Can the Dow Jones Sustainable Index be Useful for Evaluating Dow Jones Islamic Market Companies?

Maura Campra [1], Sabrina Pucci [2], and Valerio Brescia [3]

[1] Maura Campra, Full Professor, Department of Economics and Business Studies, University of Piemonte Orientale "Amedeo Avogadro", Novara, Italy
[2] Sabrina Pucci, Full Professor, School of Economics and Business Studies, University of Roma Tre, Rome, Italy
[3] Valerio Brescia*, Research fellow, Department of Management, University of Turin, Turin, Italy, E-mail: valerio.brescia@unito.it

Abstract— **In recent years, the focus on sustainability and social impact has increased, companies through environmental programs and social practices have also begun to change their model in response to the demands of stakeholders and the market. A more sustainable approach is also driven by the 17 goals defined by UNESCO in the Sustainable Development Goals. The idea of sustainability derives directly from the concept of CSR (Corporate Social Responsibility), a real way of doing business in a strategic way, which consists in acting responsibly from a social and environmental point of view and in building solid and long-term relationships between companies and stakeholders, from the supplier to the final consumer. The "Mediterranean Commission for Sustainable Development" (MCSD) established in 1995 started the project "Sustainable development indicators" (SDI), which aims to develop indicators of progress towards sustainable development in the countries of Europe, Africa and Asia that face the Mediterranean, offering the great opportunity to compare developments in the process of integrating the environment into profoundly different national reality policies. Currently, the most widespread worldwide of all the SDI indicators is the Dow Jones Sustainability Index (DJSI), established in 1999. The index is the first to assess the financial performance of global companies that follow sustainable principles. Unfortunately, all the studies conducted through the use of DJSI to evaluate the main sustainable firms do not consider the Sharia compliant market but are based only on the Dow Jones market. Therefore, there is no sustainability model that takes into account the companies that have had access to the Dow Jones Islamic Market. This Gap in literature and in practice does not allow us to confirm or contribute further to the use of the sustainability indicator with models that are particularly sensitive to the sharia compliant criteria. The statistical analysis has verified a difference between companies belonging to the Dow Jones Market and the Dow Jones Islamic Market model. This difference confirms the interest in testing the behaviour of the social and environmental sustainability index as well as the economic one even in companies belonging to the sharia-compliant market. The qualitative analysis of the models allows a possible future adoption in these markets based on scientific and literary evidence.**

Keywords-component; Sustainability, finance, Dow Jones Islamic Market; Dow Jones Sustainable Index, social indicators.

I. INTRODUCTION

In recent years, the focus on sustainability and social impact has increased, companies through environmental programs and social practices have also begun to change their model in response to the demands of stakeholders and the market ***[1], [2]***. A more sustainable approach is also driven by the 17 goals defined by UNESCO in the Sustainable Development Goals. The global policy launched in 2016, guides the world on the road ahead over the next 15 years: the countries, in fact, have committed themselves to reach them by 2030 ***[3]***. In the western countries as well as in the countries of the Middle East the objectives are changing the approach of all stakeholders also impacting on companies ***[4]***. The Eurobarometer survey of 2017 shows that environmental responsibility is considered by European citizens to be an essential economic factor. Out of around 28,000 people surveyed, the 94% believes that the most polluting companies are required to compensate the community for the environmental damage caused and the 87% says they think they are playing a primary role in protecting the environment, for example through their purchasing choices, separate collection, and recycling or reducing car use ***[5]***. The consumer begins to act in an increasingly responsible way towards the environment and towards society and begins to become aware of the new role he is assuming. Based on the choices made during the purchase act, the consumer can be merely buying a particular brand or a specific product concerning another ***[6]–[9]***. It is, in fact, aware of being able to directly and indeed influence the decisions of the companies, which must know how to seize this opportunity making sustainability an integral part of their being and their actions ***[10], [11]***. This new economic and social context, the companies need to integrate the objectives related to the pursuit of profit and the sale of their products, with those relating to the impact that it can have on society and the environment ***[12]–[14]***. The idea of sustainability derives directly from the concept of CSR (Corporate Social Responsibility), a real way of doing business in a strategic way, which consists in acting responsibly from a social and environmental point of view and in building solid and long-term relationships between companies and stakeholders, from the supplier to the final consumer ***[15], [16]***. However, in the reference literature it is not possible to identify a single definition of CSR, but the Green Book drafted by the European commission in 2001 defines it as a voluntary integration of social and environmental concerns in commercial operations and in relations with the interested parties ***[17]*** p.7. The concept "on a voluntary basis" is fundamental in this definition. Companies are not in fact "obliged" by any law to integrate CSR into their management, but on the contrary they can decide, in a completely voluntary manner, to act responsibly, because it is felt as a duty towards the environment and the community of which are part ***[18]***. The "Mediterranean Commission for Sustainable Development" (MCSD) established in 1995 started the project "Sustainable development indicators" (SDI), which aims to develop indicators of progress towards sustainable development in the countries of Europe, Africa and Asia that face the Mediterranean, offering the great opportunity to compare developments in the process of integrating the environment into profoundly different national reality policies ***[19]***. Currently, the most widespread worldwide of all the SDI indicators is the Dow Jones Sustainability Index (DJSI), established in 1999. The index is the first to assess the financial performance of global companies that follow sustainable principles. The managers who work for DJSI are active in the search and management of sustainable portfolios according to reliable and objective parameters. The index is reviewed annually in September and more every four months to make sure that its composition represents 20% of the companies, both in the SAM sector and in the STOXX Sustain universe, a leader in sustainability. In fact, non-financial information changes the company's perception and investments and therefore becomes a strategic tool for the company ***[20], [21]***. Unfortunately, all the studies conducted through the use of DJSI to evaluate the main sustainable firms do not consider the Sharia compliant market but are based only on the Dow Jones market. Therefore, there is no sustainability model that takes into account the companies that have had access to the Dow Jones Islamic Market. The Dow Jones Islamic Market Index includes thousands of broad-markets and has been regulated since 1999 through a board that verifies the requirements of companies that want to be part of it. This Gap in literature and in practice does not allow us to confirm or contribute further to the use of the sustainability indicator with models that are particularly sensitive to the sharia compliant criteria. Islamic companies and banks have greater stability in the event of a crisis ***[22]–[24]***, so studying them from an environmental and social point of view can provide useful elements to improve current business models and sustainable approach also in the stock market.

