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CONCEPT OF SOCIAL RESPONSIBILITY AS AN INSTRUMENT OF STABILISING THE MACROECONOMIC SITUATION OF ENTERPRISES

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Abstract: The article presents the issue of corporate social responsibility as an instrument of stabilising the macroeconomic situation of a company based on building increased trust and attachment of society to a given company. Developing relationships in a proper way with stakeholders should be a guarantee to make a business an important element of the social structure, thus contributing to mitigating the impact of economic changes on the company's situations. The aim of this work is to examine the impact of selected macroeconomic variables related to the activities of enterprises (in particular. socially responsible enterprises), illustrated in the form of changes in the value of stock market indices (including listed social responsibility indexes). The cross-spectral analysis tool was used to analyse the causality of macroeconomic changes. Changes in the spectral density values of individual variables, as well as the coherence square and phase spectrum values of variables, were analysed. An additional tool was used in the study to create an index of changes in exchange values in order to conduct a comparative analysis of the development of time series relating to individual indices. The data analysed was related to changes in the value of social responsibility indexes, as well as macroeconomic data, for the period from January 2001 to the end of April 2019.

Keywords: Social responsibility, stock indices, macroeconomics, spectral analysis.

1. Introduction

The uncritical liberalisation of international markets was undoubtedly an important cause of the outbreak of the crisis of the first decade of the 21st century. This triggered public tensions resulting from government interventions that were inadequate to the previously propagated free market doctrine, which led to the need to discuss the economic consequences of economic policy (Mierzejewski, 2015). Public interest in both Europe and the United States focused on the creation of a long-term policy using the instruments of many economic schools, including the theory of sustainable development, evolutionary economics, new institutional economics and ordoliberalism (Fiedor, 2010). The natural way of development of economic thought was (in this situation) a return to the previously known concept of social responsibility in business. Companies using this approach were not, however, a temporary trend, nor a revolution, but they were one of the current elements of the economic structure of American and European countries.

The fundamental difference between a classic company and a company applying the concept of social responsibility is the manner of management of a company's relationship with various stakeholders (Komisja Europejska, 2001), as well as a company's commitment to contributing to the quality of life of the local community, workforce and its families, as well as society as a whole (Skoczny, 2009). In this way, socially responsible companies invest in social development, which is supposed to lead to the improvement of the broadly understood quality of life of society, as well as the improvement of the image and role of an individual in the entire socio-economic structure. This brings forth the question about the possibility of improving the economic stability of the conducted activity by building appropriate relations with society, which is also a hypothesis of this work.

2. Purpose and methodology of the work

The aim of this work is to examine the impact of selected macroeconomic variables related to the activities of enterprises (in particular, socially responsible enterprises), illustrated in the form of changes in the value of stock market indices (including listed social responsibility indexes). This study aims to present the dependencies of socially responsible companies, as well as those that do not use this concept, in relation to selected macroeconomic variables, which is to be used to answer the legitimacy of management using the concept of social responsibility by large enterprises in relation to investment efficiency. In the work, the concept of corporate social responsibility is presented, as well as the social responsibility indexes used in business practice.

In the article, elements of cross-spectral analysis were used to analyse the causality of variables. The changes in the spectral density values of individual variables, as well as the coherence square and phase spectrum values of variables, were analysed. The method used helps in comparison data of time series in the direction of occurrence of periodicity of changes at a given frequency, thus showing the occurrence of cycles with different periods and amplitudes and with different contributions to the overall dynamics of the series (Mierzejewski, 2018). The relatively high value of the first two indicators indicates the importance of a given frequency in the formation of the series (spectral density) and the square of coherence.

An additional tool was used in the study to create an index of changes in exchange values in order to conduct a comparative analysis of the development of time series relating to individual indices.

3. The essence of corporate social responsibility and areas of its activity

The internationalisation of companies, as well as the progressing globalisation process, means that low operating and production costs, as well as high quality of products and service, are not enough to achieve a proper competitive advantage. Enterprises strive to maximise their efficiency by implementing newer tools, as well as by using new management techniques and strategies. These tools include CSR, which can be defined as an element conducive to achieving a company's economic goals and what is more, create the care of positive relationships among those groups that can influence business success (Grzybowski, 2004). On the other hand, it has been pointed out that CSR is not only a fragment of the conducted activity, but a management strategy based on multidimensional relations. The concept of corporate social responsibility is also associated with a philosophy based on trust, mutual relations and communication (Dymowski, Szymańska, 2009). Therefore, presenting one definition of corporate social responsibility seems to be a difficult task; however, one can point to the common opinion that an enterprise using CSR tools is an entity implementing a specific long-term strategy based on the maintenance of relevant ethical standards, as well as an appropriate way to meet the expectations of all stakeholders, which should lead to the implementation of a transparent and open policy towards all stakeholders (Kazojć, 2004).

The implementation of business management based on the strategies of responsible business use possibilities that can be categorised into three areas (Griffin, 2004):

- natural environment – in the first place, the company should strive to reduce the harmful impact of its own activities, for example by reducing the amount of waste produced. In the case of some companies, one can observe the use of technologies that allow them to go beyond statutory norms, which is widely recognised as a sign of innovation in the eyes of stakeholders (Łukasiński, 2010).
- external shareholders – responsibility in this regard includes proper treatment of employees and their families by providing decent working conditions and other benefits, maintaining proper relations with investors: reliable communication of information, or the pursuit of profit, as well as taking care of proper relations with local authorities (Griffin, 2004).
- general social well-being – supporting philanthropic activities, supporting social and cultural organisations that are supposed to improve broadly understood social welfare (Griffin, 2004).

All areas of social responsibility management should lead to improvement of a company's image, as well as building its reputation in the local environment as an important element of society. Thus, investment in social responsibility should translate into an increase in investment confidence for these companies, which can be illustrated by stock market performance. Management based on the concept of responsible business should therefore be a form of long-term investment of an enterprise.

4. Stock market socially responsible indexes

As part of the topic discussed, we are observing an increase in interest in social problems, not only on the part of entrepreneurs, but also on the part of investors.

