

## SUSTAINABLE INVESTMENTS IN WESTERN EUROPEAN COUNTRIES - A MULTIDIMENSIONAL APPROACH

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### ABSTRACT

This study analyzes the factors affecting the development of sustainable investments in Western European countries such as: Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Spain, Sweden, Switzerland and the United Kingdom. These countries have been chosen intentionally because the authors wanted to analyze a homogenous research sample of highly developed European countries. According to Eurosif, sustainable investments have been present in all of the selected 12 countries. The intention of the authors is not to compare the countries per se, but to use the quantitative economic and socio-cultural data in order to find the similarities and differences between them and to indicate the groups of countries with a similar approach to sustainable investments. To solve the problem, the multivariate technique was used - correspondence analysis (CA). The results show significant diversification of the countries in terms of socio-cultural perspective, economic, socio-demographic, ecological and innovative factors.

**Keywords:** *ethics in finance, socially responsible investing*

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## 1. INTRODUCTION

The studies on investing that complies with the concept of Responsible Investment (RI) have so far concentrated more on profitability and effectiveness of such investments, simultaneously treating socially responsible investors (in the majority of the studies) as a homogeneous group (Dervall et al. 2011) rather than on the socio-cultural aspect, which has been often omitted. Sandberg et al. 2009 claim that cultural differences may well explain this diversification of socially responsible investments but it is unlikely that these differences will be identified in the nearest future. Another aspect left undiscussed in conducted research includes economic factors, which are the cornerstone of such investments. Many studies relate this issue with a new trend focused on the assessment of the influence socially responsible actions have, also including investments on the financial market, on the stability of the financial system. This problem became apparent after the Global Financial Crisis in 2007 (GFC/2007) when the whole world faced the challenge of how endure the effects of a head-on collision with the crisis. The effects of the crisis were and are still visible in different areas long before its first wave passed by. It transformed itself from a financial crisis into economic and further political one. The questions about its sources are well justified. According to the analysts, the reasons should be found in the activities of particular institutions, people, excessive greed and lightheartedness, supported by an improper or even harmful State's policy. This problem was also a challenge to ethical finance, due to the necessity to look for financial stability. This issue was and still is investigated by many analysts such as: (Milano, 2011; Arvidsson, Peitersen, 2013; Puaschunder, 2017; Nofsinger, Varma, 2014; Janik, Jędrzejowska-Schiffauer, 2018).

## 2. THEORETICAL BACKGROUND

Europe is not homogenous either in a cultural or economic sense. The division into the countries of Western and Eastern Europe is clear. Still, the differences are less and less visible. Here, it should be emphasized that Poland has been qualified to 25 most developed countries. Developed from the economic perspective does not mean, however, that it should be treated the same in terms of its approach to ethical finance.

The idea of Socially Responsible Investing (SRI) is not new and its roots in the modern history of the world can be found at the beginning of 18th century. In those times it was mainly driven by religious values. Many religions provide examples of socially responsible approach to investing. The Methodist Church in the UK, when started allocating its resources on the stock market in the 20s of the 20th century, avoided investing in “sinful enterprises” such as those trading in tobacco, alcohol, weapon or dealing with gambling (Berry, 2015). Muslim investors who act pursuant to Koran and its interpretation avoid investing in companies dealing with pornography, gambling and lending money with loan interests or pork production (Binmahfouz, 2016).

Modern SRI is based on growing social consciousness of investors. As soon as in the 60s of the 20th century a series of social anti-war and anti-racist campaigns was created aimed at educating investors about social consequences of their decisions, i.e. no support was given e.g. for companies providing raw materials and semi-finished products for weapon production. Also ecological disasters influenced greatly the decisions made by socially responsible investors. Investors eliminated from the portfolio such companies which contributed to ecological disasters or limited investments in the regions threatened with such catastrophes. Not all studies confirm such actions unconditionally. Barnea et al. claim that on the basis of the conducted research, ecological investors may force companies which pollute the environment to implement reforms, however any actions in terms of social responsibility (growth of funding for SR) make the companies polluting the environment underfinanced (Barnea et al. 2005).