II. METHOD

The approach linked to sustainability, to the role of company and market disclosure is examined in the article. The conducted study analyses the Dow Jones Market and the Dow Jones Islamic Market in order to understand the possible existence of a real difference between the two markets as highlighted in the literature [25] and therefore the usefulness of applying sustainability indicators in a different market to define the model and behaviour of companies. The differentiation of approach and regulation is conducted both at the statistical level and through qualitative analysis. The sample group of firms is composed by top performer companies defined in the two reference markets on 14/07/2019 were considered to conduct the statistical analysis and verify the actual existence of a difference in behaviour on the market [26]. The statistical analysis was carried out using the Stata 13.0 software. After an analysis of the distribution of the two analysed groups, the Kolmogorov-Smirnov test was performed to confirm the real difference in the results of the analysed companies in the two markets, giving $p < 0.05$ as a significant value [27]. The theoretical gap in terms of indicators and social and environmental evaluation of companies in the sharia compliant market is deepened through the descriptive analysis of the attribution and construction method of the Dow Jones Sustainability Index and of the scientific evidence found in the literature in the use of the index for business value analysis.

III. DISCUSSION AND RESULTS

3.1 Results

The companies analysed in the Dow Jones Islamic Market present higher and more performing revenue results at the same time than the Dow Jones Market. The charge and average charge of the companies in the Dow Jones Islamic Market are higher than those of the Dow Jones Market. This first element could lead to the presumption of an effective higher performance of the models of companies based on the Dow Jones Islamic Market. The average charge of the Dow Jones Market sample is 1.69 with a standard deviation of 1.709 while the average charge of the sample in the Dow Jones Islamic Market is equal to 4.03 with a standard deviation of 2.283. In percentage terms the charge does not vary significantly with respect to the charge values, the average for the group of companies present in the Dow Jones Market is equal to 1.19 while the average for the group of companies present in the Dow Jones Islamic Market is equal to 4.23. Considering the sample, the two groups have a non-normal distribution which therefore requires non-parametric tests. The non-normal distribution of the results on the market of the two analysed groups requires carrying out to confirm that the results are different therefore that what is highlighted in terms of charge is not accidental, the test of Kolmogorov-Smirnov. The test by Kolmogorov and Smirnov is a method of statistical analysis which allows to compare a sample of data and a theoretical distribution (or two data samples) in order to verify the statistical hypothesis that the population from which the data originate both the one in question (or the hypothesis that both samples come from the same population). the Kolmogorov and Smirnov test is in fact based on the cumulative frequency-it must be relative to the data and on the analogous concept of distribution of a continuous variable. In the analysed sample, the first test analysis result relating to the charge is 0.022, therefore significant, the result is also confirmed by the same test carried out on the charge as a percentage with a result of <0.001. Therefore, a real difference in behaviour between two groups of companies is confirmed.