In terms of capital investment, we are dealing with the SRI (Socially Responsible Investment) concept, i.e. socially responsible investing. This idea boils down to the creation of a selective investment portfolio, which includes companies that meet certain requirements (Bantekas, 2004). As the European SRI Study 2016 (Dziawgo, 2010), devoted to the subject of socially responsible entrepreneurship, indicates, interest in this form of investment is gaining more and more popularity. In connection with this, there is also a growing interest in socially responsible enterprises in the stock market indices.

The pioneer that initiated the creation of socially responsible stock indexes was the index proposed in 1999 by Dow Jones & Company, called the index SI (Sustainability Index) (EUROSIF, 2019). The next indexes that appeared on the market were the CSR index of the Calvert fund for a year and the FTSE4Good index from FTSE created in 2001. Currently, seven major global listed socially responsible indices can be distinguished (Giełda Papierów Wartościowych): the Dow Jones Sustainability Index series (DJSI), Calvert Social Index (CSI), FTSE4GOOD series, FTSE Johannesburg Stock Exchange Socially Responsible Index (JSE SRI), Sao Paolo Stock Exchange Corporate Sustainability Index (ISE) and KLD Global Sustainability Index Series (GSI).

The evaluation of companies that have the opportunity to be among these indexes is, in many cases, a multi-stage process and involves assessing a company's practices in the areas of corporate governance, information governance and investor relations. The main role of socially responsible indexes is to provide information about companies belonging to this segment, which contributes to the increase in interest in companies included in the index. The result of this phenomenon is an increase in interest in the subject of social responsibility among companies that strive to increase their interest in stock exchange investors. Thus, it can be concluded that, at present, socially responsible indexes, in addition to their information mission, work towards motivating companies to apply a social responsibility policy.

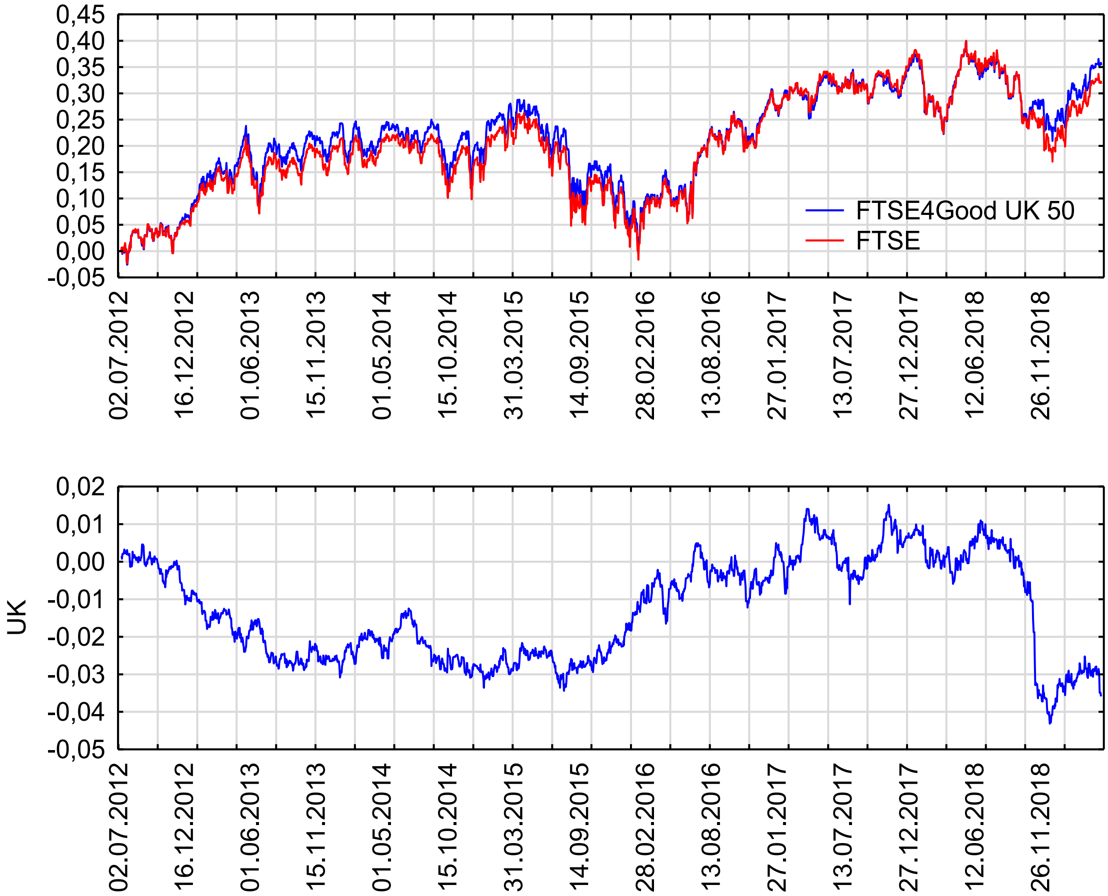

Figure 1. Index of changes and difference in the value of the FTSE4Good UK50 and FTSE index. Source: Own elaboration based on data: Investing, https://pl.investing.com/, data access: 15 May 2019.

When analysing the data presented in figure 1, it can be seen that the values of the FTSE4Good UK50 and FTSE indices are positively correlated. In the period 16.12.2012-14.09.2018, the value of the FTSE4Good UK50 index was slightly higher than the FTSE value – both companies recorded values between 0.15 and 0.25. The difference between the index values in the discussed period was 0.03. Both the FTSE4Good UK50 index and the FTSE index reacted violently to the result of the referendum in which the British decided upon Brexit, which is depicted in figure 1, where a significant drop in the value of indices in the period 14.09.2015-13.08.2017 can be seen. It should be noted that during this period, the difference between the values of both indices decreased, and at the peak of the crisis, the value of the FTSE index was 0.01 higher than the FTSE4Good UK50 index.

