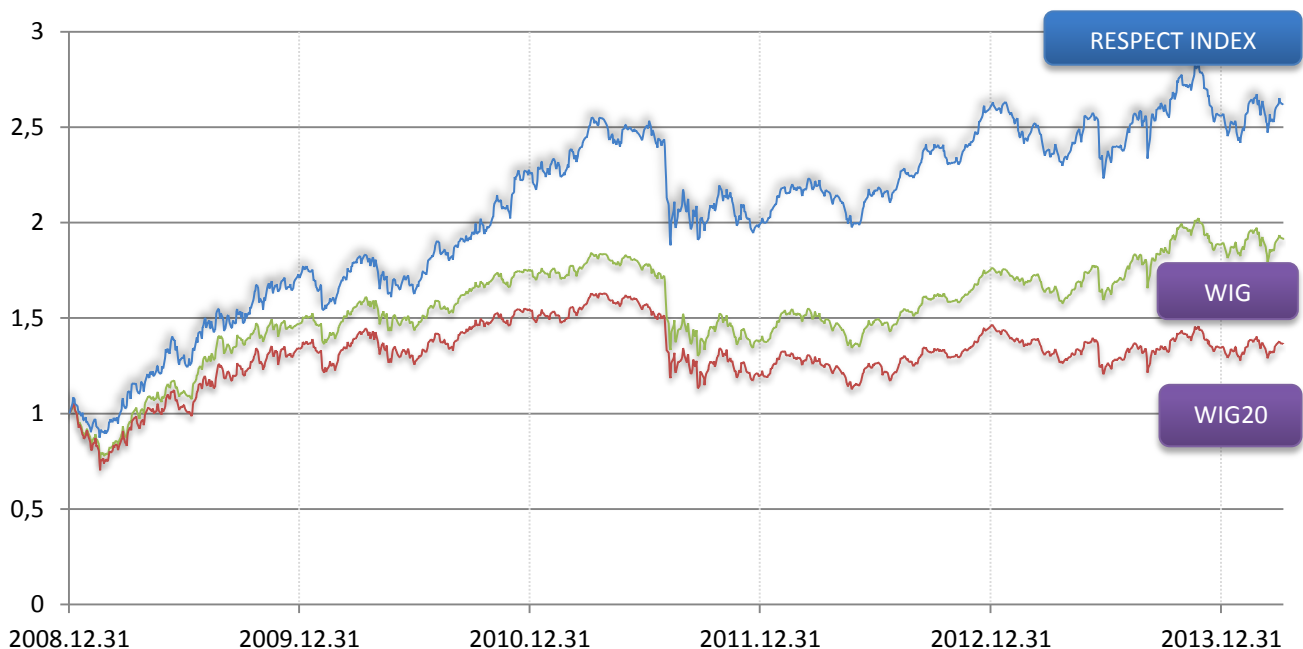
Polish investors do not use it. The results of the report ‘Perspectives of development of the socially responsible investment (SRI) in Poland’ show that 59% of Polish individual investors were familiar with the concept of socially responsible investing. Although there was a relatively high understanding of the idea of SRI among Polish investors, the tools of that concept were not widely used (there were only 33% of investors who declared using the SRI approach in portfolio management). The most popular SRI tools were the public reports on the application of CSR by companies and Warsaw Stock Exchange Respect Index as a reference (benchmark). According to the research, the portfolio of shares included in the Respect Index, guaranteed the investors a higher risk premium than the Polish blue-chips (WIG20) portfolio and the broad market index (WIG) as well (see Table 2, Figure 1).

**Table 2.** Market performance of RESPECT and WIG20 indices portfolios (2009-2013)

Year	Daily rate of return (%)		Risk (%)	
	RESPECT	WIG20	RESPECT	WIG20
2009	0,213	0,115	1,954	2,212
2010	0,110	0,055	1,297	1,270
2011	-0,048	-0,098	1,524	1,562
2012	0,103	0,075	0,877	1,064
2013	-0,005	-0,030	1,152	1,116

Source: own calculation, WSE data

Such a relation occurred independently of the overall market situation. The portfolio of shares of Respect Index companies in the in periods of market growth was characterized by a nearly twice higher risk premium in relation to the corresponding WIG20 portfolio. In the periods of market declines the shares of companies using CSR practices were characterized by significantly lower fall-downs or brought close to a neutral financial results.



**Figure 1.** Relative performance of socially responsible public companies in Poland (2009-2013)

Source: own calculation, WSE data

Statistical analysis of the risk and returns of the SRI funds in Poland allowed authors to compare the average rate of return of the SRI funds investments in relation to the WSE Respect index, as well as the WIG20 portfolios. Taking into account the value of Sharpe’s alpha (see Table



3), of which positive values should be interpreted as the portfolio's rate of return systematically better than the benchmark, only one of the analysed funds can be described as a worthwhile investment (PZU En-Med-Eco). For the other funds, the Sharpe's alpha values fluctuated around zero, which means that their rates of returns were close to the market rate of return. It is worth to point out that in most periods the investment in the RESPECT index portfolio enabled investors to achieve better-than-market rates of return.

**Table 3.** Market performance of selected SRI FUNDS in Poland (Sharpe's alpha)

Year	WIG20	RESPECT	INV Climate	OFE Pocz	PKO BIO INNO	PZU En-Med-Eco	SKOK Eth1	SKOK Eth2
2009	-0,047	0,055	0,013	0,012	n/a	-0,024	0,068	n/a
2010	-0,022	0,037	-0,046	0,020	n/a	0,064	-0,001	n/a
2011	0,003	0,043	-0,059	-0,001	-0,011	0,113	-0,008	-0,064
2012	-0,030	0,023	-0,041	0,030	0,000	0,022	0,032	0,015
2013	-0,059	-0,036	0,048	0,020	0,089	0,080	0,003	-0,024

Benchmark: WIG index

Source: own calculation, WSE data

In addition, performance of the analysed portfolios was assessed regarding the accompanying risk level, both in the periods of better and worse market condition. In case of the RESPECT index portfolio, Sharpe's beta fluctuated around 1 over the analysed period (see Table 4). It means that the risk of investment in a portfolio of companies listed on the Warsaw Stock Exchange that applied the principles of CSR did not differ significantly from the overall market risk. The risk of SRI funds was significantly lower than the market risk over the same period (Sharpe's beta less than 1). The reasons of such a situation might be, however, the characteristics of companies in the fund's investment portfolio, and the efficiency of the portfolio management as well.

**Table 4.** Systematic risk of selected SRI FUNDS in Poland (Sharpe's beta)

Year	WIG20	RESPECT	INV Climate	OFE Pocz	PKO BIO INNO	PZU En-Med-Eco	SKOK Eth1	SKOK Eth2
2009	1,160	0,864	0,358	0,258	n/a	-0,012	0,029	n/a
2010	1,164	1,052	0,551	0,309	n/a	0,158	0,032	n/a
2011	1,076	0,973	0,538	0,278	0,245	0,159	0,022	0,438
2012	1,126	0,896	0,475	0,279	0,215	0,003	0,013	0,601
2013	1,100	1,074	0,166	0,340	0,190	0,178	0,003	0,695

Benchmark: WIG index

Source: own calculation, WSE data

Simultaneous analysis of the risk and profitability of Polish SRI funds, carried out with the reward-to-volatility ratio (see Table 5) confirms the earlier conclusions. In general, the Treynor ratio determines the cost that the investor pays for the risk undertaken by the choice of a particular investment (a rational investor should seek such an investment that maximizes the value of the Treynor ratio then). According to this criterion, only one of the analyzed funds gave a positive risk premium (PZU En-Med-Eco) in all annual periods. In other cases, the achieved risk premium levels significantly varied and were not stable over time.

**Table 5.** Treynor ratio (reward-to-volatility ratio) of selected SRI FUNDS in Poland

Year	WIG20	RESPECT	INV Climate	OFE Pocz	PKO BIO INNO	PZU En-Med-Eco	SKOK Eth1	SKOK Eth2
2009	0,191	0,292	0,248	0,248	n/a	3,129	2,297	n/a
2010	0,037	0,090	-0,036	0,097	n/a	0,409	-0,252	n/a
2011	-0,090	-0,050	-0,212	-0,123	-0,169	0,569	-0,873	-0,251
2012	0,065	0,115	-0,007	0,173	0,054	4,418	1,824	0,110
2013	-0,024	-0,003	0,271	0,069	0,459	0,438	-2,315	-0,009

Benchmark: WIG index

Source: own calculation, WSE data

Statistical analysis of the risk and returns of SRI funds in Poland in relation to WIG index, as well as to the WIG20 and the RESPECT index portfolios does not allow us to draw clear conclusions. The market performance of such funds cannot be objectively assessed. Although the SRI approach might have an indirect influence on financial results of selected funds, the differences of their financial performance should be treated rather as a direct result of their investment policies (portfolio structure).

#### 4. Discussion

Poland is in the initial phase of development of socially responsible investment. The reason for the low demand for this type of investment may be insufficient knowledge of the investors about SRI, in particular, the effectiveness of these investments.

There is a small number of initiatives that take ESG into account in the investment process in Poland. Among the others, one of the most important was the creation of the first stock index of socially responsible companies in the Central and Eastern Europe – the Respect Index. In addition, there are several foreign and national SRI Funds in Poland, such as: Inwestor Zmian Klimatycznych, PZU Energia Medycyna Ekologia, SKOK FIO Etyczny 1, SKOK FIO Etyczny 2, PKO Biotechnologii i Innowacji Globalny. In addition, only one of the pension fund can be enumerated as SRI fund - OFE Pocztylion.

The efficiency of socially responsible investment is the subject of numerous scientific studies. Most studies examine the relationship between the financial performance of socially responsible investments and traditional investments. Although this issue has been widely analysed, it is still controversial among the representatives of science and practice.

The conducted research in the article shows that:

- it is worth to point out that in most periods the investment in the RESPECT index portfolio enabled investors to achieve better-than-market rates of return;
- only one of the analysed funds can be described as a worthwhile investment - PZU En-Med-Eco;
- in the period 2009-2013, the risk of SRI funds was significantly lower than the market risk over the same period (Sharpe's beta less than 1).

An analysis of the risk and returns of the SRI funds in Poland in relation to the WIG index, as well as to the WIG20 and the RESPECT index portfolios does not allow us to draw clear conclusions. The differences in their financial performance should be treated rather as a direct result of their investment policies.

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