3.2 General structure of an index

The sustainability index is the primary tool used by financial operators (institutional, but also private) within socially responsible investments (CSR) [28]. Socially responsible investors, that are subjects who decide to invest only in listed companies that see a high-grade objective with respect to the mere creation of value in the short term, respecting the environment and the development of social conditions, can be either individuals (that operate directly or through the mediation of the managers), and institutions [29], [30]. The sustainability indexes are in all respects real stock indexes with the only characteristic of referring to specific types of companies. Precisely for this reason we must now clarify a primary concept, the classification according to criteria and sector of belonging [31]. The sustainability indexes, in addition to the basic classifications previously seen, provide for two specifications: classification by sector, classification according to inclusion/exclusion criteria. Concerning the first family of indexes, financial companies envisage the possibility within themselves to exclude, and categorically prohibit, any direct and or indirect participation (thus extending the analysis also to companies belonging to the same value chain) to specific sectors. Areas that are considered to be in open contrast with a series of universally recognized environmental, social but above all ethical principles. The sectors widely recognized as dangerous, or in conflict with the basic principles of any socially responsible investment, are spirits, tobacco, gambling, arms sector (military armaments and civil armaments), nuclear energy, adult entertainment, GMOs, Oil sector, particular sub-sectors of the chemist. In summary, all the belonging companies, have direct and/or indirect interests, to obtain percentages of revenues or sales from the above indicated sectors are automatically and irremediably excluded from the sustainability indexes and therefore from all the instruments representing socially responsible investments. In the second case, instead, each financial company creates a set of inclusion/exclusion criteria to carry out a particularly careful study of the company, the company group or the entire value chain. The analysis of the company, according to these criteria, highlights its degree of attention, practices and relations with respect to the single criterion; a numerical score (the rating) is linked to the single company-criterion relationship and from the weighted sum of these the environmental, social, governance rating and finally the overall score come out. Score by which companies belonging to the same sector are classified to determine whether they are included in the index [32]. This methodology, used by all the financial companies analysed in this work, is called "corporate screening" (or "portfolio") and is the original form of application of the inclusion/exclusion criteria in the selection process. With the natural developments of the sector in recent years, the methodologies for selecting companies so far have also adapted over time. The engagement process is a widely used assessment tool among the various financial companies as it ensures a very precise result. This evaluation system requires the company to actively commit itself to environmental, social and governance issues and to modify, or even create, its activity based on the new ESG criteria being evaluated. These criteria can be created by an external company competent in the field, such as a research institute, a consulting company, with which to establish a continuous and constant dialogue aimed at improving the current conditions of the company (with respect to ESG criteria) and to fix a process of evaluation by stages.

Two forms of this type are shareholder advocacy and Community-based investment. The community-based investment is the set of activities aimed at providing financial resources to all those subjects that the normal banking assessment procedures exclude from the resource allocation process. In the traditional banking system, the analysis procedure of company’s worthy of credit granting follows standard criteria and indicators. All companies that do not fall within certain parameters are categorically excluded. The community-based investment tool intends to solve what the system sees as "market failure". This problem is felt above all in SMEs, even better if start-ups, which are unlikely to have a very solid financial and equity structure. This feature excludes them from the financing that they themselves need for their own development. Within the family of indices based on inclusion and exclusion criteria, the most common criteria are Exclusion (violation of human rights, violation of the worker's rights, poor attention to the environment, reduced communication and information transparency on the main issues, lack of an adequate corporate governance system, lack of declared mission, code of ethics and system of well-defined values) and Inclusion (particular attention to the enhancement of internal human resources, excellent intra /extra company communication, excellent relationship with stakeholders; possession of adequate environmental management systems, support for particular social initiatives, efficient eco/products/ services, excellent corporate governance system. Currently the considered indicators provide for evaluation processes that go beyond the company boundaries, considering instead the role of the company with respect to the entire community with which it comes into contact (supplier companies, local communities, environment, competitors, partners, political environment etc.) with particular attention to the relationship with stakeholders [33]. It is precisely on this last evolution that the concept takes shape, or rather the instrument, of engagement and therefore of taking into consideration the commitment that the company must put in place for a better overall evaluation; through Good or Best Practices, discussions, observations, requests, proposals to identify the best, and most rapid, socially responsible development paths.

3.3 Dow Jones Index

The Dow Jones (full name Dow Jones Industrial Average) is the best-known index on the New York Stock Exchange (the NYSE - New York Stock Exchange) and was created in the United States to assess the growth rates of the American economy. The index is calculated, unlike other indices that take into account the capitalization (and therefore the relative weight of the various companies) weighing the price of the main thirty securities of Wall Street. This choice, in the opinion of the negative writer, has determined, over time, a significant decrease in the importance of the index in the sector of membership since it is now inadequate to represent the entire performance of the US stock listings [34]. The sustainability indices were launched back in 1999 and have long been the benchmarks in the sector regarding the approach and performance of the various companies compared to the environmental and social issue. All the proposed indexes have been created, and are managed, in collaboration with the RobecoSAM company. The indices are intended to trace the performance of the world's largest companies in the three fundamental themes of sustainability: economy, the environment, and social relations. The indices are intended to be a point of reference for all investors who have integrated the issue of sustainability within their financial portfolios, and to represent a reference platform for all those companies that want to adopt the best sustainability practices.