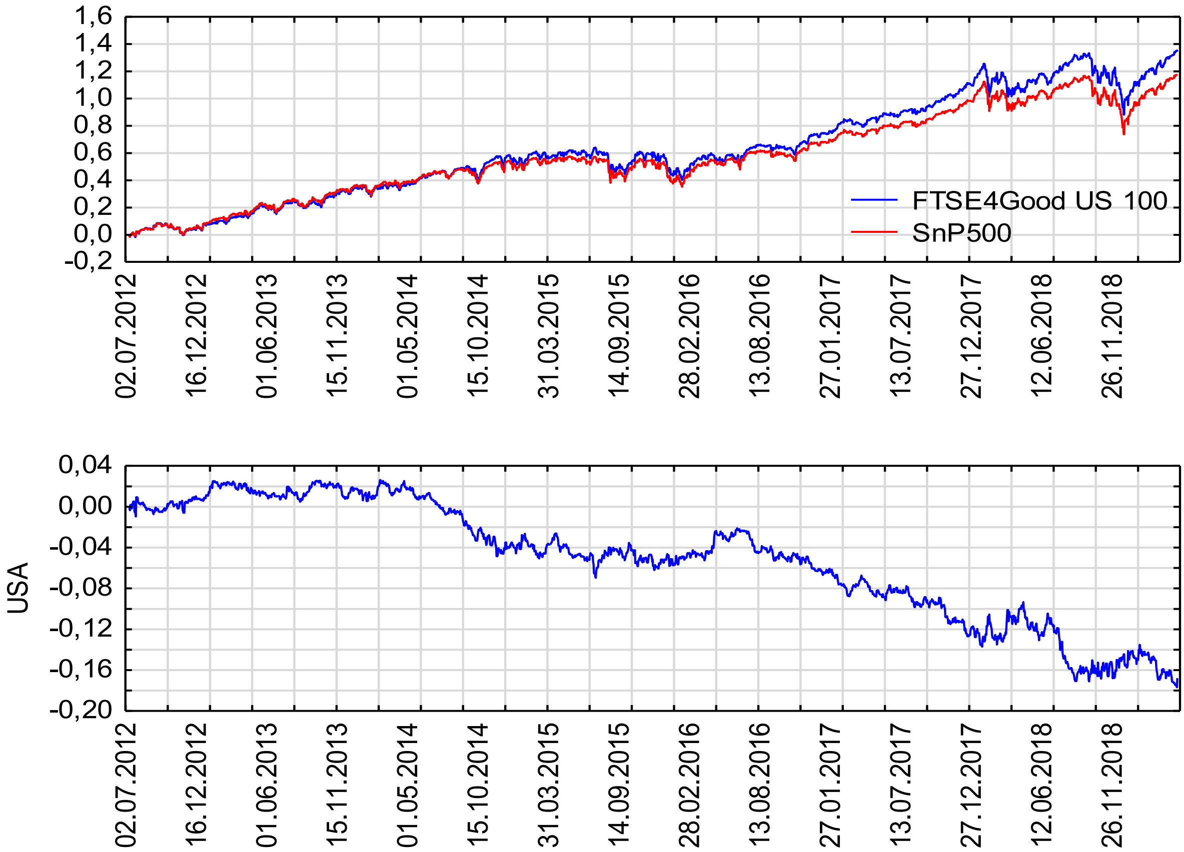

Figure 2. Index of changes and difference in the value of the FTSE4Good US100 and SnP500 index values. Source: Own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

Figure 2 shows that the values of FTSE4Good US 100 and SnP 500 indexes, which gradually increased in the period 02.07.2012-15.10.2014. During this period, the difference between the values of the discussed indices oscillated around 0.00-0.02, which means that the FTSE4Good US 100 index was slightly higher. Subsequently, in the period from 15.10.2015-28.02.2016, the values of US listed companies remained at a stable level, and their systematic growth followed the victory of Donald Trump in the presidential election in November 2016. Since that period, the difference between the companies in question has also increased – the value of the FTSE4Good US 100 index was 0.2 higher than the SnP 500 index value.