From the beginning of the 90s of the 20th century social responsibility started developing rapidly in the USA, Europe and in other continents. A very important factor which contributed to this growth was the movement of ethical consumerism in which consumers are prone to pay more for products manufactured according to their personal values. Such issues as environmental protection, human rights protection and working conditions became important while choosing SR investments. The growth of ethical consumerism encourages to search for information on ethical business activities while taking investment decisions. However, the research made in the years 2010-2012 on the basis of the analysis of annual corporation reports show the differences in promoting ethical business activities. An even bigger discussion was observed in 2012 rather than in 2010 on ethical treatment of employees and the activities limiting risk among consumer goods suppliers. The results

also showed that the companies listed in DJSI (*Dow Jones Sustainability Index*) lose the opportunity to promote their ethical activities and do not optimize their attractiveness for investors, who want to support ethical companies (Huhmann, Conner, 2014).

### 3. RESEARCH METHOD

On the basis of earlier conducted research which correlated selected variables with SRI/1000<sup>3</sup>, the selection of variables was made that significantly influence the volume of SRI/1000. The variables were chosen according to the data coming from 2015. They constitute the latest source of information on socially responsible investments (without overlaps) in the countries of Western Europe (SRI Eurosif Study, 2016, p. 12). Correlation analysis helped specify socio-cultural as well as economic factors, which significantly influence SRI/1000 in Western Europe. In order to assess mutual relations between the categories of selected variables, a multi-dimensional analysis of correspondence was applied (MCA - Multiple Correspondence Analysis) - selected results of the research were presented in the graphs below. There is a data analysis technique for nominal categorical data used to detect and represent underlying structures in a dataset. For the purpose of the research, each quantity variable was ascribed to three categories reflecting the level of this phenomenon.

### 4. RESEARCH RESULTS

#### 4.1. Socio-cultural factors

Hofstede presented in his book *Culture and Organizations - Software of the Mind* (Hofstede, 1990, Hofstede at al. 2010) the data from seventy-six countries and five cultural dimensions: *Power Distance Index (PDI)*, *Individualism vs. Collectivism (IDV)*, *Masculinity vs. Femininity (MAS)*, *Uncertainty Avoidance Index (UAI)*, *Long Term Orientations vs. Short Term Normative Orientation (LTO)* and *Indulgence vs. Restraint (IR)*. The country's scores in the dimensions are relative and assume values from 0 to 100 for each dimension. The higher the value, the stronger concrete cultural dimension. The diagram below presents only cultural dimensions, which

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<sup>3</sup> SRI calculated for 1000 inhabitants.



(C) and Protestants (P) in the society were moderate as well as average levels of the index was similar: Individualism vs. Collectivism (IDV). The division into these groups was confirmed by the hierarchical clustering (Chart 2).

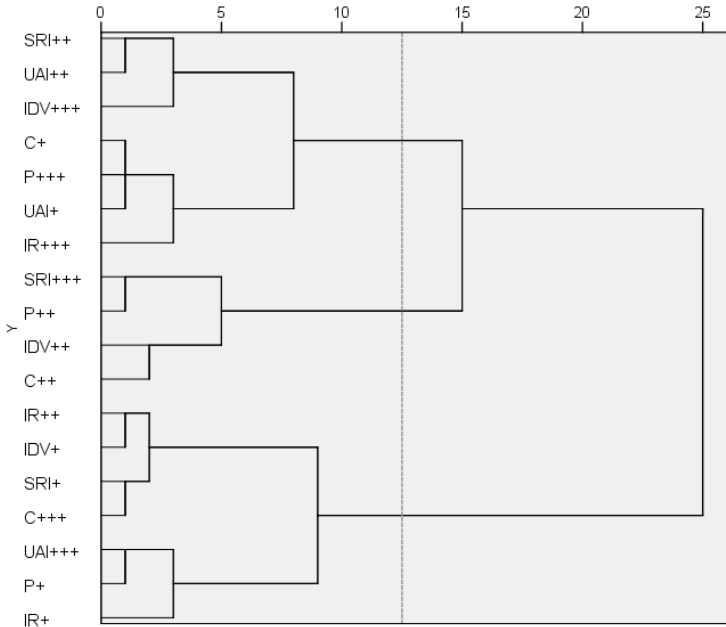


Chart 2: Dendrogram of category grouping on the basis of MCA of the features SRI/1000; [SRI]; Hofstede's indicators: Individualism vs. Collectivism [IDV], Uncertainty Avoidance Index [UAI], Tolerance/Indulgence vs. Restraint [IR]; share of Catholics [C]; share of Protestants [P]. Source: the author's own analysis

Fig. 3 presents a multi-dimensional interrelation between SRI/1000 and variable based on CP Index5 and Corporate Ethics (CE). CPI Index - Corruption Perception Index - is a composite index presenting the perceived level of corruption of public sector. The data come from economic and expert research conducted by different independent institutions. The index amounts to the values between 0 - high level of corruption to 100 - public sector is perceived as "not corrupted". Corporate ethics (CE) - this index, developed by the World Economic Forum, specifies corporate ethics of a company measured as ethical behavior in interactions with public officials, politicians and other firms.