3.4 Dow Jones Sustainability index

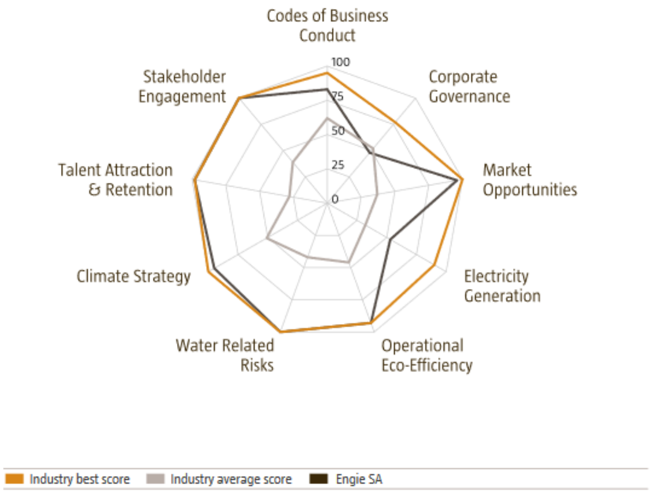
It includes a world index (reference index) and a series of regional and national indices; furthermore, the collaboration between Dow Jones and RobecoSAM allows the creation of sub-indices customized according to the needs of investors. The absolutely innovative aspect of the sustainability indices of Dow Jones and RobecoSAM resides above all on the selection process used to identify from a starting universe those that will become the constituent companies of the various sub-indices. The assessment of sustainability at the corporate level can be represented through indicators defined upstream that determine sustainability through a questionnaire that is compiled by the various stakeholders. In particular, the process of assessing sustainability at the corporate level is based on a questionnaire to be drawn up annually, consisting of a minimum of 80 to a maximum of 120 questions that range along the three pillars (called dimensions) of sustainability: cost-effectiveness, the environment and sociability. The objective is to assess the ability of the analysed company to create value over the long term. There are several questionnaires depending on the sector the company belongs to according to the sector classification proposed by GICS. The evaluation process, once completed, is replaced by the continuous monitoring process. News and other types of information are evaluated in a process that takes the name of Media and Stakeholder Analysis (MSA) which aims to bring out all the information on topics such as: economic crime, corruption, fraud, illegal commercial practices, violation of rights human disputes between workers and companies, accidents or environmental disasters that also indirectly involve the companies being evaluated. MSAs can reduce the overall sustainability rating by influencing inclusion in one of the DJSI indexes. Companies labelled as "eligible" are linked to a sustainability score (score) determined by the CSA (Corporate Sustainability Assessment) of RobecoSAM. The classification takes place on a sectorial basis and the top-ranked players in each sector are selected to be part of the Dow Jones Sustainability Indices. As seen for the sustainability indexes proposed by the FTSE also in this case the responsibility for the management of the indexes falls on a committee that in this case takes the name of DJSI Design Committee. It has been said that the evaluation criteria are both general and specific for the individual sectors. The general ones are based on standard managerial practices and on performance measured on themes that are absolutely present in every company, we talk about Corporate Governance, human capital development, risk management and corporate crises, just to name a few. These criteria apply to all companies belonging to the fifty-eight sectors identified by RobecoSAM and represent approximately 40-50% of the evaluation process. The remaining part is covered by specific questions for each sector identified by RobecoSAM and they want to analyse the ability to respond to the themes of environment, sociality and cost-effectiveness of the company. Table 1 defines the criteria and weights for three specific sectors in order to give evidence of the differences and of the weight attributes. Figure 1 shows the weight representation of an industry.

TABLE I. THE CRITERIA AND WEIGHTS FOR THREE SPECIFIC SECTORS IN DJSI

Size analysed	**Bank sector**	**Energy sector**	**Pharmaceutical sector**
Economic dimension	x		
Anti-crime policy	x		
Corporate brand management	x		
Codes of conduct / fight against corruption	x	x	x
Corporate Governance	x	x	x
Customer Relationship Management		x	x
Innovation Management			x
Market opportunities		x	
Marketing practices			x
Price risk management		x	
Research and Development			x
Risk and crisis management	x	x	x
Stakeholder involvement	x		
Measurement systems/ score card		x	
Weight economic size	38%	30%	40%
environmental dimension			
Biodiversity		x	
Business opportunities on financial services / products	x		
Business risk projections	x		
Climate change management	x		
Climate change strategies		x	x
Electricity generation		x	
Environmental footprint	x		
Environmental policy / environmental management systems	x	x	x
Environmental reporting	x	x	x
Process eco-efficiency		x	
Distribution		x	
Risks related to water (use and pollution)		x	
Weight environmental size	24%	35%	10%
Social dimension			
Addressing Cost Burden			x
Bioethics			x
Corporate citizenship and philanthropy	x	x	x
Controversial issues and dilemmas on loans / financing	x		
Financial inclusion / construction capacity	x		
Contributions on improving external health conditions			x
Human capital development	x	x	x
Indicators on work practices	x	x	x
Occupational health and safety	5%	4%	2%
Reporting on corporate socialization	x	x	x
Stakeholder involvement		x	x
Social standards for suppliers	x		x
Strategy to improve access to medicines or medical products			x
Attraction and talent retention	x	x	x
Total Weight Social Dimension	38%	30%	50%

Source: own elaboration on the DJSI criteria.

FIGURE 1 EXAMPLE OF REPRESENTATION OF WEIGHT ENERGIE SA – DJSI REPORT 2018



Several studies have analysed how the DJSI could help to evaluate firms on the market. An important study conducted by López, Garcia, and Rodriguez in 2017 highlighted for the first time the difference between companies listed in the Dow Jones Sustainability Index and companies listed in the Dow Jones Global Index. The analysis was conducted on 55 companies, mainly considering economic indicators between the two groups of companies. The authors, during the seven years covered by the study (1998 – 2004), have found significant changes observed in profitability and profit indicators such as margins and return on assets and equity. The authors have not succeeded in identifying differences or relationships on the cost of capital between groups of companies with a policy of environmental and social sustainability and companies that had not integrated this policy. The study does not identify differences between the two groups of companies as regards the cost of capital despite the fact that the literature shows that transparency affects the price of capital [35]–[39]. The literature presents several studies that use the Dow Jones Sustainability Index to evaluate the company. Cheung in 2011 considers a sample of US stocks on the Dow Jones Sustainability World Index to evaluate stock returns, risk and liquidity. However, the study does not reveal the effects of the announcement of the inclusion of the companies in the list of the Dow Jones Index on the examined indicators [40]. We have to wait until 2010 to have a wide-ranging study, including 658 companies over a 14-year series to have empirical evidence of the relationship between social performance and financial results. Garcia Castro et al. [41] consider three variables to evaluate performance, ROE, ROA and Tobin's, but without identifying a correlation with companies that apply a social approach and are present in the Dow Jones Sustainability Index. Moreover, the literature highlights that the market value is increased when more transparency is given to non-financial information such as environmental and social information [42]–[44].

3.5 Dow Jones Islamic Market

The Dow Jones Islamic Market Index series includes thousands of broad-markets, blue-chip, fixed-income and strategy and thematic indices that have passed rules-based screens for Shariah compliance. Launched in 1999, DJIM World was the world’s first global Shariah-compliant benchmark. Compliance concerns Muslim investors would otherwise face in constructing Islamic investment portfolios. To determine their eligibility for the indices, stocks are screened to ensure that they meet the standards set out in the published methodology. Companies must meet Shariah requirements for acceptable products, business activities, debt levels, and interest income and expenses. The screening methodology is subject to input from an independent Shariah supervisory board. By screening stocks for consistency with Shariah law, the indices help to reduce research costs and compliance concerns Muslim investors would otherwise face in constructing Islamic investment portfolios [45].

The role of a Shariah supervisory board in a financial institution is to ensure that all of the institution's financial undertakings are pure, or in religious terms, free from unlawful (haram) elements. Shariah supervisory boards base their advice and opinions, orfatawa, on their readings and interpretations of: the Qur'an, which is believed by Muslims to be the revealed word of God (Allah); the Sunnah or practice of the Prophet of Allah, Prophet Muhammad, upon him be peace; the consensus of the scholars (Ozaa); and the opinions of the classical jurists and their successors [46]. The first level of screening by the Sharia supervisory board entails examining the primary or core business of a company (equity security), which is not much different from secular-oriented, socially responsible screening. If the company's core business is in the "sin" sector, as interpreted by Shariah scholars, the company must be eliminated from consideration immediately. The sector businesses fall within six general categories: alcohol, tobacco, pork products, conventional financial services (banking, insurance, etc.), defence/weapons; and entertainment (hotels, casinos/gambling, cinema, pornography, music, etc.). The majority of Sharia scholars and supervisory boards consider these six industries and their financial instruments to be inconsistent with Sharia precepts and unsuitable for Islamic investment purposes [47]. The second level of screening involves scrutiny of the financial ratios of companies that passed the first level. By this level of screening, the primary or basic business of the company has already been determined to be halal, or in compliance with Sharia precepts. The concern of the second level of screening is with elements of haram (unlawful) income that may incidentally become part of the total income of the company. Many companies that promote development through the provision of beneficial and human services are based in non-Muslim countries where there are no laws prohibiting the giving and taking of interest [48]. Nearly all companies in such countries routinely place excess corporate funds in interest-bearing deposits, certificates of deposit ("CDs"), bonds, bills, notes, and other interest bearing and principal-guaranteed instruments. In addition, these companies invest in other companies participating in the same investments. In these ways, income from interest and impermissible income will also form a part of the total earnings of companies that otherwise conform to Sharia precepts [49], [50]. Finally, many Islamic investors have modest savings, and the opportunities for investing their money in ways that will prove profitable to them and beneficial to humanity are limited. Investments are encouraged in companies that benefit the shareholder through dividends and capital appreciation and society through medical advances, technology, consumer products, services, and the like [51]. When such investments contain elements at a secondary level of the haram, the Muslim shareholder must take steps to purify that haram income. The scrutiny applied to the financial ratios or capital structure of companies in question may be accomplished by means of the following three criteria: total (conventional) interest-bearing debt to market capitalization; total (conventional) accounts receivable to market capitalization; or total (conventional) cash and conventional interest-bearing securities to market capitalization.

The indexes evaluated through these criteria show how the companies present in the DJIM had greater profits with reference above all to the technological sector [52]. Although it has been highlighted by other studies that these companies have not always positive effects on performance as they are strictly conditioned by geopolitics events that affect value and stability [53]. Both the conducted analysis, statistical analysis and the literature confirm a different behaviour on the market of the companies belonging to the Dow Jones Islamic Market compared to the others, in terms of charge and stability on the market. These elements suggest that the results and the literature on social indicators (DJSI) created for the Dow Jones market may have different results compared to the Dow Jones Islamic Market.

IV. CONCLUSION AND REMARKABLE

Sustainability is an element of social impact that has changed both the behaviour of the company and the approach of the adopted model with the introduction of environmental and social policies in recent years [54]. These elements are very often part of the disclosure provided to stakeholders and consumers, some indices in particular created for the Dow Jones markets are significant for studying the company's performance with respect to economic, social and environmental results. As the possibility of expanding Islamic financial instruments with greater social impact in Western countries with similar models has been highlighted [23], [24], [47], [55], it is also possible to try to apply models and analysis tools for companies on Western markets in Islamic markets.

The indicators of the Dow Jones allow to study the companies present in the western markets confirming a greater return on assets and equity for those with greater results in terms of sustainability. The relationship between disclosure and stakeholder perception has been confirmed several times for these companies. However, there is no literature on sustainability applied to companies in the Dow Jones Islamic Finance. This gap could be filled by introducing sustainable indicators such as DJSI also to evaluate companies in the Sharia compliant markets. The analysis of the essential elements for the board that evaluates access to the Dow Jones Islamic Market can be integrated into the elements and the weights attributed in the DJSI allowing a future comparison not only of the markets but also of the results obtained by the companies in terms of social impact and environmental. Currently, as it has been highlighted in discussion fourth-generation composite indexes that involve both the company and the stakeholders allow a greater and complete vision of the company in environmental and social terms, the adopted questionnaires could therefore be redefined and integrated, including the elements required for access to the Islamic market. The conducted analysis allows for greater consideration, although the analysis carried out for a year and already highlighted in the literature confirms a greater return of companies present in Islamic markets, but there is no evidence of how these companies are actually sustainable in environmental and social terms. Therefore, although the Sustainable Development Goals policies are being implemented all over the world, we do not know that they are not exact, and the scholars cannot make comparisons about the companies and the effects of the models in economic terms. An Islamic business model with greater market stability may therefore not be the best in terms of social and environmental sustainability and impact.

Future analyses could therefore focus on the development and application of DJI Social Indicators applicable to the Islamic market which for the moment is not considered and only after a comparison between the results obtained between companies with high DJSI in the Dow Jones Market.

References

[1] C. Gimenez, V. Sierra, e J. Rodon, «Sustainable operations: Their impact on the triple bottom line», International Journal of Production Economics, vol. 140, n. 1, pagg. 149–159, 2012.

[2] A. J. Sulkowski, M. Edwards, e R. E. Freeman, «Shake your stakeholder: Firms leading engagement to cocreate sustainable value», Organization & Environment, vol. 31, n. 3, pagg. 223–241, 2018.

[3] D. Griggs et al., «Policy: Sustainable development goals for people and planet», Nature, vol. 495, n. 7441, pag. 305, 2013.

[4] M. Nilsson, D. Griggs, e M. Visbeck, «Policy: map the interactions between Sustainable Development Goals», Nature, vol. 534, n. 7607, pagg. 320–322, 2016.

[5] European Commission, Special Eurobarometer 468, Survey requested by the European Commission, Directorate-General for Environment and co-ordinated by the Directorate- General for Communication. 2017.

[6] E. H. Creyer, «The influence of firm behavior on purchase intention: do consumers really care about business ethics?», Journal of consumer Marketing, 1997.

[7] L. A. Mohr, D. J. Webb, e K. E. Harris, «Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior», Journal of Consumer affairs, vol. 35, n. 1, pagg. 45–72, 2001.

[8] C. B. Bhattacharya e S. Sen, «Consumer–company identification: A framework for understanding consumers' relationships with companies», Journal of marketing, vol. 67, n. 2, pagg. 76–88, 2003.

[9] K. M. Howie, L. Yang, S. J. Vitell, V. Bush, e D. Vorhies, «Consumer participation in cause-related marketing: An examination of effort demands and defensive denial», Journal of Business Ethics, vol. 147, n. 3, pagg. 679–692, 2018.

[10] M. J. Epstein, Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts. Routledge, 2018.

[11] D. Hofenk, M. van Birgelen, J. Bloemer, e J. Semeijn, «How and when retailers' sustainability efforts translate into positive consumer responses: the interplay between personal and social factors», Journal of Business Ethics, vol. 156, n. 2, pagg. 473–492, 2019.

[12] M. J. Masanet-Llodra, «Environmental management accounting: a case study research on innovative strategy», Journal of Business Ethics, vol. 68, n. 4, pagg. 393–408, 2006.

[13] A. J. Hoffman, «Linking organizational and field-level analyses: The diffusion of corporate environmental practice», Organization & Environment, vol. 14, n. 2, pagg. 133–156, 2001.

[14] S. Hanson, L. Jiang, J. Ye, e N. Murthy, «Society or the environment? Understanding how consumers evaluate brand messages about corporate social responsibility activities», Journal of Brand Management, vol. 26, n. 1, pagg. 21–34, 2019.

[15] M. Van Marrewijk, «Concepts and definitions of CSR and corporate sustainability: Between agency and communion», Journal of business ethics, vol. 44, n. 2–3, pagg. 95–105, 2003.

[16] J. H. Behagel e B. Arts, «Democratic governance and political rationalities in the implementation of the water framework directive in the netherlands», Public Administration, vol. 92, n. 2, pagg. 291–306, 2014, doi: 10.1111/padm.12059.

[17] European Commission, LIBRO VERDE Promuovere un quadro europeo per la responsabilità sociale delle imprese. 2001.

[18] D. Gonzalez-Rodriguez e J. R. Hernandez-Carrion, «Self-Organized Linguistic Systems: From traditional AI to bottom-up generative processes», Futures, vol. 103, pagg. 27–34, 2018, doi: 10.1016/j.futures.2018.03.003.

[19] K. W. Robert, T. M. Parris, e A. A. Leiserowitz, «What is sustainable development? Goals, indicators, values, and practice», Environment: science and policy for sustainable development, vol. 47, n. 3, pagg. 8–21, 2005.

[20] A. Bhimani e K. Langfield-Smith, «Structure, formality and the importance of financial and non-financial information in strategy development and implementation», Management accounting research, vol. 18, n. 1, pagg. 3–31, 2007.

[21] C. Hoffmann e C. Fieseler, «Investor relations beyond financials», Corporate Communications: An International Journal, 2012.

[22] A. Charles, O. Darné, e A. Pop, «Risk and ethical investment: Empirical evidence from Dow Jones Islamic indexes», Research in International Business and Finance, vol. 35, pagg. 33–56, 2015.

[23] S. Secinaro, Equity crowdfunding Sharia compliant, vol. 1. G Giappichelli Editore, 2017.

[24] P. Biancone, S. Secinaro, e V. Brescia, «Introduction of Islamic finance in Brexit time, some tips for the West», International Journal of Management Sciences and Business Research, 2019.

[25] A. A. Rahman, M. A. Yahya, e M. H. M. Nasir, «Islamic norms for stock screening», International Journal of Islamic and Middle Eastern Finance and Management, 2010.

[26] Valerio Brescia, «Top performer companies in the Dow Jones Market and the Dow Jones Islamic Market». Zenodo, 2019.

[27] S. Wallot e G. Leonardi, «Deriving inferential statistics from recurrence plots: A recurrence-based test of differences between sample distributions and its comparison to the two-sample Kolmogorov-Smirnov test», Chaos: An Interdisciplinary Journal of Nonlinear Science, vol. 28, n. 8, pag. 085712, 2018.

[28] V. Amor-Esteban, M.-P. Galindo-Villardón, I.-M. García-Sánchez, e F. David, «An extension of the industrial corporate social responsibility practices index: New information for stakeholder engagement under a multivariate approach», Corporate Social Responsibility and Environmental Management, vol. 26, n. 1, pagg. 127–140, 2019.

[29] L. S. Mahoney e L. Thorne, «Corporate social responsibility and long-term compensation: Evidence from Canada», Journal of Business Ethics, vol. 57, n. 3, pagg. 241–253, 2005.

[30] A. Russo e F. Perrini, «Investigating stakeholder theory and social capital: CSR in large firms and SMEs», Journal of Business ethics, vol. 91, n. 2, pagg. 207–221, 2010.

[31] R. Ciegis, J. Ramanauskiene, e G. Startiene, «Theoretical reasoning of the use of indicators and indices for sustainable development assessment», Engineering Economics, vol. 63, n. 4, 2009.

[32] S. J. Fowler e C. Hope, «A critical review of sustainable business indices and their impact», Journal of Business Ethics, vol. 76, n. 3, pagg. 243–252, 2007.

[33] M. Schröder, «Is there a difference? The performance characteristics of SRI equity indices», Journal of Business Finance & Accounting, vol. 34, n. 1–2, pagg. 331–348, 2007.

[34] B. LeBaron, «The stability of moving average technical trading rules on the Dow Jones Index», Derivatives Use, Trading and Regulation, vol. 5, n. 4, pagg. 324–338, 2000.

[35] M. J. Fishman e K. M. Hagerty, «Disclosure decisions by firms and the competition for price efficiency», The Journal of Finance, vol. 44, n. 3, pagg. 633–646, 1989.

[36] R. A. Dye, «Disclosure of nonproprietary information», Journal of accounting research, pagg. 123–145, 1985.

[37] D. S. Gelb e J. A. Strawser, «Corporate social responsibility and financial disclosures: An alternative explanation for increased disclosure», Journal of Business Ethics, vol. 33, n. 1, pagg. 1–13, 2001.

[38] P. Sengupta, «Corporate Disclosure Quality and the Cost of Debt», Accounting Review, October, 1998.

[39] W. G. Simpson e T. Kohers, «The link between corporate social and financial performance: Evidence from the banking industry», Journal of business ethics, vol. 35, n. 2, pagg. 97–109, 2002.

[40] A. W. K. Cheung, «Do stock investors value corporate sustainability? Evidence from an event study», Journal of Business Ethics, vol. 99, n. 2, pagg. 145–165, 2011.

[41] R. Garcia-Castro, M. A. Ariño, e M. A. Canela, «Does social performance really lead to financial performance? Accounting for endogeneity», Journal of Business Ethics, vol. 92, n. 1, pagg. 107–126, 2010.

[42] M. P. Miles e J. G. Covin, «Environmental marketing: A source of reputational, competitive, and financial advantage», Journal of business ethics, vol. 23, n. 3, pagg. 299–311, 2000.

[43] R. Debreceny, G. L. Gray, e A. Rahman, «The determinants of Internet financial reporting», Journal of Accounting and Public policy, vol. 21, n. 4–5, pagg. 371–394, 2002.

[44] M. del Mar Alonso-Almeida, J. Llach, e F. Marimon, «A closer look at the 'Global Reporting Initiative'sustainability reporting as a tool to implement environmental and social policies: A worldwide sector analysis», Corporate Social Responsibility and Environmental Management, vol. 21, n. 6, pagg. 318–335, 2014.

[45] A. Hassan, «Impact of ethical screening on investment performance: the case of the Dow Jones Islamic Index», Islamic Economic Studies, vol. 12, 2005.

[46] R. Siddiqui, «Shari'ah Compliance, Performance, and Conversion: The Case of the Dow Jones Islamic Market Index», Chi. J. Int'l L., vol. 7, pag. 495, 2006.

[47] P. Biancone, La banca islamica, European I. Torino: G. Giappichelli Editore, 2017.

[48] V. J. Sadeghi e P. P. Biancone, «Shariah Compliant International Entrepreneurship: A Study of Islamic Finance in Europe», European Journal of Islamic Finance, vol. 8, 2017.

[49] P. Biancone e M. Radwan, «International Entrepreneurship from an Islamic (Sharia Compliant) Prospective "The Opportunities for Western Economies"», 2017.

[50] P. P. Biancone e M. Radwan, «European companies: evaluation for sharia compliance "opportunities and challenges"», European Journal of Islamic Finance, n. 5, 2016.

[51] K. M. Hassan e E. Girard, «Faith-based ethical investing: The case of Dow Jones Islamic indexes», Islamic Economic Studies, vol. 17, n. 2, 2010.

[52] K. Hussein e M. Omran, «Ethical investment revisited: evidence from Dow Jones Islamic indexes», The Journal of Investing, vol. 14, n. 3, pagg. 105–126, 2005.

[53] A. Guyot, «Efficiency and dynamics of Islamic investment: evidence of geopolitical effects on Dow Jones Islamic market indexes», Emerging Markets Finance and Trade, vol. 47, n. 6, pagg. 24–45, 2011.

[54] T. Dyllick e K. Hockerts, «Beyond the business case for corporate sustainability», Business strategy and the environment, vol. 11, n. 2, pagg. 130–141, 2002.

[55] L. Corvo e L. Pastore, «The challenge of Social Impact Bond: the state of the art of the Italian context», European Journal of Islamic Finance, 2019.

Editor in Chief

Editorial Board