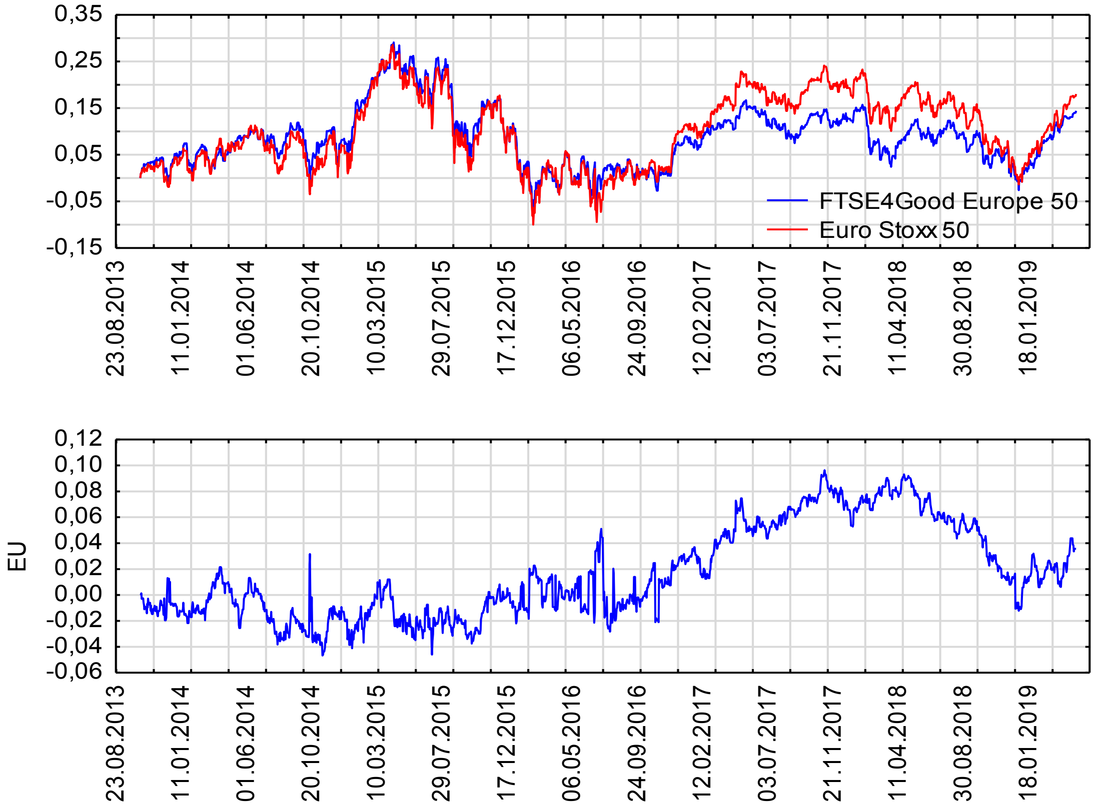

Figure 3. Index of changes and difference in the value of the FTSE4Good Europe50 and Euro Stoxx 50 index values. Source: own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

As shown in figure 3, the values of the FTSE4Good Europe 50 and Euro Stoxx50 indices are positively correlated with each other. In the period 23.08.2013 - 20.10.2014, the companies remained at a stable level of 0.05-0.1. A significant increase in the value of the FTSE4Good Europe 50 and Euro Stoxx50 indices was recorded in the period 10.03.2015-29.07.2015, reaching a value of 0.3. The observed increase can be explained by the launch by the European Central Bank of the quantitative easing programme (QE), as well as the general improvement of the macroeconomic situation. In the discussed period, index values differed by an average of 0.02. In 2016, declines were observed on European stock exchanges – as shown in figure 3, both FTSE4Good Europe 50 and Euro Stoxx50 fell significantly in 2016 and ranged from 0.05-0.1. From February 2017, a gradual increase in the value of the indexes was analysed, as well as an increase in the difference between them. In the period from 12.02.2017-18.01.2019, the value of the Euro Stoxx50 index was 0.2 on average, while the FTSE4Good Europe 50 value fluctuated around 0.1.

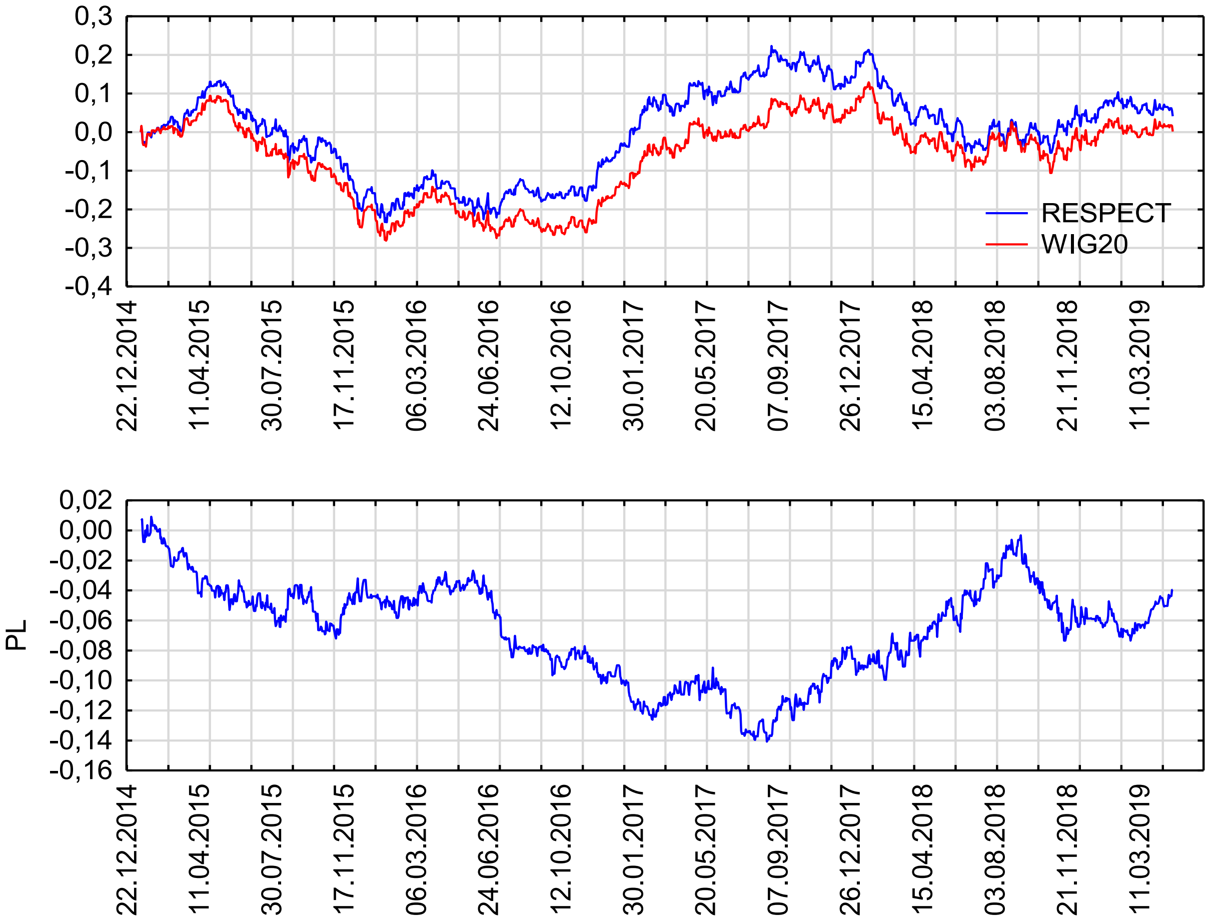

Figure 4. Index of changes and difference in the value of the RESPECT and WIG20 index. Source: own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

As shown in Figure 4, the RESPECT and WIG20 index values remain in a positive correlation with each other. In the period from 11.02.2015-06.03.2016, the values of both indices decreased; however, it should be noted that the WIG20 index was lower (by 0.02-0.06). An increase in the value of the discussed indices was observed from January 2017 to the end of December 2017. Importantly, during this period, the difference between the RESPECT and WIG20 values was the highest – RESPECT reached from 0.08 to a higher value of 0.14.