5 On the basis of CPI, a variable was created which shows the preception of corruption. Low levels of the vairable correspond to high levels of CPI, which means a low perception level of corruption.

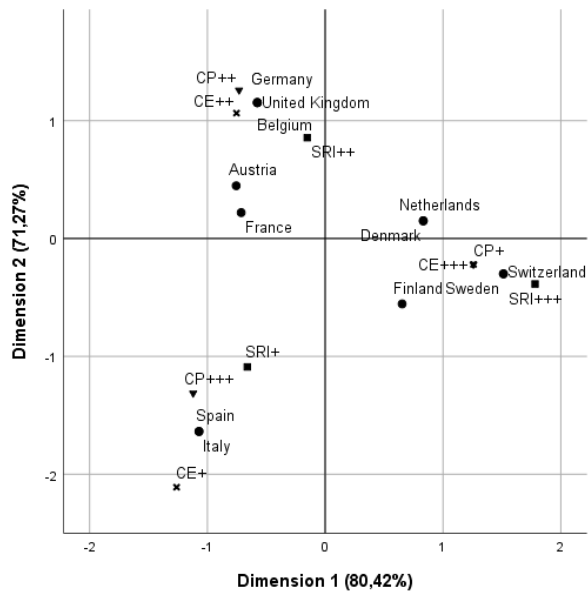


Chart 3: Correspondence (MCA) diagram of the following features: SRI/1000;[SRI]; corporate ethics [CE]; Corruption Perception [CP]. Source: the authors' own analysis. Dimension 1 explains 80.42% of variance, Dimension 2 explains 71.27% of variance.

SRI/1000 reached the highest level in the countries characterized by high corporate ethics and low perceived corruption such as Switzerland, Finland, Sweden, Denmark and the Netherlands, whereas relatively low corporate ethics and high perception of corruption was recorded in Italy and Spain - the countries of the lowest SRI/1000 (with the exception of Austria - in spite of low SRI/1000, its indices were moderate).

#### 4.2. Economic factors

Fig. 4 presents three economic variables significantly correlated with SRI/1000. These include: GDP per capita, Global Competitiveness Index (GCI) and Human Development Index (HDI). The value of GDP per capita is calculated according to the Purchasing Power Parity (PPP) and is expressed in commonly agreed currency PPS (Purchasing Power Standard) against the average for the European Union settled as equal to 100 (UE28 = 100). The GC Index - Global Competitiveness Index - is a composite index specifying the capabilities of particular countries to guarantee a

long-term economic growth. It is equal to the values from 1-7, where 7 means the biggest competitiveness. The HD Index - Human Development Index (HDI) is a synthetic measurement of society development. It measures average achievements in a country taking into consideration the basic areas of human development such as long and healthy life (health), access to knowledge (education) and a decent level of life (income). The HDI is expressed as the value between 0 and 1. Since 2010 the HDI is calculated on the basis of the following factors:

- average life expectancy;
- average number of schooling years for people aged 25 and more;
- expected number of schooling for children starting education;
- GNI per capita calculated according to Purchasing Power Parity (PPP \$).

