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# Zarządzanie finansami firm – teoria i praktyka

Tom 1



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## EFFICIENCY OF INVESTMENT STRATEGY OF SOCIALLY RESPONSIBLE FUNDS CALVERT

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**Summary:** The subject of the in-depth analysis was effectiveness of Socially Responsible Investment. Two analyzed funds were selected from the American market of Calvert Socially Responsible Funds. The measure of investment effectiveness was log of returns. Moreover, the risk was estimated by conditional variance of ROI. It was based on GARCH (1,1) model. It is assumed in the paper that ROI and the risk generated by the thematic fund are different (lower) from the market average represented by S&P500 index. Therefore, American investors, while choosing from SRIs, are motivated not only by potential profit but also by the awareness of social purposes for which SRIs were created. Additionally, the paper presents the research results pointing at differences in approach to SRIs on American and European markets. The differences regard the definition of investment, the business involved, professional vocabulary and applied strategies.

**Keywords:** Socially Responsible Investment, efficiency, risk, investment funds.

### 1. Introduction

All investments are future oriented, so it is very important how money is used by investment intermediary. Socially conscious investors seek to secure their own financial future by putting investment capital to work in sustainable and healthy society. This trend has become visible during the financial crisis which has also been called the crisis of trust. Rebuilding the trust to investment institutions presents itself in convincing the society that financial means they are entrusted with support socially responsible investment and that the companies using them observe corporate governance. Socially Responsible Investment (SRI) is a term used to refer to the practice of directing investing funds in the ways that combine investor's financial objectives with their commitment to social concerns such as social justice, economic development, peace or a healthy environment [Haigh, Hazelton 2004, p. 59-71].

The main aim of this paper is to present efficiency and strategy of some investment funds, which are socially responsible funds (Calvert). Additionally, this paper presents conditional volatility of return on investment estimated by GARCH (1,1) Model.



## 2. Definitional confusion

The whole area is based on definitional confusion. Much of this confusion between “ethical”, “socially-responsible” and “sustainable” terms is based on institutions or persons who defined it. For example Ethical Investing Association [2006] SRI is called ethical investing and defined as “[...] an investment process which reflects with values and beliefs on individuals and mission-based organizations regarding to environment, society, laborrights, governance and ethics”. Socially Investing Forum [2006] defined it as “[...] an investment process that considers the social and environmental consequences of investment, both positive and negative, within the context of rigorous financial analysis”. UN Principles for Responsible Investment [2006] enrich this definition with ESG factors (Environmental, Social, Governance), noticing there “[...] is a growing view among investment professionals that environmental, social and governance (ESG) issues can affect the performance of investment portfolios”. Based on the definition and assessment practices we can define sustainable investing as an evolutionary synthesis of traditional investing approaches with a proactive stance on suitability.

Sparkes connects the concept of CSR and SRI. “[...] CSR and socially responsible investing are the essence mirror images of each others. Each concept basically asserts but business should generate wealth for society but within certain social and environmental frameworks. CSR looks at this from the viewpoint of companies, SRI from the viewpoint of investor of those companies” [Sparkes 2002]. Generally, SRI is the process of investing in companies that implement CSR standards.

## 3. Socially responsible market

Numbers support the volume of sustainable investment market. World Investment Forum states that in the United States almost 11 % of investment funds assets are engaged in SRI companies while in Europe (according to European Sustainable Investment Forum) 17%. [Social Investment Forum 2006]. The data point at the engagement of investment institutions but private investors, venture capital and private equity should not be underestimated. SRI is based historically– it comes from religious movements which developed differently in the US than in Europe [Kinder, Lydenberg, Domini 1994; Kinder, Domini 1997, p. 12-19; Kreander, Molyneaux, McPhail 2003; Sparkes 1995]. The differences regard the aims, definition and the use of basic notions, different structure and strategy of the subject on the market. The American approach emphasizes social aims while the European approach stresses financial outcome [Louche, Lydenberg 2006, p. 37]. The subjects on the American market are mostly individual investors and the state is not much involved. In Europe these are mostly institutional investors [Solomon, Solomon, Norton 2002, p. 1-13]. Moreover, European countries are significantly involved in sustainable investment.

Another difference are applied investment strategies. In the US the negative selection is more emphasized than in Europe [Giamporcaro-Saunier 2004, p. 62].