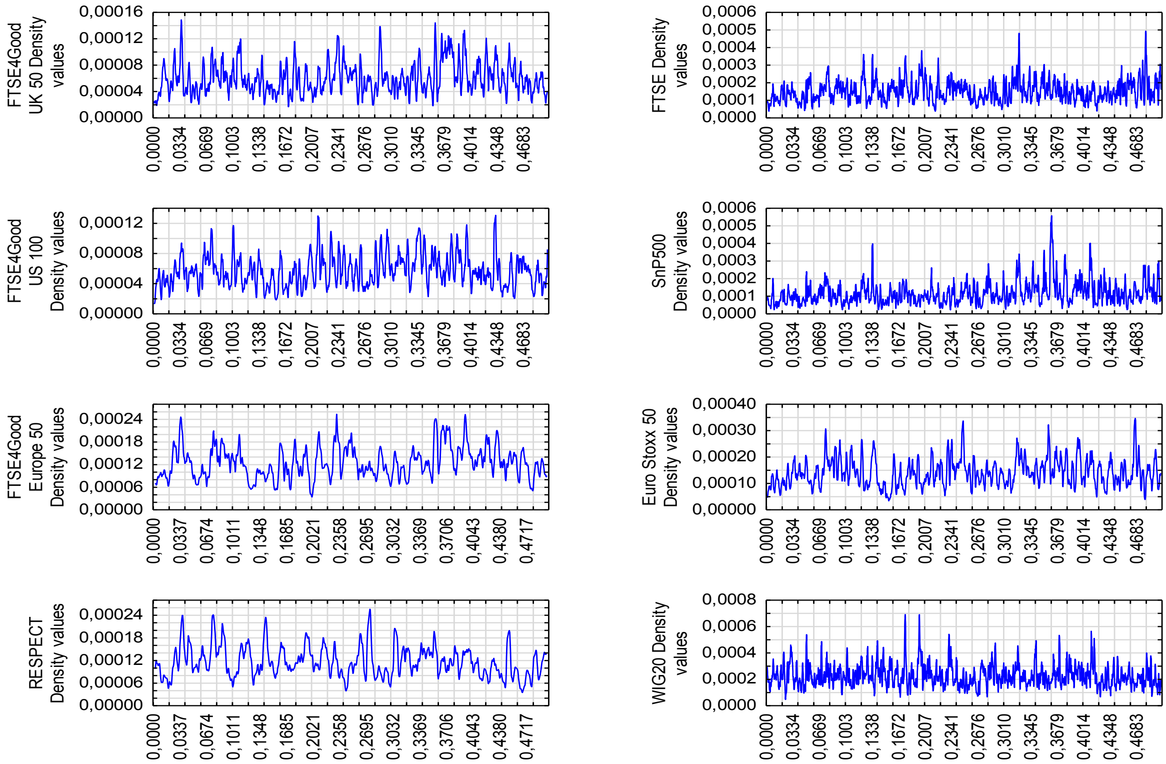

Figure 5. Spectral density values of selected indexes. Source: own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

The values of the density of spectral changes of individual stock exchange indices, presented in figure 5, allow one to assess the cyclical structure of individual series. An important observation, in the perspective of the subject of the work, is the clear difference for European and American indices – the main indexes (Euro Stoxx 50 and SnP 500) are characterised by a higher contribution of short frequency changes to the dynamics of the series, while socially responsible indexes show a wider spectrum of cyclical changes. In the case of British indices, the cyclical features of both types of indices are similar. The last pair of indices, the WIG20 index and the RESPECT index, also indicate differences in the dynamics of the formation of series – in the case of the socially responsible index, there is a wider spectrum of frequencies with a potentially large contribution to the dynamics of the series.