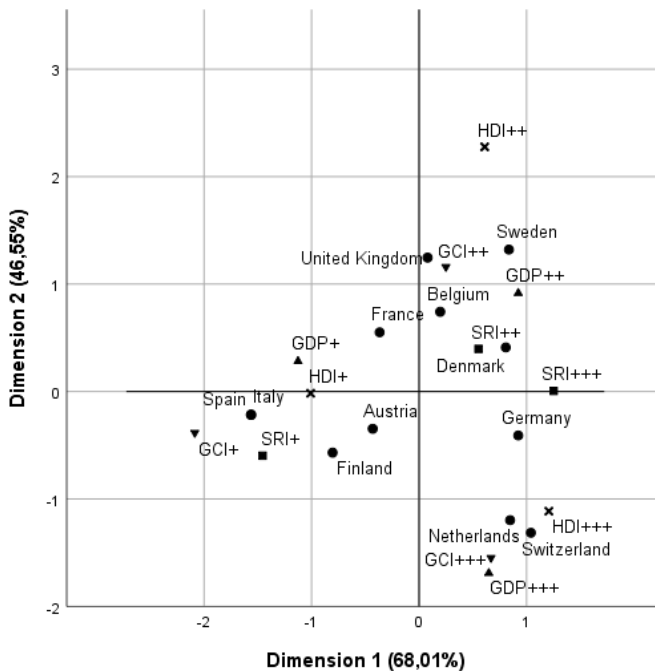


Chart 4.: Correspondence (MCA) diagram of the features: SRI/1000 [SRI]; GDP per capita [GDP]; Global Competitiveness Index [GCI]; Human Development Index [HDI]. Source: the authors' own analysis. Dimension 1 explains 68.01% of the variance, Dimension 2 explains 46.55% of the variance.



The graph of projecting categories of selected economic indices in the two-dimensional space indicates clearly the connection of SRI/1000 with the level of the economic growth, human development and competitiveness of economies. High levels of SRI/1000, GDP per capita, HDI and GCI occurred in Switzerland and the Netherlands, the lowest in Spain and Italy and in Austria. Germany are close to countries grouped around strong SRI/1000. Fig. 5 presents three variables also significantly correlated with SRI/1000 showing economy marketization and the development of financial market. Market Capitalization as % GDP - the ratio of capitalization of a given stock market to GDP, expressed in percentage, is considered to measure the development of a given stock market as well as the measurement for the economy and its marketization. As capital markets analyses indicate, in order for a particular market to influence processes in a national economy, it should achieve capitalization at least at the level of 20%. Mature capital markets in economically developed countries are characterized by the level of capitalization/GDP amounting to more than 60%. Financial Market Development - the variable which is a combination of a few indices of market and legal character.

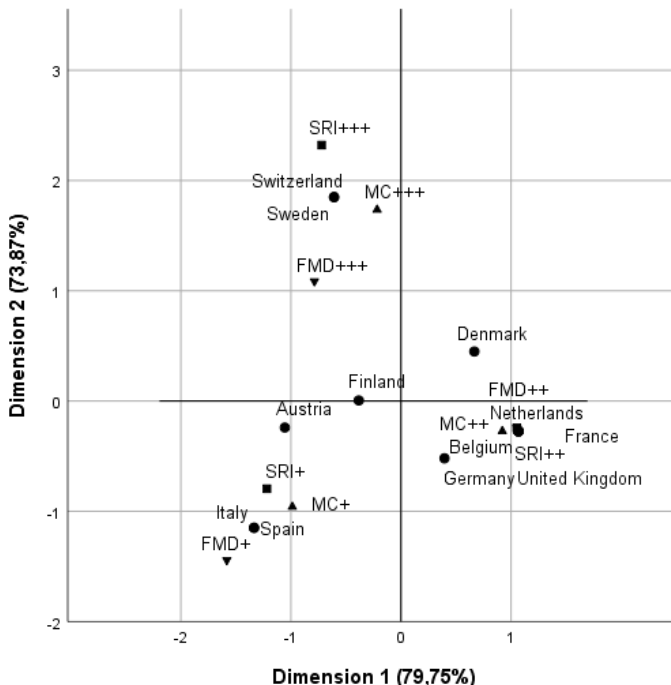


Chart 5: Correspondence (MCA) diagram of the features: SRI/1000 [SRI]; market capitalization of listed domestic companies (% of GDP) [MC]; financial market development [FMD]. Source: the authors' own analysis. Dimension 1 explains 79.75% of the variance, Dimension 2 explains 73.87% of the variance.

A strong positive correlation was also shown between the volume of SRI/1000, and the development of financial market and the level of market capitalization (% GDP). These relations were presented in graph 5 - the division into three groups is clearly visible. The highest indices occurred in: Switzerland and Sweden; moderate in the Netherlands, Denmark, the UK, France, Belgium [and Germany]. Low indices were recorded in Spain and Italy - including Austria and Finland though its financial markets are relatively highly developed.

## 5. CONSLUSION

Religious structure seems to have a very significant importance if socio-cultural factors are concerned. As the research clearly showed, countries of low SRI/1000 had a relatively highest share of Catholics; Spain, Austria, Italy and Belgium. Simultaneously, the same group of the countries was characterized by a high level of Uncertainty Avoidance (UAI) and low level of Individualism vs. Collectivism (IDV) as it was concluded from the analysis of corporate culture according to Hofstede et al. The societies of low level of individualism and prone to avoid uncertainty were poorly engaged in socially responsible investments.

In the case of two other analyzed factors related to business ethics and perception of corruption it may be concluded that the higher the perceived corruption and the lower level of corporate ethics, the fewer SRI/1000 assets. This condition was particularly visible in Italy and Spain, whereas a significantly more favorable situation indicating low corruption level and high level of corporate ethics connected with a high value of SRI/1000 was observed in Switzerland, Sweden, the Netherlands, Denmark and Finland.

Selected variables characterize in a versatile way the economic situation (GDP per capita) and the competitiveness (GCI) countries as well as their social development (HDI). The countries of high SRI/1000 enjoyed the highest values of indices in the indicated areas. These countries include: Switzerland, the Netherlands and Germany. The weakest countries again included Italy and Spain.

Marketization of these economies and the development of financial markets also significantly influences the volume of SRI/1000. The strongest group included two countries: Switzerland and Sweden whereas the weakest included: Spain and Italy.

The conducted multi-dimensional analysis of the socio-cultural and economic data indicated that these countries show certain similarities. Italy and Spain reached low levels of variability in the analysis and consequently were classified into the weakest group. Switzerland, Sweden and Germany, when compared to other countries, represent the highest level of socio-cultural developments and in the majority of the enumerated countries<sup>6</sup> SRI/1000 was high.

## 6. BIBLIOGRAPHY

- Arvidsson, A. & N. Peitersen (2013). *The Ethical Economy Rebuilding Value After the Crisis*. Columbia University Press.
- Barnea, A. R., Heinkel, A. Karus (2005). Green investors and corporate investment. *Structural Change and Economic Dynamics, Volume 16, Issue 3 (SPEC. ISS.)*, pp. 332-346.
- Berry, L. (2015). Religious investors and responsible investment. In: T. Hebb, J.P. Hawley, A.G.F. Hoepner, A. L. Neher, D. Wood (Ed.), *Routledge Handbook of Responsible Investment*, London: Taylor & Francis Group, pp. 474-484.
- Binmahfouz, S. (2016). Socially Responsible Investments and Islamic investments: is there a difference?, In: O. Lehner (Ed.), *Routledge Handbook of Social and Sustainable Finance*, London: Taylor & Francis Group, pp. 239-263.
- European SRI Study 2016, Eurosif, 2016.
- Hofstede, G. (1990). *Cultures and organizations: Software of the mind*. London: McGraw-Hill.
- Hofstede, G., G.J. Hofstede, M. Minkov (2010). *Cultures and Organizations: Software of the Mind*, Third Edition. Retrieved from: <http://testrain.info/download/Software%20of%20mind.pdf>
- Huhmann B.A, Conner, S.L. (2014). Promoting business ethics through annual reports. *Journal of Financial Services Marketing. Volume 19, Issue 1, March*, pp. 17-28.
- Janik B. & I. Jędrzejowska-Schiffauer (2018). Avoidance of Crisis and Sustainable Development through Ethical Economics in: [ed.] Peter Schiffauer, *A Single Model of Governance or Tailored Responses. Historical, Economic and Legal Aspects of European Governance in the Crisis*, pp. 135-147.

<sup>6</sup> Germany are an exception here, since the level of SRI/1000 was average.

- Nofsinger, J., Varma, A. (2014). Socially responsible funds and market crises, *Journal of Banking and Finance*, 48, pp. 180-193. Retrieved from: <http://www.elsevier.com/locate/jbankfin> doi: 10.1016/j.jbankfin.2013.12.016
- Puaschunder, J. M. (2016). Socially Responsible Investment as emergent risk prevention and means to imbue trust in the post-2008/2009 world financial crisis economy. In: O. Lehner (Ed.), *Routledge Handbook of Social and Sustainable Finance*, London: Taylor & Francis Group, pp. 222-238.
- Special Eurobarometr, Biotechnology Report, 2010, pp. 382-383. Retrived from: [http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs\\_341\\_en.pdf](http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs_341_en.pdf) [ 20.09.2018]