Socially Responsible Investing dates back hundreds of years. The modern roots of this phenomenon can be traced back to the impassioned political climate in the 1960s. The ranks of socially concerned investors grew dramatically throughout the 1980s. At that time some investment strategies were focused on pressuring the white minority government of South Africa to dismantle its racist system of apartheid [Schueth 2003].

#### 4. Main social strategies Socially Responsible Intermediaries

Table 1 presents investment strategies used by investment funds during the selection of a company to the portfolios. This strategy can be divided into two: core and board strategies. The main differences between them are due to the involvement level. Moreover, the core strategies are better defined as there are more details.

**Table 1.** Investment strategies used by investment funds

Core strategies	
Positive screening Best-in-Class	The selection within the given investment universe, of stock of companies that perform best against a defined set of SEG criteria. This may include Best-in-Class or SRI theme funds instead. An approach in which leading companies with regards to ESG criteria from each individual sector or industry group are identified and included into portfolio. (Subset of positive screening)
SRI theme funds	They may focus on sectors such as water, energy or issues such as the transition to sustainable development and a low carbon energy. These funds must show an explicit SRI motivation taking into account ESG consideration in a fund construction process. (Subset of positive screening)
Values – based exclusion	This refers to exclusion when more than two negative criteria are applied.
Norms-based exclusion	Negative screening of companies according to their compliance with international standards and norms such as issued by OECD, UNICEF.
Board strategies	
Simple screening	An approach that excludes given sectors or companies from funds such as arms manufactures, tobacco, animal testing
Engagement	A long term process of dialogue with companies which seek to influence company behavior in relation to their social, ethical and environmental practices.
Integration	The explicit inclusion by asset managers of ESG risk into traditional financial analysis.

Source: [Eurosif 2010].

## 5. Strategy of Calvert investment fund

Each SRI strategy employs one of three proprietary approaches: Calvert Signature Portfolios, Calvert Solution Portfolios or Calvert SAGE Portfolios. Investment portfolios integrate two distinct research frameworks: a rigorous review of financial performance and a thorough assessment of environmental, social and governance performance. Investment portfolios selectively invest in companies that create products and services designed to solve some of today's most pressing environmental and sustainability challenges. Each Solution Fund has different criteria that reflect the over-arching issues and opportunities in its sector. Investment portfolios emphasize strategic engagement to advance environmental, social and governance performance in companies that may not meet certain standards today, but have potential to improve.

**Table 2.** Calvert's SRI approaches

Calvert Signature Portfolios	Calvert Solution Portfolios	Calvert SAGE Portfolios
Investment exclusions <ul style="list-style-type: none"> <li>– Tobacco</li> <li>– Weapons</li> <li>– Firearms</li> <li>– Alcohol</li> <li>– Gambling</li> <li>– Human right issues</li> <li>– Nuclear</li> </ul>	Investment exclusions <ul style="list-style-type: none"> <li>Calvert Global Alternative Energy Fund               <ul style="list-style-type: none"> <li>– No new nuclear</li> <li>– Human rights issues</li> </ul> </li> <li>Calvert Water Global Fund               <ul style="list-style-type: none"> <li>– Tobacco</li> <li>– Weapons</li> <li>– Human rights issues</li> </ul> </li> </ul>	Investment exclusions <ul style="list-style-type: none"> <li>– Tobacco</li> <li>– Weapons</li> <li>– Human rights issues</li> </ul>
Investment criteria <ul style="list-style-type: none"> <li>– Holding pass all core criteria:</li> <li>– Governance and ethics</li> <li>– Environments</li> <li>– Workplace safety</li> <li>– Product safety</li> <li>– Human rights</li> <li>– Indigenous peoples' rights</li> <li>– Community relations</li> </ul>	Investment criteria <p>Holdings are considered by the criteria relevant to the alternative energy sector and the water sector, including:</p> <p>specific issues related to human rights and indigenous people' rights</p>	Investment criteria <p>All companies are eligible except those that are excluded for tobacco, weapons and human rights</p>
amount of portfolios 14 amount of funds 31	amount of portfolios 2 amount of funds 5	amount of portfolios 1 amount of funds 3

Source: Calvert.com.

## 6. Return and volatility specific to from GARCH(1,1) model for selected Calvert funds

Management effectiveness analysis has been defined on the bases of daily returns for two funds and index S&P500. Daily continuously compounded returns for the selected data are calculated as  $(R_t = 100 * \log(p_t/p_{t-1}))$  where  $R_t$  and  $p_t$  are the daily returns and prices respectively. This paper defines two investment funds: equity funds from Signature Portfolios and Solution Portfolios. From the group Signature Portfolios Calvert Large Cap Growth Fund (934) has been chosen and from Solution Portfolios Calvert Global Alternative Energy Fund (971) has been selected, from each type A group. The analysis has been conducted for three periods: the year 2008, 2009 and 2010. The results have been compared with market benchmark that is S&P500. 2271 observations have been conducted. The Dickey-Fuller test suggests that the return series have been produced by stationary series.

**Table 3.** Data statistics for two SRI funds and S&P500 (2008)

Statistics	Fund 971	Fund 934	Index S&P500
Mean	-0.3445387	-0.24293376	-0.192056143
Std. Dev.	3.586306633	2.671636602	2.582815477
Variation coefficient (%)	1040.9	1099.74	1344.82
Kurtosis	4.043112978	4.026952602	3.777820839
Median	0	-0.153964619	0
observations	253	253	253

Source: own calculation.

**Table 4.** Data statistics for two SRI funds and S&P500 (2009)

Statistics	Fund 971	Fund 934	Index S&P500
Mean	0.082274878	0.111203338	0.08361111
Std. Dev.	1.981994234	1.648409984	1.717394573
Variation coefficient (%)	2408.998	1482.338	2054.027
Kurtosis	0.776292808	2.113923327	1.913215351
Median	-0.114220458	0.103840069	0.186894689
observations	252	252	252

Source: own calculation.

**Table 5.** Data statistics for two SRI funds and S&P500 (2010)

Statistics	Fund 971	Fund 934	Index S&P500
Mean	-0.089142338	0.043306126	0.047735263
Std. Dev.	1.610937916	1.182188339	1.137780558
Variation coefficient (%)	1897.15	2729.841	2383.552
Kurtosis	1.589987456	1.977342493	2.023576621
Median	0	0.080354611	0.079881239
observations	252	252	252

Source: own calculation.

The data presented in Table 3 show that average level of returns for analyzed fund 934 and S&P500 was almost equal. Average return was negative in the analyzed cases and risk was higher for fund 971 than for 934. The data presented in Table 4 show that average level of returns for analyzed fund 971 and S&P500 was almost equal. Average return was positive in the analyzed cases and risk was higher for fund 971 than for 934. The data presented in Table 5 show that average level of returns for analyzed fund 934 and SP500 was almost equal. In the period analyzed the average returns for the fund and the index was positive. Standard deviation shows significant dispersion of data. The value of variation coefficient confirms these results. The analysis of variation coefficient confirms the above results. Variation coefficient is very high because for fund 934 it amounts to almost 3000% which means that standard deviation is over 3000% of the average value. Only in 2008 kurtosis for 971 and 934 funds was more than three. For normal distribution the value of kurtosis is three.

Returns present themselves differently for thematic fund from *Solution Portfolios* strategy. Average return is different from S&P500 index. In 2008 it was lower than index, in 2009 almost the same as index and 2010 was lower than index. It means that better results in the period analyzed were generated by index S&P500 funds than by thematic funds (ecological).

The risk might be presented as conditional deviation of returns specified from GARCH model. The estimation of a GARCH model involves the joint estimation of a mean and a conditional variance equation. The GARCH(1,1) model is stated as follows:

The mean equation  $Y_t = X_t \theta + v_t$

Where  $X_t$  is a vector of exogenous variables.

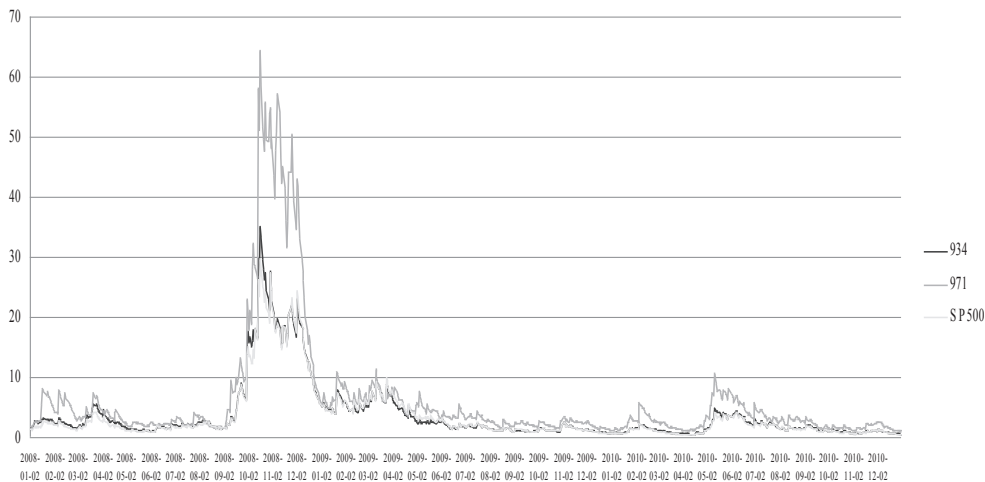
The conditional variance equation  $\sigma_t^2 = \alpha_1 + \alpha_2 v_{t-1}^2 + \alpha_3 \sigma_{t-1}^2$