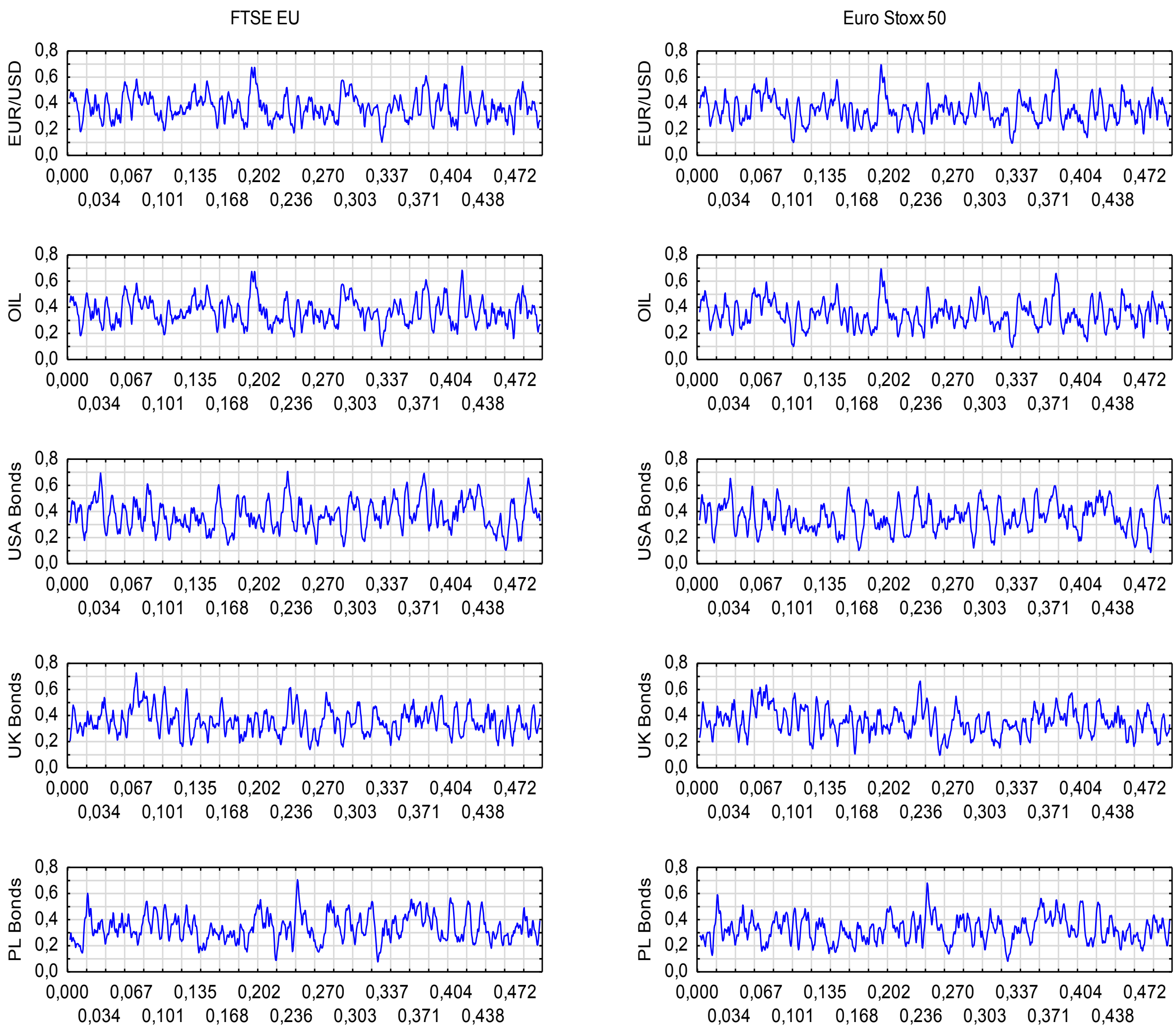

Figure 6. The values of the coherence square for changes in FTSE EU and EURO Stoxx 50 indices in relation to selected variables. Source: own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

As shown in figure 6, one can observe significant differences in the responses of the indexes under analysis to changes in selected stock exchange indices. In the case of the Euro-US dollar exchange rate, the difference is the smallest: the highest values of the square of coherence can be observed for frequency values of 0.202 and 0.377 (in the case of the Euro Stoxx 50 index) and 0.194 and 0.416 (in the case of the socially responsible index. The largest differences in the dynamics of changes in the value of indices were observed in response to the prices of US and British bonds. In the case of the first relation, the socially responsible index showed a greater dependence on frequencies of 0.232 and 0.375, which corresponded to three- and two-day fluctuations. In relation to changes in British bond prices, the Euro Stoxx 50 index showed short-cycle relationships (frequency 0.235), while the social index was based on long-cycle relationships (frequency 0.072 corresponding to two-week fluctuations).

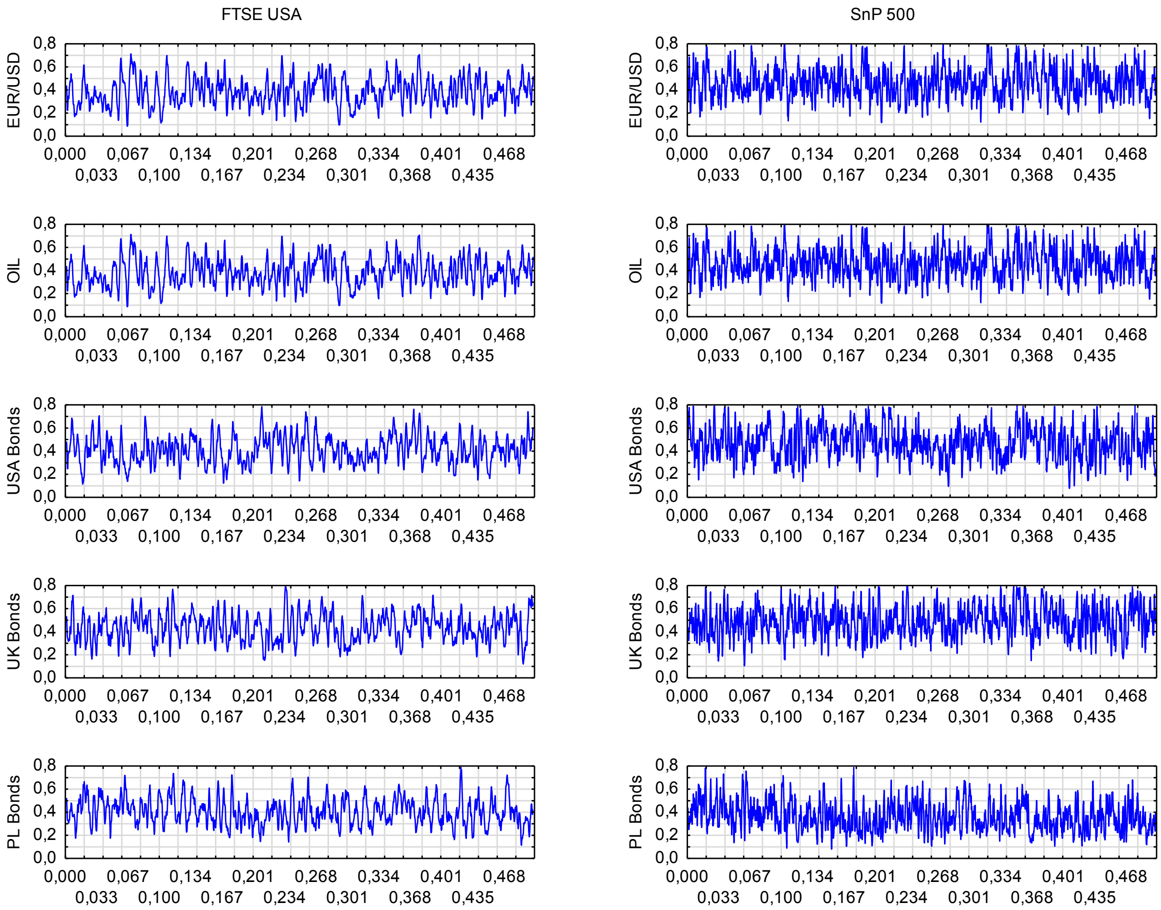

Figure 7. The values of the coherence square for changes in the FTSE USA and SnP 500 indexes in relation to selected variables. Source: own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

Figure 7 shows the dependencies of US indices. As can be seen, the SnP 500 index, as one of the most important global indexes, is characterised by a high dependence for the majority of possible fluctuation frequency ranges. In the case of the American socially responsible index, this relation is equally high – in the case of each dependence, at least 4 frequencies for which there are high values of the square of coherence can be indicated.

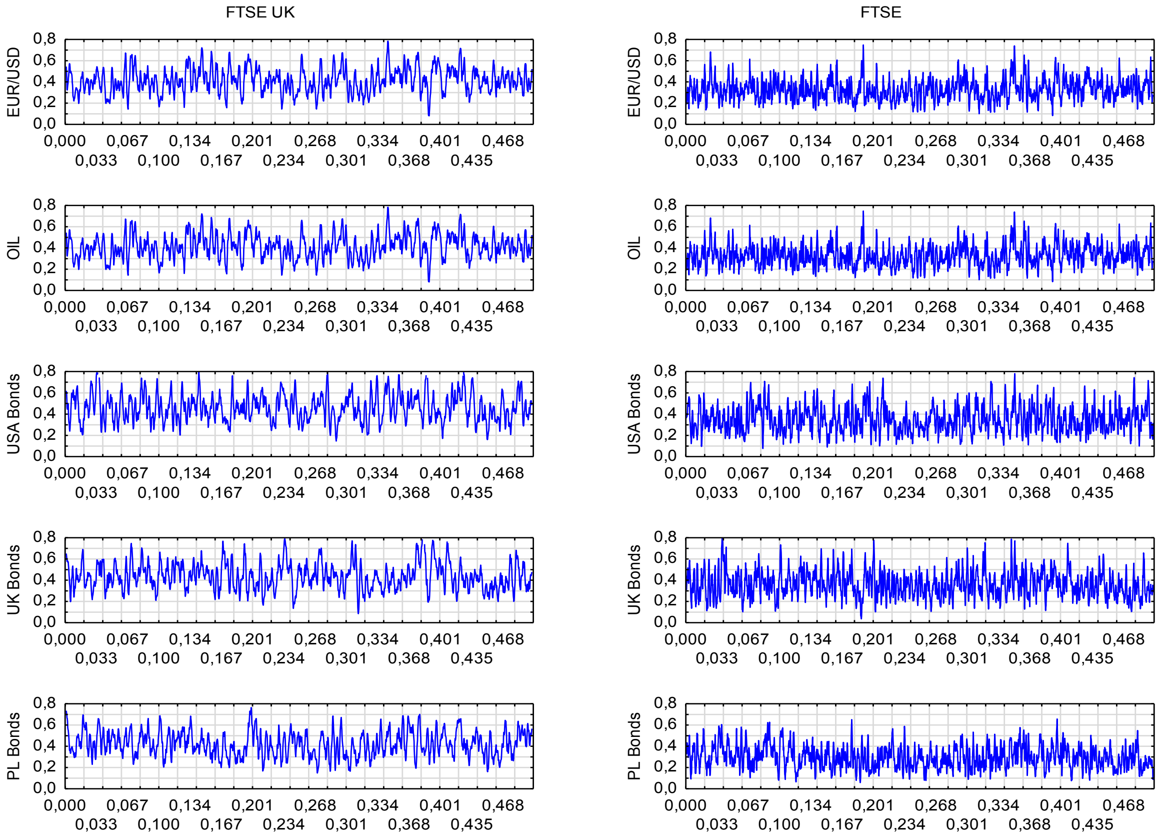

Figure 8. The values of the coherence square for changes in FTSE UK and FTSE indices in relation to selected variables. Source: own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

The dependencies between selected variables and the British indices presented in figure 8 indicate a strong dependence of these indices on changes in the values of both British and American bonds for most frequencies. The difference between indices occurs for other variables – the socially responsible index shows a dependence on changes in Polish bonds, and what is more, it is characterised by a greater number of dependencies on changes in the exchange rate of the Euro-US dollar and oil pricing.