Where the parameters  $\alpha_1$ ,  $\alpha_2$  and  $\alpha_3$  satisfy  $\alpha_1 > 0$ ,  $\alpha_2 \geq 0$  and  $\alpha_3 \geq 0$  and are explained as follow:

$\alpha_1$ : A constant term.

$\alpha_2 v_{t-1}^2$  (the ARCH term): News about volatility from the previous period are measured as the lag of the squared residual  $v_{t-1}^2$  from the mean equation.

$\alpha_3\sigma_{t-1}^2$  (the GARCH term): Last period's forecast variance as a function of the past residuals  $v_{t-2}, v_{t-3}, \dots$



**Figure 1.** Conditional deviation of returns specified from GARCH model.

Source: own elaboration.

The superficial analysis of Figure shows that the risk specified by GARCH (1,1) model conditional deviation of returns for fund 971 is bigger than for fund 934.

## 7. Conclusions

Dynamic development of SRIs is considered to be a recent phenomenon. One of the reasons is the decrease of social trust for regional and global investments which is obvious especially after the last financial crisis. Moreover, in the time of modern technology information flow and excessive amount of information, there is a need to highlight investments supporting environmental protection and complying with ethical standards. Despite general agreement concerning the idea a lot of authors present differences in their approach to SRIs, especially on European and American market. The differences concern: aims, market subject, terms used and strategy. American approach emphasizes social values whilst European approach is more about financial target and investment effectiveness. The analysis of effectiveness presents various results depending on a strategy. A comparison of returns in 2008-2010 and risk estimation for funds (thematic and big companies) and index S&P500 confirm previous hypothesis. The result of quantities research points at bigger differentiation between thematic fund and S&P500 then among big companies fund.

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## EFEKTYWNOŚĆ STRATEGII INWESTYCYJNYCH FUNDUSZY SPOŁECZNIE ODPOWIEDZIALNYCH CALVERT

**Streszczenie:** Przedmiotem pogłębionej analizy było zbadanie efektywności inwestycyjnej społecznie odpowiedzialnych funduszy inwestycyjnych Calvert. W pierwszej części przedstawiono dylematy związane z trudnością w definiowaniu społecznie odpowiedzialnych inwestycji. Następnie zaprezentowano strategię stosowaną przez instytucje zbiorowego inwestowania, działające na rynku społecznej odpowiedzialności. W końcu przeprowadzono badanie ich efektywności i ryzyka. Do badania zostały wybrane fundusze z rynku amerykańskiego z grupy społecznie odpowiedzialnych funduszy Calvert. Badaniu poddano dwa fundusze, po jednym z grupy funduszy tematycznych i funduszy dużych spółek. Porównano je z benchmarkiem rynkowym, indeksem giełdowym S&P500 w okresach rocznych, tj. za 2008, 2009 i 2010 r. Jako miara dochodowości inwestycyjnej została przyjęta logarytmiczna stopa zwrotu. Dodatkowo oceniono ryzyko, wyznaczając wariancję warunkową tychże stóp zwrotu z modelu GARCH (1,1). Analiza wymienionych funduszy pokazała, że największe ryzyko przy najniższych stopach zwrotu występuje w funduszu tematycznym, natomiast fundusz dużych spółek zachowywał się podobnie jak S&P500. Wyniki badań mogą sugerować, że fundusze tematyczne ze względu na gorsze wyniki i większe ryzyko nie powinny znaleźć poparcia wśród inwestorów. Jednak na rynku amerykańskim aspekt ochrony środowiska, silnie promowany przez lobby ekologiczne, przyczynił się do wspierania przez uczestników rynku tychże inwestycji ze zgodą na niższą efektywność.

**Słowa kluczowe:** społecznie odpowiedzialne inwestycje, efektywność społecznie odpowiedzialnych funduszy inwestycyjnych, model GARCH (1,1).