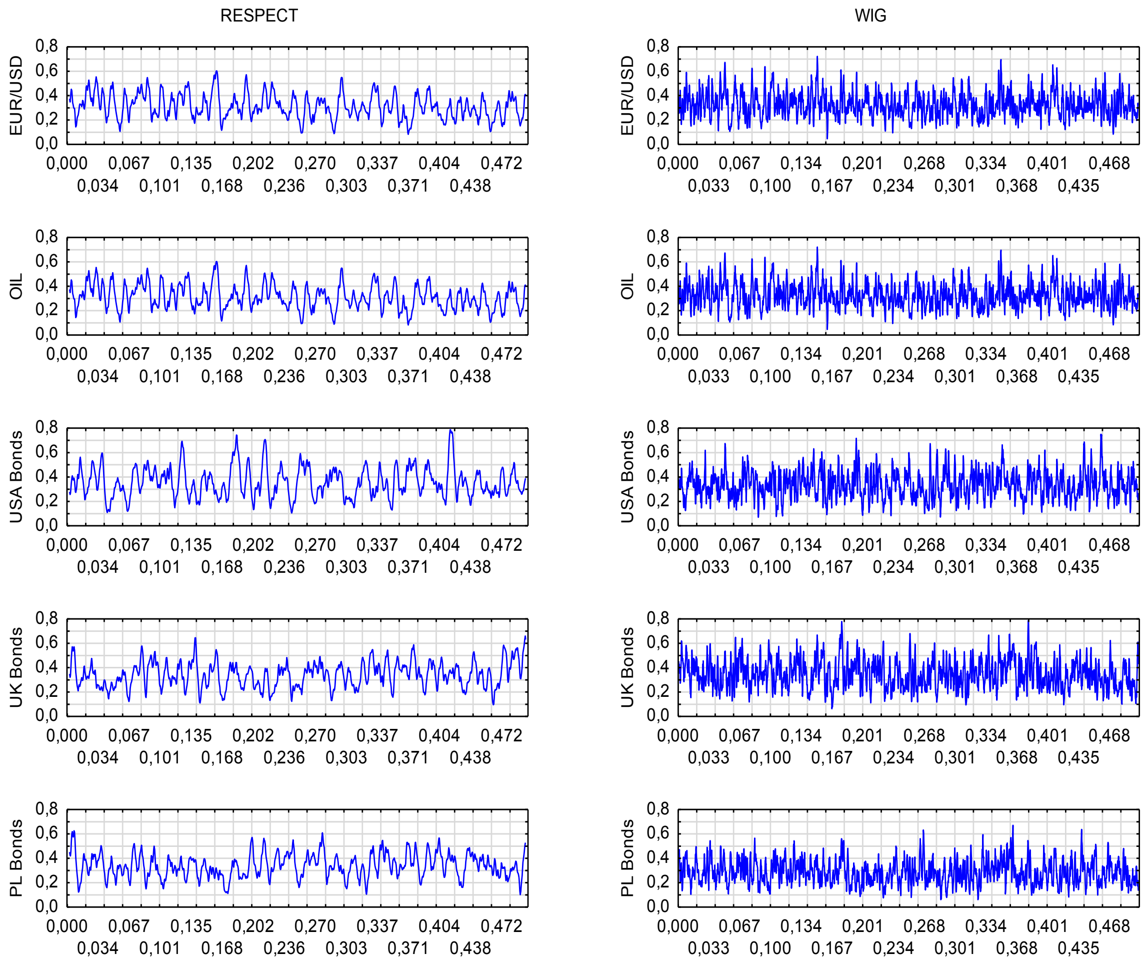

Figure 9. The values of the coherence square for changes in FTSE UK and FTSE indices in relation to selected variables. Source: own elaboration based on data: Investing, https://pl.investing.com/, download date: 15 May 2019.

Figure 9 shows the relationship between Polish indices and selected variables. It is worth emphasising that the presented data indicates that the socially responsible index is clearly cyclically dependent only on changes in the value of US government bonds. In the case of the main Polish WIG index, these dependences are also observed for other variables.

5. Conclusion

It turns out that the concept of corporate social responsibility is becoming an increasingly popular method of managing the relationship with the clients, not only by entrepreneurs, but also by investors.

1. Research has shown that the values of FTSE4Good UK50 and FTSE indices are positively correlated. In the period 16.12.2012-14.09.2018, the value of the FTSE4Good UK50 index was slightly higher than the FTSE value – both companies recorded values from 0.15-0.25.
2. The values of FTSE4Good US 100 and SnP 500 indexes gradually increased in the period 02.07.2012-15.10.2014. During this period, the difference between the values of the discussed indices fluctuated within 0.00-0.02, which means that the FTSE4Good US 100 index had a slightly higher value.
3. There was a significant increase in the value of the FTSE4Good Europe 50 and Euro Stoxx50 indices recorded in the period 10.03.2015-29.07.2015, reaching a value of 0.3. The observed increase can be explained by the launch by the European Central Bank of the quantitative easing programme (QE), as well as the general improvement of the macroeconomic situation.
4. The main European and American indices (Euro Stoxx 50 and SnP 500) are characterised by a higher contribution of short frequency changes to the dynamics of the series, while socially responsible indexes show a wider spectrum of cyclical changes. WIG20 and RESPECT indexes also indicate differences in the dynamics of the series – in the case of a socially responsible index, there is a wider spectrum of frequencies with a potentially large contribution to the dynamics of the series.

References

1. Bantekas, I. (2004). *Corporate Social Responsibility in international law*. Boston: Boston University International Law Review.
2. Dymowski, J., and Szymańska, M. (2009). *CSR raport specjalny. Społeczna odpowiedzialność biznesu*. Warszawa.
3. Dziawgo, L. (2010). *Zielony rynek finansowy. Ekologiczna ewolucja rynku finansowego*. Warszawa: PWE.
4. EUROSIF (2016). *European SRI Study 2016*. Available online: http://www.eurosif.org/, 19.05.2019.
5. Fiedor, B. (2010). *Kryzys gospodarczy a kryzys ekonomii jako nauki*. Available online: http://gpqkdgp.pte.pl/, 19.05.2019.
6. Giełda Papierów Wartościowych. Available online: http://www.odpowiedzialni.gpw.pl, 19.05.2019.
7. Griffin, R.W. (2004). *Podstawy zarządzania organizacjami*. Warszawa: PWN.
8. Grzybowski, M. (2004). *Firma odpowiedzialna społecznie. Filozofia przedsiębiorstwa XXI wieku*. Warszawa: Fundacja Innowacja.

9. Kazojć, K. (2012). *Powiązania między public relations a społeczną odpowiedzialnością biznesu*.
10. Komisja Europejska (2001). *Green Paper Promoting European framework for Corporate Social Responsibility*. Available online: http://ec.europa.eu/employment_social/soc-dial/csr/greenpaper_pl.pdf, 19.01.2018.
11. Łukasiński, W. (2010). *Aspekt ekologiczny w koncepcji społecznej odpowiedzialności przedsiębiorstwa.* Warszawa: Ekonomika i Organizacja Przedsiębiorstwa.
12. Mierzejewski, M. (2015). *Interwencjonizm na liberalnych rynkach. O zmianach w spojrzeniu na gospodarkę w reakcji na kryzys pierwszej dekady XXI wieku.* Dobrzeń Wielki: Rynek-Społeczeństwo-Kultura.
13. Mierzejewski, M. (2018). *Wykorzystanie analizy cross-spektralnej do badania zmian wartości indeksów giełdowych*. Kraków: Problems of Economics and Law.
14. Skoczny, T. (2009). *Społeczna odpowiedzialność biznesu. Wymiar konstytucyjny i międzynarodowy.*Warszawa: Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego.