CORPORATE SOCIAL RESPONSIBILITY

Theoretical analysis and practical implications

edited by
Stefano Garzella

FrancoAngeli
OPEN ACCESS

 ISBN 9788835103752

Copyright © 2020 by FrancoAngeli s.r.l., Milano, Italy. ISBN 9788835103752

CORPORATE SOCIAL RESPONSIBILITY

Theoretical analysis and practical implications

edited by
Stefano Garzella

FrancoAngeli
OPEN ACCESS

 ISBN 9788835103752

This study was founded by the University of Naples Parthenope.

Copyright © 2020 by FrancoAngeli s.r.l., Milano, Italy. ISBN 9788835103752

INDEX

FOREWORD

This book includes the papers presented at the SIDREA International Workshop (SIW) in Naples on November 06, 2019. The workshop was organized by the Department of Business and Economics of the University of Naples "Parthenope" in association with the CSR Lab – Department of Economics of University of Foggia. The workshop aims to investigate the opportunities, criticalities and the future perspectives in the studies on Corporate Social Responsibility (CSR).

Corporate Social Responsibility is an increasingly relevant topic in the current economic context. For this reason we have chosen this topic. The rise of competitive pressures and the most recent economic and social changes made particularly interesting the interplay among management, sustainability and social impacts for scholars, public authorities, policy makers and practitioners. CSR research have a broad perspective characterized by pluralities in theories, topics, approaches and outcomes.

First, according to the aim, the workshop analysed the theoretical trends on sustainability field to allow a deeper understanding about the evolution of sustainable regulations and their different impact on firm activity sectors (Pizzi *et al*., Antonucci *et al.*).

In this vein, the several papers highlight the role of public actors, instruments and policies useful for improving CSR. Market regulators and supranational organizations provide standards for socio-environmental policy, operations, disclosure and performance (Costa *et al*.).

Defined the existing regulatory framework, the academic debate has focused on recognizing the importance of socio-environmental issues as critical success factors able to trigger new competitive dynamics and to increase firm performance and growth (Thomas *et al.*).

Indeed, the interaction and discussion among scholars during the workshop have confirmed that sustainability management can greatly affect business success both for sensitive and non-sensitive firms (Fortunati; Dicuonzo *et al*.). The sustainability can drive firm growth opportunities by pushing to pay attention to socio-environmental variables for developing new resources and capabilities and for improving competitive advantage. The studies presented suggest that firms must take into consideration socio-environmental issues in their decisions not only for social and moral reasons – such as mitigating reputational and legal risks for failure or to be compliance with rules – but also to ensure sustainable economic success.

In this respect, scholars have investigated how firms could develop effective implementation paths for CSR.

In attempt to integrate socio-environmental aims into overall strategic process of firms, the "green management" can play a key role for supporting the selection of socio-environmental goals and ideas, and their transformation into strategic actions, and for helping the development of advanced eco-sustainable practices while simultaneously lowering costs and creating differentiation benefits. The literature comparison has provided new reflections and critical points on CSR. The works highlighted sustainability as a "new strategic variable", not limited to the social strategy "perimeter" but extended to the overall system of strategies, required "element" even for implementing successful competitive and financial strategies (Garzella *et al*.). Managers should careful analyse each social and environmental issue by considering it alongside other traditional strategic variables such as cost, quality, price, and so on.

A crossover of studies on sustainability is provided in order to underline the connections between socio-environmental dimension and the other dimensions of corporate business model; the development of socio-environmental strategies and the integration of sustainability aspects into the corporate business model can contribute to strengthen the competitive positioning in the firms-customers and firms-investors relationships and can increase the firm value creation process. The alignment, form a side, of strategies and environmental dimension and, on the other side, of practices and sustainability direction requires an evolution of corporate objectives and the definition of coherent firm internal organizational model (Romano *et al*.).

In this sense, the predisposition of sustainability-oriented organizational strategy can support the development process of socio-environmental capabilities and skills and the effective application of control systems facilitating the attainment of CSR aims, monitoring results along the overall strategy process (Del bene *et al.*).

In this stream of research, scholars have provided some relevant socio-environmental value drivers and key performance indicators which may be integrated in corporate reports for internal and external communication goals (De Masi *et al*., Migliaccio and Pavone). Other contributions have also addressed motives and factors which lead firms to disclose non-financial information through social and environmental reporting and the related advantages and opportunities associated with it (Panfilo and Mio).

Finally, workshop papers contribute to the field of corporate social responsibility studies and provide guidance for both academic and managers. Participants of the SIW had the opportunity to interact and discuss with nationally and internationally scholars working in accounting and management studies. Despite different methodologies and approaches proposed, sometimes more empirical and sometimes more theoretical, the main conclusion is that the development of workable corporate social responsibility strategy represents one of the most important challenge for firms. Corporate social responsibility promotes an evolution of business practices considering simultaneously the accountability to a wide range of internal and external actors of firms; traditional views about competitiveness, survival and profitability are being swept away.

Much remains to be done on CSR studies, but we are hopeful that scholars will advance studies useful in supporting firms to foster collaboration, in coordinating their efforts, and in targeting common sustainability goals.

Naples, February 2020
University of Naples "Parthenope"

Prof. Stefano Garzella
Scientific Committee Chair

 ISBN 9788835103752

1. ACHIEVING SUSTAINABLE DEVELOPMENT GOALS THROUGH NON-FINANCIAL REGULATION. FIRST INSIGHTS FROM THE TRANSPOSITION OF DIRECTIVE 95/2014/EU IN ITALY

by *Simone Pizzi*[*], *Fabio Caputo*[*], *Andrea Venturelli*[*], *Stefano Adamo*[*]

Introduction

The themes related to climate change, human rights and poverty have been widely considered from worldwide policy makers. The attention paid by policy makers has been driven from the external pressure made by stakeholders in order to support the achievement of highest degree of worldwide sustainability. In this sense, national and international's Governments have started to introduce new form of regulation in order to sustain these practices through mandatory provisions. Moreover, a great contribution has been provided from the United Nations (UN) through the introduction of the Agenda 2030.

The Agenda 2030's introduction followed a period characterised from an increasing consciousness about the negative externalities related to an "unsustainable world". In this sense, the data provided by World Economic Forum (2017) revealed how the introduction of Agenda 2030 following a period characterised from an increasing probability of adverse events related to climate change, economic inequality and societal wellbeing.

The Agenda is composed by 17 goals that represent different items related to the macroconcept of sustainable development that ideally followed the previous Millenium Development Goals (MDGs) (Pineda-Escobar, 2019). However, despite the common origin, SDGs and MDGs are characterised by several differences. Specifically, the main differences are represented by number of goals, stakeholders interested and role of civil society (Kumar *et al*., 2016). Regard the central role covered by civil society, contrarily to MDGs, the SDGs required an effective contribution both from Member States and both from private sector for their achievement. In particular, the

[*] University of Salento, Lecce, Italy. Department of Economic Sciences.
E-mail: simone.pizzi@unisalento.it, fabio.caputo@unisalento.it, andrea.venturelli@unisalento.it, stefano.adamo@unisalento.it.

 ISBN 9788835103752

Agenda 2030 explicitely required to Member States in SDG12.6: "*Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle*" in SDG 12.6. Moreover, the Agenda 2030 have identified as proxy of SDG 12.6's achievement the yearly increase of the overall number of non-financial reports published by worldwide firms.

According to this evidence, the aim of the paper is to evaluate the relationship between non-financial reporting's regulation in Europe and SDGs' achievement. Our research followed as evidenced in prior studies about the opportunity for accounting scholars to provide an effective support to policy makers in order to assess the regulation's effect (Bebbington, 2013). For our purposes, we will analyse a set of Italian Listed PIEs involved by Directive 95/2014/EU. The choice to perform a country-specific analysis followed as evidenced in prior studies about the opportunity to analyse SDGs at national level (Poddar *et al*., 2019; Ike *et al*., 2019).

Moreover, our research followed as evidenced in prior studies about the ineffectiveness of non-financial reporting's regulation in sustainable development (Monciardini, 2016; Venturelli *et al*., 2018; La Torre *et al*., 2019). Specifically, these studies reveal how the disclosure of mandatory non-financial reports is not even followed by an adequate orientation toward sustainability.

1. Literature Review

The relationship between SDGs and business and management studies represents a new and not well explored field of study (Guthrie *et al*., 2019). The relevance of the theme is connected to the opportunity for accounting scholars to provide further suggestions in order to favour the engagement with private sector's actors (Bebbington and Unerman, 2018). Moreover, further studies denoted how accounting scholars could favour the diffusion of these new paradigms with practitioners (Rinaldi, 2018).

The exigence of a deep analysis of non-financial reporting practices is related to the existence of asymmetry between "walking" and "talking" about sustainable development goals. Specifically, prior studies denoted how the MNEs' contribution to SDGs is characterised from the misalignment between theory and practices (Mhlanga *et al*., 2018). Furthermore, other studies reveal how the existence of a high degree of orientation toward SDGs is not even followed by an adequate reporting's activity (Pizzi *et al*., 2019). Regard the differences between walking and talking about SDGs, these studies have

highlighted the exigence of an effective involvement of all the stakeholders interested by their activity (Agarwal, 2017).

During the last years, national and international Governments have started to introduce new form of regulations in order to increase the degree of awareness about sustainable development's themes. In particular, these new forms of regulations have interested the European context (Camilleri, 2015). These innovations have been relevant for the European context due to the general absence of rules about corporate social responsibility (Steurer, 2015). An increasing number of firms have started to adopt voluntarily socially responsible behaviours (Fiorentino *et al*., 2015; Capurro, 2019). However, the disclosure of non-financial information on mandatory basis could be interested by unethical behaviours from managers like impression management and greenwashing strategies (Bansal and Clelland, 2004). In this sense, recently academics and policy makers have started to discuss about a new form of unethical behaviours called SDG-Washing (Buhmann, 2018).

One of the main innovations that have characterise the recent European scenario is represented by the Directive 95/2014/EU. The content of the Directive has been innovative because it introduces within the national jurisdictions of the 28 Member States a set of common rules about non-financial reporting (Venturelli and Caputo, 2017). However, the Directive has been characterised from several scepticism by academics before and after its introduction. On this point, Monciardini (2016) highlighted how its introduction were characterised from the existence of different coalition. In this sense, the content of the Directive wasn't characterised for an effective agreement between stakeholders. Furthermore, some academics have showed the existence of several criticism in term of non-financial information's harmonization (La Torre *et al*., 2019).

Although its criticism, the Directive have contributed positively to SDG 12.6 who required to UN's Member States to: "*Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle*". In 2017, the first results collected by academics and practitioners have showed an increase the quantity of non-financial reports yearly disclosed by large firms. However, these studies reveal how the non-financial declarations prepared in according to the Directive 95/2014/EU have been characterised from several differences in term of quality (Venturelli *et al*., 2018; Dawid *et al*., 2019; Mion and Loza Adaui, 2019; Popescu *et al*., 2019; Rizzato *et al*., 2019).

However, prior studies have suggested how "quality" and "quantity" in non-financial reporting are two standalone topics (Michelon *et al*., 2015; Venturelli *et al*., 2019). In this sense, soma international surveys prepared by

practitioners and NGOs have showed how only few MNEs have started to explicitly provide information about their SDGs' contribution in their non-financial reports (KPMG, 2017; PWC, 2018). However, the explicit representations of SDGs in non-financial reports is not the only signal of an effective orientation to these themes. In fact, firms could contribute to SDGs' achievement without an explicit representation through their behaviours. Moreover, the disclosure of specific information related to the SDGs' concept represent another item useful for the comprehension of the degree of orientation toward SDGs. In this sense, the Global Reporting Initiative, UN Global Compact and WBCSD (2017) have provided a set of indicators useful to disclose firms' contribution to SDGs.

2. Sampling and Methods

The aim of the present research is to evaluate which driver impacts on firm's orientation toward SDGs.

Following the prior studies about CSR's reporting quality, we have built an assessment grids in order to evaluate the orientation toward SDGs. Specifically, we have built an SDG_Score who describe the degree of adherence to the guidelines provided by Global Reporting Initiative, UN Global Compact and WBCSD (2017). The choice to adopt this approach has been favoured from the adoption of all the Italian Public Interest Entities of GRI as accounting standards (Deloitte, 2017).

$$SDG_{Score} = \frac{Number\ of\ GRI\ Indexes\ required\ by\ SDG\ Compass}{SDG\ Compass\ Requirement}$$

For our purposes, we have evaluated a set of firms involved by the effects of Directive 95/2014/EU that operate in non-financial sectors during 2017. The selection of the sample has been based on the official data provided by CONSOB (*available at* http://www.consob.it/web/area-pubblica/soggetti-che-hanno-pubblicato-la-dnf). In order to evaluate the SDG_Score in according to SDG Compass, we have considered in our research only the 115 firms that prepared their non-financial declarations in according to the latest GRI Standards.

Furthermore, in order to evaluate wich factors impact on the average SDG_Score, we have performed an OLS analysis (Cooke, 1998). Specifically, for our purposes we have considered in our analysis three type of va-

riables that describe the firms' characteristics in term of governance, size and approach to CSR.

$$SDG_{Score} = \beta Size + \beta CSR + \beta Governance + \epsilon$$

The variables that represents firms' size are Debt on Equity Ratio (D/E) and the natural logarithm of the total assets (SIZE). The variables that represents the reports's characteristics are STANDALONE REPORT, EXPERTISE and CONSOLIDATED ACCOUNTING STANDARD. Finally, the variables that describe governance characteristics are BOARD SIZE, %WOMEN, % INDEPENDENT and MEETING.

Tab. 1 – Variables Description

Variable	Description	Sources
D/E	Debt on equity ratio	Wickert *et al*., 2016
SIZE	Natural Logarithm of Total Asset	Lee *et al*., 2013
STANDALONE REPORT	1 if the firms adopt standalone reports (eg. Sustainability Reports, Integrated Reports), 0 if not.	Helfaya and Moussa, 2017
EXPERTISE	1 if the firms is a non-financial report early adopter, 0 if not	Luo *et al*., 2017
CONSOLIDATED REPORT	1 if the firm adopt GRI Standards in a Core or Comprehensive way, 0 if not.	Rezaee and Tuo, 2019
CSR COMMITTEE	1 if the firm have organized a CRS Committe, 0 if not.	Kitsikopoulous *et al*., 2018
BOARD SIZE	Number of Directors involved in the Board	Velte, 2017
%WOMEN	Percentage of women on BoD	Khan *et al*., 2019
%INDEPENDENT	Percentage of independent on BoD	Fernandez-Gago *et al*., 2018
MEETING	Number of BoD's meeting.	Kent and Stewart, 2008

3. Results

Our results denote an overall SDG_Score equal to 35,22%. This result denotes how the contribution to SDGs by Italian firms is limited (Venturelli *et al*., 2018). Moreover, our results highlight how the achievement of SDG 12.6 is controversial. Specifically, the Italian context have contributed positively to SDG 12.6 without an effective orientation toward them. In this sense, regulation will impact only on quantity and not in quality.

The SDGs qualitatively more analysed from the Italian firms is SDG4 (*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*) followed by SDG10 (*Reduce inequality within and among countries*). According to prior studies about the Italian context, the central role covered by SDG4 and SDG10 could be related to the existence of prior form of non-financial regulation about the relationship with the employees (Mio and Venturelli, 2013). On the other hand, the indicator qualitatively less disclosed by Italian PIEs are SDG2 (*End hunger, achieve food security and improved nutrition and promote sustainable agriculture*) and SDG1 (*End poverty in all its forms everywhere*). In this sense, the prioritization of these themes by the firms could have been negatively influenced by the institutional factors that characterize the Italian context (Mhlanga *et al*., 2018).

Tab. 2 – SDG Score

SDGs	Mean	Minimum	Maximum	Median	Std. Deviation
SDG1	20,31746%	0,000%	100,000%	0,00000%	31,178847%
SDG2	19,71154%	0,000%	100,000%	0,00000%	34,428954%
SDG3	35,72485%	0,000%	100,000%	30,76923%	21,247319%
SDG4	80,18868%	0,000%	100,000%	100,00000%	40,047142%
SDG5	49,03846%	0,000%	100,000%	50,00000%	22,080248%
SDG6	25,18868%	0,000%	100,000%	20,00000%	28,258370%
SDG7	33,26923%	0,000%	100,000%	20,00000%	27,675032%
SDG8	36,24650%	0,000%	100,000%	32,35294%	19,715231%
SDG9	26,21359%	0,000%	100,000%	33,33333%	27,475672%
SDG10	60,18349%	0,000%	100,000%	60,00000%	26,873560%
SDG11	27,18447%	0,000%	100,000%	0,00000%	44,708587%
SDG12	33,54497%	0,000%	94,444%	27,77778%	23,455670%
SDG13	33,57143%	0,000%	91,667%	33,33333%	23,240921%
SDG14	28,05195%	0,000%	92,857%	21,42857%	24,567197%
SDG15	27,51213%	0,000%	92,308%	23,07692%	24,204382%
SDG16	30,54281%	0,000%	95,833%	25,00000%	21,404629%

In order to exclude the existence of multicollinearity within the variables, we have conducted a correlation analysis. The choice to adopt correlation analysis as a test follows as evidence in prior accounting and management

studies (Kalnins, 2018). In fact, correlation analysis allows readers to easily understand the relationship between the factors observed. The absence of a strong positive or negative relationship between variables confirms the absence of multicollinearity.

The regression analysis reveals how the variables SIZE, STANDALONE REPORT, EXPERTISE, CONSOLIDATED REPORTING STANDARD and INDEPENDENT impact positively on SDG_Score.

The positive relationship between SIZE and SDG_Score confirms as evidenced in prior studies about non-financial reporting quality. In particular, prior studies denoted how large firms are typically more oriented to adopt "experimentation" within their reports.

The positive effects related to STANDALONE REPORT, EXPERTISE and CONSOLIDATED REPORTING STANDARD reveal how a central role in SDG reporting is covered by reports' characteristics (Garzella and Fiorentino, 2013).

Tab. 3 – Correlation analysis

	Mean	Dev.St.	D/E	Size	Standalone report	Expertise	Consolidated report	CSR Committee	Board size	% Women	% Independent	Meeting
D/E	0,690	1,227	1	,051	-,057	-,011	,006	,127	-,037	,010	,040	,069
Size	13,318	1,784		1	,089	,361**	,109	,206*	,154	,012	,135	,129
Standalone report	0,696	0,462			1	,169	,336**	,054	-,082	-,028	-,122	,058
Expertise	0,287	0,454				1	,201*	,366**	,079	,067	,016	,132
Consolidated report	0,539	0,501					1	,171	,036	-,179	,013	-,037
CSR Committee	0,470	0,501						1	,114	,064	,083	,138
Board size	9,439	2,829							1	-,022	,284**	-,074
% Women	0,315	0,101								1	,233*	,059
% Independent	0,411	0,241									1	,012
Meeting	9,789	4,273										1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Our evidence reveals how the contribution to SDG 12.6 is influenced by the documents adopted by the firms in order to be compliant with Directive 95/2014/EU. In fact, despite the possibility to prepare report inspired by GRI but based on a self-assessment made by the firms, the adoption of the Core or Comprehensive framework allows preparers to provide more details about themes related to SDGs. In this sense, the reports prepared through the GRI-

Referenced framework could be perceived a signal of a low degree of orientation toward SDGs. Moreover, the integration of the non-financial declarations within the financial reports impact negatively on SDGs' orientation. Finally, despite the existence of a set of common rules about non-financial reporting, the early adopters are typically more oriented to contribute positively on SDGs.

Finally, the positive relationship between INDEPENDENT and SDG_Score confirms how the Board of Directors' composition represents one of the main drivers for an effective transition to new form of governance inspired by a more sustainable vision of the business. Specifically, this result confirms the prior evidences about the central role covered by Independent Directors in non-financial practices.

4. Conclusion

The achievement of SDGs is one of the main targets for worldwide Governments due to the exigence to identify new operational paradigms in order to increase the overall degree of sustainable development. However, this activity is characterised by several criticisms related to its intrinsic complexity.

Tab. 4 – OLS analysis.

	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
const.	-8,978	15,194		-,591	,556		
D/E	-,155	1,347	-,010	-,115	,908	,968	1,034
SIZE	2,192	1,079	,197	2,031	,045	,780	1,283
STANDALONE REPORT	6,748	3,850	,164	1,753	,083	,840	1,191
EXPERTISE	7,248	4,157	,173	1,744	,084	,746	1,341
CONSOLIDATED REPORT	6,938	3,625	,182	1,914	,058	,811	1,234
CSR COMMITTEE	2,416	3,629	,063	,666	,507	,808	1,237
BOARD SIZE	-,180	,623	-,026	-,288	,774	,872	1,147
%WOMEN	,606	17,269	,003	,035	,972	,892	1,121
%INDEPENDENT	13,409	7,450	,169	1,800	,075	,830	1,204
MEETING	-,044	,390	-,010	-,113	,910	,942	1,062
R-Squared				0,268			
Adjusted R-Squared				0,195			

Moreover, an effective achievement of these goals needs a highest contribution from private sectors.

Contrarily to MDGs, one of the main innovations in SDGs is represented by the explicit involvement of private firms in all the SDGs. However, the UN has explicitly required to Member States to identify new form of regulation in order to increase the adoption of non-financial reporting's systems by private firms in SDG 12.6 who required to Member States to sustain non-financial reporting through new policies.

Despite the Agenda 2030 has been introduced only in 2015, the Directive 95/2014/EU have followed this requirement. However, its effect has been limited to an increase on the overall quantity of non-financial reports yearly prepared by the firms. In fact, as evidenced in prior studies, the Italian context were just characterised by firms interested to disclose non-financial information (Venturelli *et al*., 2019; Cantino *et al*., 2019; Manes Rossi *et al*., 2018).

According to this evidence, our preliminary research will provide further information about Directive 95/2014/EU effectiveness (La Torre *et al*., 2019). Moreover, we will extend the current debate about the contribution of accounting scholars to SDGs.

The limitations of our research are represented by the sample composition due to the exclusion of Italian financial firms. Moreover, in our research we don't analyse the differences between listed and unlisted firms. In this sense, future research could be addressed to fill these gaps both through analysis on other geographical context and both through the analysis of different periods.

References

Bebbington, J. (2013), "As a Matter of Policy", *Social and Environmental Accountability Journal*, Vol. 33, No. 1: 1-4.

Bebbington, J., Unerman, J. (2018), "Achieving the United Nations Sustainable Development Goals: an enabling role for accounting research", *Accounting, Auditing & Accountability Journal*, Vol. 31, No. 1: 2-24.

Buhmann, K. (2018), "Future Perspectives: Doing Good but Avoiding SDG-washing. Creating Relevant Societal Value without Causing Harm" In Oecd Guidelines for Multinational Enterprises (pp. 127-134). OECD.

Camilleri, M. A. (2015), "Environmental, social and governance disclosures in Europe", *Sustainability Accounting, Management and Policy Journal*, Vol. 6, No. 2: 224-242.

Cantino, V., Devalle, A., Fiandrino, S., Busso, D. (2019), "The level of compliance with the Italian Legislative Decree No. 254/2016 and its determinants: Insights from Italy", *Financial reporting.*

Capurro, R. (2019), "Pianificazione e controllo della strategia ambientale: analisi teoriche e proposte operative", *Management Control*.

Cooke, T. E. (1998), "Regression analysis in accounting disclosure studies", *Accounting and business research*, Vol. 28, No. 3: 209-224.

Dawid, G., Magdalena, K., Karolina, K. (2019), "CSR Practices in Polish and Spanish Stock Listed Companies: A Comparative Analysis", *Sustainability*, Vol. 11, No. 4, 1054.

Deloitte (2018), *Osservatorio Nazionale sulla Rendicontazione non Finanziaria ex D.Lgs. 254/2016.*

Fernández-Gago, R., Cabeza-García, L., Nieto, M. (2018), Independent directors' background and CSR disclosure, *Corporate Social Responsibility and Environmental Management,* Vol 25, No. 5: 991-1001.

Fiorentino, R., Garzella, S., Lamboglia, R., Mancini, D. (2016), "Strategie di sostenibilità: dalle motivazioni ai sistemi di misurazione della performance", *Management Control*.

Garzella, S., Fiorentino, R. (2013), "The *Current Environmental Strategy Reporting Model: What can be Learned from Corporate Reports?".* In Accounting Information Systems for Decision Making (pp. 93-120). Springer, Berlin, Heidelberg.

GRI, UN Global Compact, & WBCSD. (2015), *SDG compass: the guide for business action on the SDGs.*

Guthrie, J., Parker, L. D., Dumay, J., Milne, M. J. (2019), "What counts for quality in interdisciplinary accounting research in the next decade: A critical review and reflection", *Accounting, Auditing & Accountability Journal*, Vol. 32, No.1: 2-25.

Helfaya, A., Moussa, T. (2017), "Do board's corporate social responsibility strategy and orientation influence environmental sustainability disclosure? UK evidence", *Business Strategy and the Environment*, Vol. 26, No. 8: 1061-1077.

Ike, M., Donovan, J. D., Topple, C., Masli, E. K. (2019), "The process of selecting and prioritising corporate sustainability issues: Insights for achieving the Sustainable Development Goals", *Journal of Cleaner Production*, Vol. 236: 117-661.

Kalnins, A. (2018), Multicollinearity: How common factors cause Type 1 errors in multivariate regression, *Strategic Management Journal*, Vol. 39, No. 8: 2362-2385.

Kent, P., Stewart, J. (2008), "Corporate governance and disclosures on the transition to international financial reporting standards", *Accounting & Finance*, Vol. 48, No. 4: 649-671.

Khan, I., Khan, I., Saeed, B. B. (2019), "Does board diversity affect quality of corporate social responsibility disclosure? Evidence from Pakistan", *Corporate Social Responsibility and Environmental Management.*

Kitsikopoulos, C., Schwaibold, U., Taylor, D. (2018), "Limited progress in sustainable development: Factors influencing the environmental management and

reporting of South African JSE-listed companies", *Business Strategy and the Environment*, Vol. 27, No. 8: 1295-1301.
KPMG (2017). *The road ahead: the KPMG survey of corporate responsibility reporting*.
La Torre, M., Sabelfeld, S., Blomkvist, M., Tarquinio, L., Dumay, J. (2018), "Harmonising non-financial reporting regulation in Europe: Practical forces and projections for future research", *Meditari Accountancy Research*.
Lee, K., Oh, W. Y., Kim, N. (2013), Social media for socially responsible firms: Analysis of Fortune 500's Twitter profiles and their CSR/CSIR ratings, *Journal of business ethics*, Vol. 118, No. 4: 791-806.
Luo, X. R., Wang, D., Zhang, J. (2017), "Whose call to answer: Institutional complexity and firms' CSR reporting", *Academy of Management Journal*, Vol. 60, No. 1: 321-344.
Manes-Rossi, F., Tiron-Tudor, A., Nicolò, G., Zanellato, G. (2018), "Ensuring more sustainable reporting in Europe using non-financial disclosure—De facto and de jure evidence", *Sustainability*, Vol. *10, No.* 4: 11-62.
Mhlanga, R., Gneiting, U., Agarwal, N. (2018), *Walking the Talk: Assessing companies' progress from SDG rhetoric to action.*
Michelon, G., Pilonato, S., Ricceri, F. (2015), CSR reporting practices and the quality of disclosure: An empirical analysis, *Critical perspectives on accounting*, Vol. 33: 59-78.
Mio, C., Venturelli, A. (2013), Non-financial information about sustainable development and environmental policy in the annual reports of listed companies: Evidence from Italy and the UK, *Corporate Social Responsibility and Environmental Management*, Vol. 20, No. 6: 340-358.
Mion, G., Loza Adaui, C. R. (2019), "Mandatory Nonfinancial Disclosure and Its Consequences on the Sustainability Reporting Quality of Italian and German Companies", *Sustainability*, Vol. 11, No. 17: 4612.
Monciardini, D. (2016), "The 'Coalition of the Unlikely'Driving the EU Regulatory Process of Non-Financial Reporting", *Social and Environmental Accountability Journal*, Vol. 36, No. 1: 76-89.
Pizzi, S., Caputo, F., Adamo, S. (2019), *The Italian National Healthcare System's contribution to Sustainable Development Goals: An accounting perspective.* AIDEA Conference 2019.
Poddar, A., Narula, S. A., Zutshi, A. (2019), A study of corporate social responsibility practices of the top Bombay Stock Exchange 500 companies in India and their alignment with the Sustainable Development Goal, *Corporate Social Responsibility and Environmental Management*.
Popescu, G., Raluca, C., Banța, V. C. (2019), "Performance Evaluation of the Implementation of the 2013/34/EU Directive in Romania on the Basis of Corporate Social Responsibility Reports", *Sustainability*, Vol. *11, No.* 9: 2531.
PWC (2018), *SDG Reporting Challenge*.
Rezaee, Z., Tuo, L. (2019), "Are the quantity and quality of sustainability disclosures associated with the innate and discretionary earnings quality?", *Journal of Business Ethics*, Vol. *155, No.* 3: 763-786.

Rinaldi, L. (2019), *Accounting for sustainability governance: The enabling role of social and environmental accountability research.*

Rizzato, F., Busso, D., Fiandrino, S., Cantino, V. (2019), "*Non-financial Information and Risk Disclosure: Compliance Levels with Mandatory Requirements in the Italian Market".* In The Future of Risk Management, Volume II (pp. 105-142). Palgrave Macmillan, Cham.

Steurer, R. (2015), "CSR and governments: public policies on CSR in Europe", *Corporate Social Responsibility*, Vol. 240.

Velte, P. (2017), "Do women on board of directors have an impact on corporate governance quality and firm performance? A literature review", *International Journal of Sustainable Strategic Management*, Vol. 5, No. 4: 302-346.

Venturelli, A., Caputo, F. (2017), *Informativa non finanziaria e regulation. Tendenze evolutive e relative implicazioni alla luce dell'emanazione del D. Lgs 254/16* (pp. 1-249), McGraw-Hill.Agarwal, N., Gneiting, U., & Mhlanga, R. (2017). *Raising the bar: Rethinking the role of business in the Sustainable Development Goals*. Oxfam.

Venturelli, A., Caputo, F., Leopizzi, R., Pizzi, S. (2018), "The state of art of corporate social disclosure before the introduction of non-financial reporting directive: a cross country analysis", *Social Responsibility Journal*.

Venturelli, A., Caputo, F., Adamo, S. (2018). SDG accounting e informativa non finanziaria: prime evidenze empiriche sul contesto italiano. In: *Nuove frontiere del reporting aziendale. La comunicazione agli stakeholders tra vincoli normativi e attese informative.*

Wickert, C., Scherer, A. G., Spence, L. J. (2016), "Walking and talking corporate social responsibility: Implications of firm size and organizational cost", *Journal of Management Studies*, Vol. 53, No. 7: 1169-1196.

2. WHEN SOCIAL ACCOUNTING BECOMES AN OBLIGATION BY LAW. THE CASE OF ITALIAN SOCIAL ENTERPRISES

by *Gianluca Antonucci*[*], *Michelina Venditti*[*], *Ida Verna*[*]

Introduction

This paper starts form the consideration that, while for a for profit firm, a common line of Corporate Social Responsibility (CSR) can be traced in the implementation of actions which explicitly, and especially voluntary, seek to serve a broader social purpose or lead to the betterment of society, the same common line cannot be traced for Third Sector Organisations (TSO) because their action is embedded in activities which can be considered not as voluntary which go beyond, but as a specific topic of the vision and mission of the different categories of TSOs which go from social services to advocacy, passing through social inclusion to environment protection.

Thus the essence of a TSO is in the fact that it has a range of social and environmental goals, extremely diverse, as are its governance structures and the different groups of stakeholders who are engaged with such an organization (Westall, 2004) and can be outlined in its ability to respond both to private for-profit and public sectors' limitations to meet various human needs (Weisbrod, 1988). Hence, we reflected that while in CSR there is a voluntary commitment, by a firm, "to go beyond", enhancing mechanisms aiming at strengthening the involvement in community and society wellbeing, in the case of TSOs, community and society wellbeing, as well as stakeholders interactions, are the essence for the existence of a TSO.

The general aim of this paper is to look at the peculiarities of those TSO which, according to Hansmann's taxonomy (1980) are commercial and entrepreneurial. We therefore reflect on which should be the specific CSR

[*] University of Chieti-Pescara "G. d'Annunzio", Italy. Department of Management.
E-mail: gianluca.antonucci@unich.it, michelina.venditti@unich.it, ida.verna@unich.it.

differences in the case of commercial entrepreneurial TSOs which are involved in the market, but, by definition, are not profit seeking and their vision and mission are strictly related with societal wellbeing. We thought that Social Accounting (SA), in this sense, provides a set of tools and procedures aiming at measuring and analysing, as well as give information to all stakeholders, the social performance of organizations, being an inclusive field of accounting for social and environmental events which arise as a result of, and are intimately tied to the economic actions of organizations (Islam, 2015).

Starting from the above considerations this paper intends to answer the following question: what is the relevance of Social Accounting and how and if it can be a relevant tool to show the peculiarities of TSOs involved in the market.

In order to answer this question we decided to concentrate our analysis on a particular set of entrepreneurial TSOs that is Social Enterprises (SE) in Italy. We did this choice because SEs are an example of the 'extreme border' of TSOs involved in the market, and especially because Italian SEs represent the first case in the world in which – differently from all the other aspects related to CSR and especially its voluntary disclosure through SA schemes – social reporting represents an obligation, to be accomplished by Law, to present the observance of the 'social' attribute of any Italian SE.

We decided to look at how they were realizing their social reporting and which was the effectiveness of these SA schemes in showing SEs differences.

In particular the study, framed in Foucault's theory of "governmental rationality" (Foucault, 1988, 1991), aims at analysing the role that this compulsory SA schemes and practices of accountability have played in "detect and control the accounts" of Italian SEs.

In order to answer our questions, we randomly selected, from the compulsory national register of Italian SEs, 20 of the 2.852 registered SEs, from a subset in which we considered only those having more than 20 workers and we considered to avoid geographic and sectorial misrepresentation. Once collected their social reports, we decided to run the analysis looking at eight different aspects, giving a double scoring by two evaluators.

Results show that a compulsory requirement, not followed by any control, has the risk of becoming a simply fulfilment, thus weakening the potentials of SA schemes and not responding to the necessary disclosure of the peculiarities of a commercial or entrepreneurial TSO.

The study is structured in six paragraphs plus this one. The following paragraph features the principal characteristics of CSR and the specificities of TSOs and especially of entrepreneurial and commercial ones. The third paragraph presents the specific role of SA for commercial and entrepreneurial

TSO. The fourth one describes the peculiarities of Italian SE and the following two describe the design and method and the findings of the analysis. The concluding paragraph presents some considerations about the relevance of the results and especially limitations and possible future developments.

1. Corporate Social Responsibility and Third Sector Organisations

From the inception of the new era of Corporate Social Responsibility (CSR) – that Carroll (1999) traces in Bowen's publication (1953), where CSR (at that time simple Social Responsibility) was defined as businessman's obligations to pursue policies, making decisions desirable in terms of the objectives and values of the whole society – had a great development becoming recognised as an important contributor or constraint on the competitiveness of the corporation (Porter and Kramer, 2006; Prahalad, 2005).

Indeed the basic definition can still be embedded in «businessmen's decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest» (Davis, 1960, p. 70), but it has been developed and increased, going far beyond, becoming compliance investment, operating in tune with the way the world works, thus requiring and defining managerial commitment and strategic thinking (Gates, 2008; Griffin, 2008; Potoski and Prakash, 2009; Griffin and Prakash, 2014) able to create not "simply" economic value, but, especially since the end of the 20th century, also opportunities for innovation-enhancing competitiveness (Bies *et al*., 2007; Graves and Waddock, 1994; Hart and Sharma, 2004). Indeed, from the aspects initially related with philanthropic donation from wealthy industrialists, CSR has evolved to successful commercial enterprises, thus bringing even a puzzling number of ways of acting that do not always cohere (Margolis and Walsh, 2003; Orlitzky *et al*. 2003), but whose common bottom line can be anyway traced in organisation's policies and programs which go beyond the requirements of extant law, and especially where the law is silent (e.g. the organisation discharges a level of pollutants which is much below the level according to the law, or even when there is no law about the level of pollutants; the organisation pays wages beyond the legal minimum).

The evolution of the concept, together with a better definition of voluntary actions linked with evolving law requirements (especially for what regards workers' conditions and environment protection) lead to a larger and larger number of actions as well as beneficiaries, which vary a lot across industries, time, being now strictly linked to institutional and cultural

contexts (Matten and Crane, 2005; Miller and Guthrie, 2011; Prakash and Potoski, 2011; Griffin and Prakash, 2014), and in this sense the common line can be traced in the implementation, by the social responsible organisation, of actions which explicitly, and especially voluntary, seek to serve a broader social purpose or lead to the betterment of society (Margolis and Walsh, 2003; Griffin and Prakash, 2014), thus going beyond local (geographically adjacent) neighborhoods as the sole or primary beneficiary of organizations' impacts, but having a larger set of stakeholders (Barnett, 2013; Hess *et al*., 2008; Matten and Moon, 2008; Waddock, 2008; Windsor, 2006) that can even arrive to the consideration of the Earth as a whole like in the case of initiatives for the reduction of greenhouse gases.

Now, if in the case of for profit companies, it is clear that CSR is a voluntary explicit strategy to pursue something which goes far beyond obligations seeking to serve a broader social purpose or lead to the betterment of society, a completely different theme can be seen in the case of Third Sector Organisations[1] in which, in most of the cases, their action is embedded in activities which can be considered not as voluntary which go beyond, but as a specific topic of their vision and mission. Just to make an example of this marked difference, it is possible to consider Davidson's four categories of social responsibility as traced in Wulfson (2001):

- Maintaining community relations through charitable activities and financial support;
- Contributing to humanistic efforts such as equality in the workplace;
- Expressing environmental obligations that affect air and water;
- Giving a priority to consumers with fair pricing and safety issues.

We can clearly understand as those categories embed the different actions of different aims and reasons of existence of the different categories of Third Sector Organisations which goes from social services to advocacy, passing through social inclusion.

Indeed the essence of a Third Sector Organisation (TSO) – embedded in an institutional sector which ranges from organizations that are fully-grant dependent to those that are fully self-financing and from those that compete in mainstream markets to those that provide non-marketable goods and services – is in the fact that it has a range of social and environmental goals extremely diverse as are its governance structures and the different groups

[1] Considering, with this label, all those groups and organizations (e.g.: voluntary organisations, non-profit organisations, associations, social cooperatives, civil society organisations) encompassed in what has been defined 'loose and baggy monster' (Kendall and Knapp, 1995) and is still looking for a complete accepted conceptualisation (e.g. Salamon and Sokolowski, 2016).

of stakeholders who are engaged with such an organization (Westall, 2004). Moreover the last decades have seen a great increase of these organizations that occupy the social space between the market and the state, variously known as the "nonprofit," the "voluntary," the "civil society," the "third," the "social economy," the "NGO," or the "charitable" sector including a bewildering array of entities such as: hospitals, universities, social clubs, professional organizations, day care centers, grassroots development organizations, health clinics, environmental groups, family counseling agencies, self-help groups, religious congregations, sports clubs, job training centers, human rights organizations, community associations, soup kitchens, homeless shelters, and many more (Salamon and Sokolowsky, 2010).

The essence of a TSO can be outlined in its ability to respond both to private for-profit and public sectors' limitations to meet various human needs (Weisbrod, 1988).

TSO are firms that are formally organized as either nonprofit corporations or charitable trusts characterized by the "nondistribution constraint" that prohibits the distribution of residual earnings to individuals who exercise control over the firm because net earnings, if any, must be retained and devoted, in their entirety, to finance further production of the services that the organization was formed to provide (Hansmann, 1980). According to the source of income and the way in which they are controlled Hansmann (1987) identifies the following typologies of TSO:

- *Donative* TSOs, which receive most or all of their income in the form of grants or donations;
- *Commercial* TSOs, which receive the bulk of their income from prices charged for their services.
- *Mutual* TSOs, which are controlled by their patrons;
- *Entrepreneurial* TSOs, which are largely free from the exercise of formal control by their patrons.

Last but not least Laville *et al* (1999), in defining the peculiarities of TSOs, specify that these organizations are created not for maximizing return on investment, rather for meeting a general or mutual interest, contributing to the common good, or meeting social demands expressed by certain segments of the population.

In looking at the basic common line in CSR definitions and statements, together with the basic historical definitions of TSOs, it can be easily outlined that, while in CSR there is a voluntary commitment, by a firm, to go beyond basic law requirements, enhancing mechanisms which are not related with the strict economic return and profit increase, but aim at strengthening

the involvement in community and society wellbeing, arriving even to the consideration of the Earth as a whole in the case of environmental protection, in the case of TSOs, the community and society wellbeing, as well as stakeholders interactions, are the essence for the existence of a TSO which, by definition, it is not devoted to any profit, because it cannot have any distribution of residual earnings to individuals.

Starting from the above considerations, the aim of this paper is to look at the peculiarities of those TSO which, according to Hansmann's taxonomy are commercial and entrepreneurial. More in detail the paper intends to answer the following research question: Which should be the specific CSR differences in the case of commercial entrepreneurial TSOs which are involved in the market, but, by definition, are not profit seeking and their vision and mission are strictly related with societal wellbeing?

In particular, we are interested in *what is the relevance of Social Accounting and how and if it can be a relevant tool to show the peculiarities of TSOs involved in the market*.

2. Commercial and entrepreneurial Third Sector Organisations and the primary role of Social Accounting

The development of different typologies of TSOs led, in the last decades, to a great increase, especially in developed countries, of the number of TSOs acting in the market, arising the need of specific tools to mark the differences of a TSO acting in the same market together with for profit organisations. In order to make an example, we can quote the following cases outlined by Weisbrod (1998): «if a non-profit university sees the need to modernize its scientific equipment in order to meet the cuts to research spending, but also public and private funding donations undergo reductions or do not grow enough, it becomes tempting then the possibility of having type commercial revenue (ie profits arising from exchanges in some product in market). Similarly, if the number of homeless is growing despite the actions taken by the government, a non-profit organization committed to the fight against poverty could be attracted by commercial mechanisms in order to obtain additional resources to achieve its aim» (Weisbrod, 1998, p. 26). In the above reported examples Weisbrod underlined (in a book properly entitled the Commercial Transformation of the Nonprofit Sector) as TSOs can act in the market, but it is important – in order to be still defined a TSO and especially to avoid any risk of suspect of unfair competition against the other for profit organisations

operating in the same market – that all obtained additional resources are used to achieve its aim.

It appears clear that, in order to show that the commercial action in the market does not represent an unfair competition against for profit organisations, a TSO ought to report, in a proper way, which are the obtained additional resources, how they have been obtained and, most of all, for what have been used, specifying that the use of these additional resources goes in the direction of achieving its aims. In this sense appears important the role that can be accomplished by a proper definition of a Social Accountability scheme.

Social Accounting (SA) provides a set of tools and procedures aiming at measuring and analyzing, as well as give information to all stakeholders, the social performance of organizations. Thus it is based on a voluntary disclosure by an organization which decides to give information about product and consumer interests, employee interests, community activities and environmental impacts, having different reporting schemes which underline different aspects far from the "simple" financial reporting concerning profits.

Indeed, since the mid of the 1970s, private enterprises have been increasingly providing a high level of motivation in ensuring that their aggregate impact upon society was consistent with social goals and aspirations, thinking that the profit was not anymore an exclusive variable to measure corporate performance. At that time «a comprehensive analysis of the social impact of private enterprise suffered […] from a general absence of reliable data on aggregate social costs and benefits of business and on how these were shared among various social groups» (Ramanathan, 1976, 516).

The challenges involved in accounting for corporate social performance thus started to engage a particular attention, by major accounting institutions, because the solutions to many social problems required the active and willing involvement of private business organizations, and consequently, the extent that measured corporate profits was not anymore adequate. A broader scheme of corporate performance measurement was then necessary (Ramanathan, 1976).

Along the years, together with the development of CSR principles, many steps have been made towards the solution of the problem of finding a broader scheme of corporate performance measurement able to include social issues. Nowadays SA is widely recognized and «can be defined as a set of organizational activities that deals with the measurement and analysis of the social performance of organizations and the reporting of results to concerned groups, both within and outside the organization […]. Social accounting is an inclusive field of accounting for social and environmental events

which arise as a result of, and are intimately tied to the economic actions of organizations» (Islam, 2015, p. 11).

But if the aim of SA is clear, there is not yet any unique shared technique as the ones regarding the principles concerning financial performance accounting. The main definitions, as summarized by Islam are the following:

- Social accounting is the process of selecting firm-level social variables, measures, and measurement procedures; systematically developing information useful for evaluating the firm's social performance; and communicating such information to concerned social groups, both within and outside the firm;
- Social accounting is the process of communicating the social and environmental effects of organizations' economic actions to particular interest groups within society and to society at large. As such, it involves extending the accountability of organizations (particularly corporations) beyond the traditional role of providing a financial account of capital, in particular, to shareholders. Such an extension is predicated upon the assumption that companies do have wider responsibilities beyond simply making money for their shareholders;
- At the very least, social accounting means an extension of disclosure into non-traditional areas such as providing information about employees, products, community services and the prevention and reduction of pollution. However, the term social accounting is also used to describe a comprehensive form of accounting which takes into account externalities;
- Social accounting is that aspect of accountancy which, while indistinguishable from financial and management accounting, deals more specifically with environmental concerns; that is, it is an aspect of the information system that enables data collection and analysis, performance follow-up, decision-making and accountability for the management of environmental costs and risks (Islam, 2015, p. 12).

As a logical consequence of the coexistence of different definitions, each one underlining a specific aspect of SA, and the absence of a unique shared reporting technique, social reporting still remains an issue concerning voluntary (never mandatory) disclosure by firms about different aspects such as: product and consumer interests, employee interests, community activities and environmental impacts, having different reporting schemes which underline different aspects according to the aim of the voluntary disclosure decided by each organization.

SA can be indeed considered within the issues regarding CSR reporting where it can include social reporting and/or environmental reporting, and the two can be considered as components of sustainability reporting, which can be considered as an addendum to the financial reporting concerning economic performance (Deegan, 2014).

The growth of CSR practices led, in the last decades, to an increase in the use, by more and more organizations, of SA practices having, as consequence, both an increase in SA research, and a growth of national and international institutional groups aiming at defining rules and schemes for SA. Indeed, social reporting still remains a voluntary disclosure, but the increase of the demand about social reporting, as well as the aim of clearly defining all different aspects related with reporting schemes about organizational transparency, responsiveness, ethics, sustainability, to name a few, led, in the last decades, an important development of non-financial reporting schemes. All these schemes have in common the concepts regarding CSR, also if declined in different ways according to different certifying subjects.

The point is that the concept of being accountable about social aspects is becoming nowadays such a great issue that certifying bodies are becoming in some sense specialized upon a specific topic. For instance AA 1000 seeks more about stakeholder engagement, SA 8000 seeks more about working conditions, GRI seeks more about environment and pollution aspects, CSR seeks more about non-financial reporting schemes.

The central issue for CSR for TSOs, whatever the legal nature, is that these organisations have, as inspiring mission, a social objective rather than the search for profits, because they prioritize their social objectives which are designed to serve social needs unmet by either public or private sectors. These social objectives are often asserted within the mission statement written into the organization's charter, therefore «the social objectives are not a secondary consideration, as when a conventional business decides to embrace CSR while in pursuit of profit, but are central to the organization's purpose from its inception» (Mook *et al*. 2015, p. 8). That is why, also if SA still remains voluntary and not mandatory, for TSOs the disclosure of the achievement of social objectives is part of their reason of existence.

This aspect becomes crucial for TSOs which are more commercial and/or entrepreneurial such as: cooperatives and social enterprises, because they produce for the market being anyway clearly socially oriented. Indeed social cooperatives and social enterprises «have grown to the point where they are hard to distinguish operationally from for-profit businesses, particularly if some type of limitation on the distribution of profit is taken as a proxy for the pursuit of public purpose» (Salamon and Sokolowski, 2016, p. 1529).

Because of the fact that these organizations are hardly operationally distinguishable from for-profit business ones, SA principles and social reporting schemes can really represent a convincing and valid possibility to correctly account that the organization is operationally working for achieving its mission. A mission that have social objectives, often even written into the organization's charter, which are different from a for profit business organization. That is why – differently from business for profit organizations that voluntary decide to embrace CSR principles using also social reporting schemes – TSOs which are more commercial and/or entrepreneurial, in some sense need SA principles and use social reporting schemes in order to mark their difference and specificities, demonstrating, towards all the different shareholders and stakeholders, that they are achieving their mission.

3. Unit of Analysis: Social Enterprises in Italy

Having the aim of tracing the peculiarities of SA for commercial and entrepreneurial TSOs as a basic tool for showing, not a voluntary action in the field of CSR, rather than a tool to mark their difference and specificities, demonstrating, towards all the different shareholders and stakeholders, that they are achieving their mission we decided to concentrate our analysis on a particular set of entrepreneurial TSOs that is Social Enterprises (SE) in Italy. We did this choice not simply because SEs are an example of the 'extreme border' of TSOs involved in the market, rather because Italian SEs represent the first case in the world in which – differently from all the other aspects related to CSR and especially its voluntary disclosure through SA schemes – social reporting represents an obligation to be accomplished by Law.

SEs are a recent reality in the Italian panorama of TSOs, they were born with the Legislative Decree No. 155/2006, and developed after the enactment of the regulations decrees of January 2008. They are defined as private organizations, despite the legal form (i.e. associations, cooperatives, social cooperatives, LTDs, etc.) exercising, in a longstanding way and as main organized activity, an activity whose aim is the production or exchange of social goods and/or utility services for disadvantaged categories.

In accordance with article 2 of the Decree, goods and services having a social value, are those ones produced and/or sold in the following areas: 1) social assistance; 2) health care; 3) social-health care; 4) education, instruction and training; 5) protection of the environment and ecosystem with the exception of activities, usually pursued, regarding the collection and recycling of municipal waste, special and hazardous waste; 6) enhancement of

cultural heritage, 7) social tourism; 8) university and post-graduate education; 9) research and cultural services provision; 10) outside-school training, aimed at the prevention of school dropout; 11) instrumental services to social enterprises. Moreover, can be defined as SEs those companies, whatever is the field in which they operate, that carry out their activities in order to support the employment of disadvantaged categories, if the latter account for at least the 30% of the total workforce.

In this sense in Italian SEs, the 'social' aspect that characterizes them can be found either directly, through the production and exchange of social goods and services with a public value, or indirectly, given that the activity does not count as itself, but it is rather seen as a 'tool' for facilitating, the employment of disadvantaged categories as defined in the EU regulation COM(2002)2204 enacted by the EU Commission.

The Decree states that Italian SEs are considered non-profit enterprises, given that in the article it is established for them the absence of any for-profit, and also that a SE must use, any surplus or increase of equity, in the pursuit of statutory aims. By law it is forbidden for them, to distribute, even indirectly, profits and surpluses, however denominated, as well as funds and reserves, in favour of directors, members, participants, workers or employees.

It is also possible to identify, in the enacting of the act, an indication qualifying Italian SEs as non-profit companies, considering the provisions in relation to the protection of the environment, since, as shown above, while acknowledging the possibility of working in this field, as qualifying the sociality of actions in favour of the protection of the environment, it is anyway excluded any ordinary activities for the collection and recycling of municipal waste, recognizing the fact that, in this particular field, they should stimulate further advocacy and new tools to defend the ecosystem, excluding any 'ordinary' activity for the disposal and recycling of waste prescribed by the regulations in force in this field.

The relevant specificity for our investigation lies in the fact that, in addition to records provided by other businesses, Italian SEs have the obligation to prepare and file in the Register of Companies, an annual social report, prepared in accordance with what established in the guidelines prepared in the decree of January 2008. The social report ought to represent the observance of the 'social' attribute of any SE.

In synthesis the Decree states the commitment, for Italian SEs, to have also a non-financial accountability SA scheme as, among the others, a basic obligation in order to effectively show their social mission, aims, and results.

The point that they can be accounted as TSOs also if they deal in a trend of 'commercialization' of the no profit sector, being indeed enterprises and

having the possibility to freely act in the market, especially in the case of social enterprises that operate in fields different from social services but are recognised as social enterprises because they support employment of disadvantaged categories. But in this sense the commercialization should not be seen as a paradox rather than a way for finding money to better reach the organization's social aims (Weisbrod, 1998). So in the case of SE that can be opened in all sectors, the commercial activity must be really seen as a tool to solve the market failure of unemployment of disadvantaged people (that find more problems than 'normal' ones in looking for a job, because of physical difficulties or, in the majority of the case, because of stigma) and not the aim of the enterprise. In some sense SEs in Italy can be seen as the top of the representation of the third sector as a system of interaction among State, community and market (Defourny and Pestoff, 2008).

4. Design and Method

Starting from the consideration that SA represents a topic issue in stating the peculiarities which mark TSOs difference and specificities, demonstrating, towards all the different shareholders and stakeholders, that they are achieving their mission, and considering also that Italian SEs represent the first case in which SA schemes are compulsory by Law to account towards the market the Government and the whole society that an SE acting in the market is doing it to achieve its proper aims and missions, we decided to look at how those realities were realizing their social reporting and which was the effectiveness of these SA schemes in showing SEs differences with other realities acting in the same market especially for what regards the clarification that SEs were not doing any unfair competition.

In particular the study, framed in Foucault's theory of "governmental rationality" (Foucault, 1988, 1991), aims at analysing the role that this compulsory SA schemes and practices of accountability have played in "detect and control the accounts" of Italian SEs.

In order to achieve our aim we randomly selected, from the compulsory national register of Italian SEs (as modified after the Decree 16 mar 2018 by the Ministry of Labour and Social Development), 20 of the 2.852 registered SEs. More specifically we selected them randomly from a subset in which we considered only those having more than 20 workers, to avoid details which could be different for small associations and similar realities, being more interested in looking at those realities which were more engaged in market activities. In the selection we considered to avoid geographic and

sectorial misrepresentation considering also that, we already knew by previous researchers that about 40% of them operate in the field of education and one out of three of the total has been opened in the territories of Campania Region (Antonucci, 2015). Because of the lack of an open official register, as will be explained in the next paragraph, we had to look for social reports which were made freely available by the randomly selected organisation, thus repeating the random choice each time in which the selected one did not have any voluntary disclosure on its website. So in this sense there is a kind of small bias in the selection, but, according to the results showed in the next paragraph it even confirms our conclusions about the lack of any form of "reprimand" both by the authorities and the stakeholders.

Once collected the SA reports we decided to run a on texts analysis (Bauer and Gaskell, 2000) of them trying to look at how they were disclosing and communicated their results according to their aims looking in particular for any specific representation of outcomes related to outputs.

5. Findings

The first aspect that surprised us in looking at the data was that, while in the online specific Register of Enterprises (hwww.registroimprese.it) was possible to ask for information regarding registering data and general information (visura) as well as for financial reporting, there was no any 'button' for doing any query about social reporting. In this sense it emerged that, also if by Law it was compulsory to draw up a social report, this was not considered as an information which could be requested and read. This was a first indication on how if something is made compulsory by law but if it is not considered as relevant by the society as a whole, it remains simply a formal obligation but have no any significant meaning in terms of disclosure, and cannot be considered in any way a possibility to check for effective actions in respect of the law.

Once we decided to work around, looking at social reporting voluntary disposed by the organisation in their websites (so repeating the random choice any time that we did not find any report made available), we found that approximately (this data was found revealing how many times we had to repeat the choice so it is not free of bias) only one out of ten voluntary presented their social reports to an open public. Once again the data is not reliable in the count, but it is anyway a great indication on how low consideration is given by this SEs to the voluntary disclosure of their social mission as stated in their vision and mission.

Once selected the 20 reports, we decided to run the analysis looking at the following aspects, giving a double scoring by two evaluators and with indications that could be "yes" or "not" (indicating the presence or the absence of the indicator) or a score from 1 to 5, were 1 represented basic accomplishment and 5 full accomplishment. The themes on which we run the analysis were the following:

- clear definition of the methodology with score from 1 to 5;
- reporting style following the rules of Italian TSO Commission as stated in the L.D. 155/2006 and subsequent modifications with score yes or no;
- clear statement of vision and mission with score from 1 to 5;
- reference to quality certification by external parties with score yes or no
- clear identification of decision making and control processes with score from 1 to 5;
- indication about innovative projects with score yes or no;
- stakeholders mapping with score from 1 to 5
- indication about outcome and or reference to results and objectives stated in the previous reporting with score yes or no;

The following table reports the different obtained scores (Table 1).

As it can be easily seen looking at the reported scores, the disclosure of the specificities which define the peculiarities of SEs as entrepreneurial TSOs does not appear to be a topic issue for Italian SEs rather it appears to be "just" an obligation to be fulfilled. In most of the cases there was no specific reference to the chosen methodology to draft the social reporting.

In few cases there were references to GRI or GBS (Gruppo Bilancio Sociale) but in the large majority there was just a general reference to the "Decreto attuativo del Ministero della Solidarietà Sociale del 24/01/2008 contenente le Linee Guida per la redazione del bilancio sociale" as issued by the Ministry together with the enactment of Decree Laws concerning SEs after the Legislative Decree 155/2006. Indeed, all the reports appeared to be drafted following the rules by the TSO Commission.

Much better results have been found in showing a clear definition of mission and vision, stating the principles which characterises their own SE as different by the other for profit organisations operating in the same industrial sector, but these can be read as indication of principles rather than presentation of achieved results.

Tab. 1 – Obtained scores

	clear definition of the metho-dology	reporting style following the rules of TSO Commis-sion	clear state-ment of vision and mission	reference to quality certifica-tion by external parties	clear identifi-cation of decision making and control processes	indication about innovative projects	stake-holders mapping	indication about outcome and or reference to results and objectives stated in previous reporting
1	1	yes	3	no	1	no	2	no
2	1	yes	3	no	1	no	3	no
3	1	yes	4	no	2	no	3	no
4	3	yes	5	yes	4	yes	4	no
5	1	yes	3	no	3	no	3.5	no
6	1	yes	2	no	1	no	2	no
7	1	yes	2	no	1	no	2	no
8	2	yes	3.5	yes	3	yes	4	no
9	1	yes	3	no	2	no	3	no
10	3	yes	5	yes	5	yes	5	no
11	1	yes	3	no	2	no	3	no
12	1	yes	2	no	1	no	2	no
13	1	yes	3	no	2	no	3	no
14	1	yes	3	no	2	no	3	no
15	2	yes	3.5	yes	3.5	no	3.5	no
16	1	yes	3	no	3	yes	3	no
17	3	yes	5	yes	5	yes	5	no
18	2	yes	4	yes	3	no	4	no
19	1	yes	3.5	no	1	no	3	no
20	1	yes	3	yes	1	no	2	no

In some cases there were references to quality certifications by third parties (all referred to ISO certifications) but, looking at the related activities, we suspected (we had no possibility to prove our hypothesis) that this certifications were seen as a possibility to have additional points in applying to tenders by the public administration to implement activities within a co-production scheme.

Only in few cases there was a clear statement about decision making and control processes, but not clearly defining, for instance, good policies for avoiding any possible discrimination. As a matter of fact it can be noted that in most of the cases, the aspect (defined in the Ministerial guidelines) regarding gender discrimination simply reported about the number of female employed people on the total workforce without any specific reference to any specific activities for facilitating, for instance working hours by mothers with young children.

Only in few cases there was a clear indication about the planning and implementation of new and innovative projects to better fulfil what stated in the vision and mission and in no one there was any reference to specific indicators to measure the validity of these projects.

The stakeholders mapping appeared of good level in many cases also showing clear numbers about direct and indirect beneficiaries as well as describing graphs.

The worst aspect regards the fact that in no case there was any reference to the outcome achieved as well as there was no reference to results and objectives planned in previous reporting and achieved thanks to the work done.

6. Conclusion

After stating the differences and peculiarities of CSR for entrepreneurial TSOs and after defining the central role of SA for these organisations that – differently from business for profit organizations that voluntary decide to embrace CSR principles using also social reporting schemes – in some sense need SA principles and use social reporting schemes in order to mark their difference and specificities, demonstrating, towards all the different shareholders and stakeholders, that they are achieving their mission which is devoted to the community and society wellbeing, this paper analyzed a specific subset of Entrepreneurial TSOs that is the one of Italian SEs.

The choice of Italian SEs was made by the consideration that they represent the first case in which SA is not a voluntary action rather it is a law obligation. Also if not completely free from possible bias, a good example of 20 Italian SEs has been selected and their social reports have been analysed using the principles of text analysis defining eight investigating aspects.

The analysis we run is partial and a preliminary one no far from bias: number of case should be absolutely enlarged (20 cases are few) and especially the scoring and connections among factors can be better outlined

maybe arriving at the possibility to construct an exploratory, factor analysis. We can say that methodologically it represent a kind of completed pilot analysis to better investigate the issues we framed in this paper.

We can in any case say that the results show that the enactment of an obligation by law is far from facilitating the clear disclosure of their peculiar aspects rather is seen more as an obligation to be accomplished. In this sense once gain referring to Foucault's reference to Discipline and Punish (1977) that if there is a "simple" reference to discipline, without any control at distance, a SA scheme becomes "just" a law requirement to be fulfilled, but it is not at all a tool for control at distance. Indeed, considering the fact that there is no check on the quality of legal requirements, the analysed SEs simply drafted a social reporting but without clearly stating what are the aspects that define them as different from the other organisations which act in the same market.

References

Antonucci, G. (2015), "Social Enterprises in Italy: Coproducers or State Aid Claimants?", *European Scientific Journal*, Vol. 11, No. 8: 242-262

Barnett, M. L. (2013), "One Voice, But Whose Voice? Exploring What Drives Trade Association Activity", *Business and Society*, Vol. 52, No. 2: 213–244.

Bauer, M.W., Gaskell, G. (2000), *Qualitative Researching with Text, Image and Sound,* SAGE London.

Bies, R. J., Bartunek, J., Fort, T. L., Zald, M. (2007), "Corporations as social change agents: Individual, interpersonal, institutional, and environmental dynamics", *Academy of Management Review*, Vol. 32: 788-793.

Bowen, H. R. (1953), *Social responsibilities of the businessman*, Harper and Row, New York.

Carroll, A. B. (1999), "Corporate Social Responsibility: Evolution of a Definitional Construct", *Business and Society*, Vol. 38, No. 3: 268–295.

Davidson, J. (1994), "The Case for Corporate Cooperation Community Affairs", *Business and Society Review,* Vol. 90.

Davis, K. (1960), "Can business afford to ignore social responsibilities?", *California Management Review*, Vol. 2: 70-76.

Deegan, G. (2014), *Financial Accounting Theory*, McGraw-Hill Education, Australia.

Defourny, J., Pestoff V. (2008) (edited by), *Images and Concepts of the Third Sector in Europe*, EMES, WP 08/02, Brussels.

Foucault, M. (1977), *Discipline and Punish: The Birth of the Prison,* Pantheon Books.

Foucault, M. (1982), "*The subject and the power",* in Dreyfus H.L., Rabinow P., *Michel Foucault: Beyond Structuralism and Hermeneutics*, Harvester Press, Brighton, 208-226.

Foucault, M. (1991), *"Governmentality",* in Burchell G., Gordon C., Miller P., *The Foucault effect: Studies in Governmentality*, Wheatsheaf, Hemel Hempstead, 87-104.

Gates, W.M. (2008), "*A new approach to capitalism in the 21st Century,"* Presented at the World Economic Forum, Davos, Switzerland, January 24.

Graves, S. B., Waddock, S. A. (1994), "Institutional owners and corporate social performance", *Academy of Management Journal*, Vol. 37: 1034-1046.

Griffin, J. J. (2008), "Re-examining corporate community investment: Allen's Australian Centre for Corporate Public Affairs (ACCPA) Corporate Community Involvement Report", *International Journal of Public Affairs*, Vol. 8: 219-227.

Griffin, J. J., Prakash, A. (2014), "Corporate Responsibility: Initiatives and Mechanisms", *Business and Society*, Vol. 53, No. 4: 465–482.

Hart, S. L., Sharma, S. (2004), "Engaging fringe stakeholders for competitive imagination", *Academy of Management Executive*, Vol. 18, No. 1: 7-18.

Hansmann, H. (1987), *"Economic Theories of the Nonprofit Sector"*, in W. Powell, (edited by), *The Nonprofit Sector*, Yale University Press.

Hansmann, H. (1980), "The Role of Nonprofit Enterprise", *Yale Law Journal,* Vol. 89: 835-901.

Hess, D., Rogovsky, N., Dunfee, T. (2008), *"The next wave of corporate community involvement: Corporate social initiatives".* In A. Crane, D. Matten and L. Spence (Eds.), *Corporate social responsibility: Readings and cases in a global context*, Oxford University Press, Oxford, UK.

Islam, M.A. (2015), *Social Compliance Accounting - Managing Legitimacy in Global Supply Chains,* Springer International Publishing

Kendall, J., Knapp, M. (1995), *"A Loose and Baggy Monster: Boundaries, Definitions and Typologies"*, In Smith, J.D., Rochester, C.R. Hedley R. (eds) *An Introduction to the Voluntary Sector*, Routledge, pp. 66-95

Laville, J. L., Borzaga C., Defourny J., Evers A., Lewis J., Nysens M., Pestoff V., (1999), *"Third system: a European Definition"* In The Enterprises and Organizations of the Third System: A Strategic Challenge for Employment. CIRIEC, within the Pilot Action "Third System and Employment" of the European Commission available at: http://www.uv.es/uidescoop/TSE-DGV-CIRIEC-Full%20text English.pdf (Accessed Sept 2019)

Margolis, J. D., Walsh, J. P. (2003), "Misery loves companies: Rethinking social initiatives by business", *Administrative Science Quarterly*, Vol. 48: 268-305.

Matten, D., Crane, A. (2005), "Corporate citizenship: Toward an extended theoretical conceptualization", *Academy of Management Review*, Vol. 30: 166-179.

Matten, D., Moon, J. (2008), "Implicit" and "explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility", *Academy of Management Review*, Vol. 33: 404-424.

Miller, J. I., Guthrie, D. (2011), "Communities, labor, and the law: The rise of corporate social responsibility in the United States", *Communities and Organizations Research in the Sociology of Organizations*, Vol. 33: 143-173.
Mook L., Whitman J.R., Quarter J., Armstrong A. (2015), *Understanding the Social Economy of the United States*, University of Toronto Press.
Orlitzky, M., Schmidt, F. L., Rynes, S. L. (2003), "Corporate social and financial performance: A meta-analysis", *Organization Studies,* Vol. 24: 403-441.
Porter, M. E., Kramer, M. R. (2006), "Strategy and society: The link between competitive strategy and corporate social responsibility", *Harvard Business Review*, Vol. 84, No. 12: 78-92.
Potoski, M., Prakash, A. (Eds.) (2009), *Voluntary programs: A club theory perspective*, The MIT Press, Cambridge, MA.
Prahalad, C. K. (2005), *The fortune at the bottom of the pyramid: Eradicating poverty through profits*, Wharton School Publishing, Upper Saddle River, NJ.
Prakash, A., Potoski, M. (2011), "Voluntary environmental programs: A comparative perspective", *Journal of Policy Analysis and Management*, Vol. 31, No. 1: 123-138.
Ramanathan, K.V. (1976), "Toward A Theory of Corporate Social Accounting", *The Accounting Review*, Vol. 1, No. 3.
Salamon, L.M., Sokolowski, S.W. (2016), "Beyond Nonprofits: Re-conceptualizing the Third Sector", *Voluntas*, Vol. 27: 1515–1545.
Salamon L. M., Sokolowski S. W. (edited by) (2010), *Global Civil Society: Dimensions of the Nonprofit Sector*, 3rd ed., Kumarian Press, Greenwich, CN.
Waddock, S. A. (2008), "Building a new institutional infrastructure for corporate responsibility", *Academy of Management Perspectives*, Vol. 22, No. 3: 87-108.
Waters, R.D. Ott, H.K. (2014), "Corporate Social Responsibility and the Nonprofit Sector: Assessing the Thoughts and Practices Across Three Nonprofit Subsectors", *Public Relations Journal*, Vol. 8, No. 3.
Weisbrod, B. A. (1988), *The Non-profit Economy*, Harvard University Press, Cambridge, MA
Weisbrod, B. A. (1998), *To Profit or Not to Profit: The Commercial Transformation of the Nonprofit Sector*, Cambridge University Press, New York.
Westall, A. (2004), "*Evaluation and Third Sector Programmes",* In *Evaluating Local Economic and Employment Development: How to Assess What Works among Programmes and Policies*, OECD Publishing, Paris
Windsor, D. (2006), "Corporate social responsibility: Three key approaches", *Journal of Management Studies*, Vol. 43, No. 1, 93-114.
Wulfson, M. (2001), "The Ethics of Corporate Social Responsibility and Philanthropic Ventures", *Journal of Business Ethics*: 29: 135.

3. HOW IS THE PUBLIC SECTOR RELEVANT TO THE CSR DEBATE? A STRATEGIC APPROACH TO SOCIAL ASPECTS: SOCIALLY RESPONSIBLE PUBLIC PROCUREMENT

by *Antonio Costa*[*], *Giuseppe Dammacco*[**], *Alessandra Tafuro*[*]

Introduction

Corporate social responsibility (CSR) has become a significant topic in management research but it originated in the early 1950s (Carroll, 2008; Dahlsrud, 2008). While it has been studied from both theoretical and empirical points of view, most of the attention on CSR has been focused on business activities (Werther and Chandler, 2005; Branco and Rodrigues, 2006; Boehe and Cruz,2010; McWilliams and Siegel, 2000; Cheng *et al*. 2014), whereas neither non-profit organizations (Moon and Sochaki, 1996; Albareda *et al*., 2007 Acar *et al*. 2001; Hogan, 2008; Andreini *et al*. 2012; Puentes *et al*. 2012; Bouckaert and Vandenhove 1998; Lin-Hi, 2015) nor public sector organizations (Gribben *et al*. 2001; Lepoutre *et al*. 2004; Moon, 2004) have attracted similar interest. The analysis presented in this paper seeks to address this knowledge gap by focusing on CSR in public sector organizations (PSOs). The European Commission has entrusted PSOs with a strengthening of their CSR practices.

One on the most useful assessments of the role of government in CSR is that of Fox *et al*. (2002), who defined four different roles that could be adopted by governments. These were later summarized by Albrareda *et al*. (2008), as:

- mandating;
- facilitating;
- partnering;
- endorsing.

[*] University of Salento, Lecce, Italy. Department of Economic Sciences.
E-mail: antonio.costa@unisalento.it, alessandra.tafuro@unisalento.it.
[**] University of Bari "Aldo Moro", Italy. Department of Economics, Management and Business Law. E-mail: giuseppe.dammacco@uniba.it.

Briefly, in their mandating role, governments at different levels define minimum standards for business performance that are embedded within a legal framework. In their facilitating role, PSOs enable or incentivize companies to engage with their CSR agenda or drive social and environmental improvements, for example, by adopting guidelines on related fiscal incentives. In their partnering role, PSOs may act as participants or facilitators while in their endorsing role, the endorsement can take various forms, including through policy documents, the "demonstration" effect of public procurement or public sector management practices, and direct recognition of the efforts of individual enterprises through award schemes.

Understanding public sector interventions through these four central roles has the immediate advantage of simplicity (Ward 2004). Typically, the public sector is expected to exert a regulatory role in CSR, especially when public authorities (municipalities, districts, federal or regional governments and intergovernmental bodies) embed the recommendations outlined in international CSR frameworks in national legislation and policies. Governments allow coverage of the complete CSR agenda, and they are neutral in that they do not have inherent biases toward any particular set of public sector actions. A CSR agenda can also be applied at various levels and by a range of actors. Thus, public bodies could function to better align CSR practices with public sector development strategies. However, public authorities could also play a leading, exemplary role by implementing best practice, whether as employers, purchasers or service providers. This would require that social responsibility be integrated into the core strategy of each public organization and drive its decision-making processes.

The strategic role of public procurement in social responsibility practices was highlighted in a publication by Price Waterhouse Cooper (2015) and in previous studies (Brammer and Walker, 2009, 2011, Ross, 2012; Bratt *et al*. 2013). In those reports, public procurement was not considered as a purely administrative function but as a strategic tool to achieve specific goals, notably those of sustainable and social development.

Considering the complexity of balancing the economic, environmental and social dimensions of sustainability into the same contract, most of the studies in the literature mainly concern green public procurement (Michelsen and de Boer, 2009; Parikka-Alhola, 2008; Tafuro, 2013; Testa *et al*., 2016) rather than social public procurement (Hoejmose and Adrien-Kirby, 2012) or socially responsible public procurement (SRPP). This is consistent with the overshadowing of social aspects of sustainability by environmental and economic dimensions (Hutchins and Sutherland, 2008).

In light of these premises, the aims of this paper are:

- to seek to address a knowledge gap presents in management academic literature relatively the theme of CSR in the public sector organizations;
- to launch a scholar debate on how the public sector organizations could have a proactive role to implementing socially responsible public practices and, consequently, increase the public value pursued by public organizations.

After this introduction, our paper is structured as follows. In Section 2, the link between social responsibility and PSOs is discussed. Section 3 considers the importance for PSOs of adopting a strategic approach to procurement that includes social considerations, i.e., SRPP. Section 4 presents the example of the Barcelona City Council Decree for socially responsible public procurement as one of the first experiences in SRPP. Our concluding remarks make up Section 5.

1. Social responsibility and public sector organizations

A discussion of social responsibility requires a rethinking of the role that each entity, i.e., the private and public sectors, play in society. In their study, Fusco *et al*. (2018) argued that the concept of CSR must go beyond *corporate* to include *public sector social responsibility* (Pollifroni, 2007). Thus, in activities such as procurement, the public sector is required to ensure *best value* (Bailey *et al*. 2008), accompanied by transparency and monitored by the relevant authorities or other stakeholders.

Hawrysz and Foltys (2016) noted the external and internal roles of PSOs in relation to social responsibility. The external role concerns promotion of the CSR concept in the business environment. The internal role refers to the need for the PSOs themselves to behave as socially responsible entities: (1) during implementation of the tasks assigned to them and in close correlation with the objectives of the organization and (2) as the result of efforts to build mutual trust and transparency in relationships with both the external and the internal environment of the organization. **S**ocial responsibility is usually considered a redundant topic in PSOs, as these are by definition oriented to meet social demands. Unlike in the private sector, where the goal is to provide the greatest total value for shareholders, the public sector's goal is to create value for the communities it serves. Thus, the public sector has the *civic responsibility* of properly managing public goods, resources, and facilities, also with the aim of supporting sustainable development objectives while promoting

public interest. Its organizations should be open and transparent in their actions.

Given the size and diversity of the public sector, social and environmental accounting and accountability merit research attention. Indeed, in the last 20 years, academic and professional interest in social, environmental and sustainability reporting - as a tool through which various practices are disclosed to stakeholders - has expanded to include the public sector (Farneti and Guthrie, 2009, Adams, Muir and Hoque, 2014, Alcaraz-Quiles *et al*., 2014; Ball and Bebbington, 2008; Ball, 2014; Ball, Grubnic and Birchall, 2014), although most of the studies have evaluated either a single country or a specific type of organization.

If social responsibility is intrinsic to the nature of public administrations, why declare and explain it?

Many public administrations have recently started experimenting with new forms of reporting of their activities, in an attempt to profoundly innovate how its achievements choices, actions, and results can be made transparent and communicated both to citizens and to the various external and internal stakeholders. Most of these efforts have been aimed at internalizing, even in a public context, the logic of social responsibility, according to which each institution is responsible for the effects of its actions on its interlocutors and on the community. This responsibility requires providing an account of those actions to the various partners in order to build a relationship of trust and permanent dialogue with them. Social reporting by public administrations must therefore allow individual citizens, families, companies, associations, and other public or private institutions to understand and evaluate the effects of the administrative actions. Consequently, social reporting can be considered as a response to the lack of comprehensibility of public reporting systems (Mussari and Monfardini, 2010). It seeks to achieve a transparency of the actions that have been undertaken and their results as well as to clarify the aims, policies, strategies, and communication.

But what previous studies have not considered is: assuming the need for social responsibility also in the public sector, how can it be best achieved?

2. The strategic approach to social responsibility: socially responsible public procurement

Assuming that social responsibility is indeed intrinsic to the basic societal mission of public administrations (PAs), then, by integrating the principles of social responsibility into their management practices, they can play a

driving and revitalizing role in society as a whole and act a reference model for citizens and organizations (Vázquez *et al*. 2016). A strategic approach that focuses on the social aspects of the enormous public expenditures of PAs could contribute to a more sustainable and inclusive economy. According to Cravero (2018), if social objectives are considered as a strategic dimension of public procurement rather than as a secondary consideration, then a shift in procurement policies is needed to adopt a more strategically focused approach.

Socially responsible procurement can be defined as the choice by an organization to purchase goods and services that are not only fiscally responsible but which also provide a larger social value. Historically, the social benefit of a procurement has been a secondary consideration, as the first priority is to obtain goods or services at the best price. However, municipalities and organizations are increasingly realizing the added value of social procurement and are working towards embedding the practice as a priority in their overall strategies. Thus, public procurement has become a strategic operation in which purchasing is leveraged to support societal goals.

In recent years, PSOs, including PAs, have become more seriously involved in designing and implementing sustainable procurement, with a focus on integrating environmental and social issues into procurement processes (Thomson and Jackson, 2007; Preuss, 2009; Gelderman *et al*., 2015, 2017). Environmental aspects are typically included through the development of green public procurement (Michelsen and de Boer, 2009; Fet *et al*., 2011; Testa *et al*. 2012, 2016). While PSOs can use their purchasing power and procurement practices to generate positive social impacts, the challenges posed by social considerations and their integration within the procurement process remain. Nonetheless, the potential is significant. For example, public authorities in the EU spend about 14% of GDP on public purchases, which represents an enormous potential for driving markets towards ethical and sustainable purchases and for supporting local job creation, while also satisfying administration needs.

Public procurement legislation ensures that public procurement procedures are transparent and not discriminatory but it does not determine or define the methods or conditions by which contracting authorities should procure goods or service or conclude contracts.

In a report by the European Commission (2010) and in a study by Pirvu and Stanciu-Tolea (2016), four basic approaches to the integration of social aspects in public procurement were considered:

- The inclusion of social criteria in the object of the public procurement contract and/or in the technical specifications of the goods/services to be purchased;
- The exclusion (in compliance with the provisions of the law) from public procurement procedures of tenderers that do not meet a certain social conduct standard, as determined based on previous examples thereof;
- The inclusion of social aspects in the awarding criteria;
- The monitoring of related social conditions after the award of the public procurement contract.

However, «social aspects», «social considerations» and «social conditions» can be interpreted as ranging from the fundamental rights and principles of equal treatment and non-discrimination to the application of legislation to social matters, the reintegration of disadvantaged people excluded from the labor market, and the implementation of positive actions aimed at combatting unemployment and social exclusion.

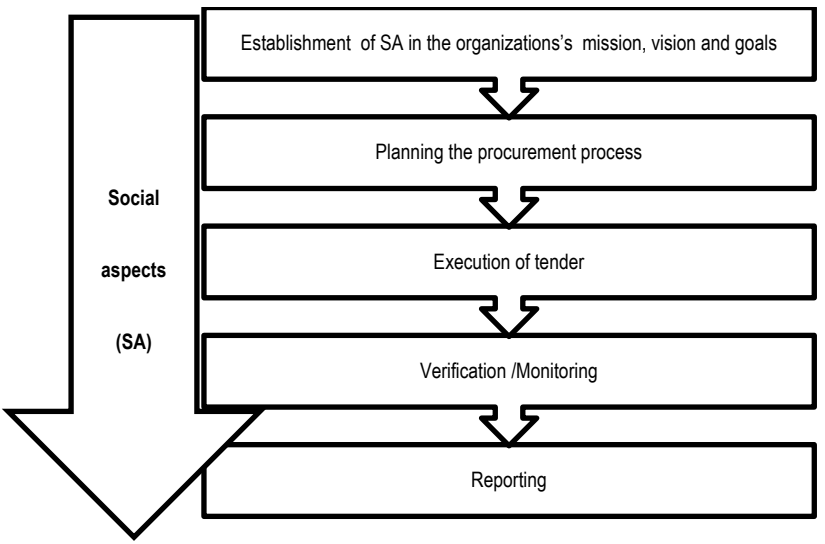
Contracting entities can serve as an example of socially responsible procurement. Moreover, by demonstrating the public sector's willingness to invest in socially responsible procurement and informing the public about the impacts of these activities, the public sector can influence private consumption and buying habits. The incorporation of social criteria within public procurement includes the following steps:

- The inclusion of social aspects into the mission, vision, and goals of the procuring entity and the incorporation of social considerations into the relevant guiding documents of the organization;
- Planning which type(s) of social clause(s) should be included in the tender document;
- Execution of the tender;
- Verification and the initiation of monitoring activities;
- Reporting of the social outcome, including in the organization's annual report.

If the contracting entity's national or local social priorities (for example, job creation or protecting human rights) are clearly identified in the strategy of socially responsible procurement, the links between public procurement and more extensive goals and entities become more evident, as does the role of procurement as a tool for implementing these policies. Clear targets can thus also be specified for procurement, and their achievement then monitored.

In addition, the public sector can take into account the societal impacts of its procurement in a broader sense, by looking beyond the purchasing price or the price-quality relationship. Clearly, value does not simply mean financial return, as social and environmental returns are equally important, if not more so. Thus, the most economically advantageous tender criteria can allow the contracting authority to include criteria that reflect the qualitative, technical and sustainable aspects of the tender submission as well as the price when reaching an award decision.

Fig. 1 – The five steps in socially sustainable procurement



Social considerations need to be integrated into the entire contract cycle, including in the selection of contractors that offer works, services, and supplies. The goal is a balance between quality and price while also fostering the values and practices of a socially responsible business model that, by adding social efficiency to the contract, enhances the efficiency and quality of service delivery.

Public authorities can incorporate specific social measures into a purchasing process by including them within technical specifications, selection criteria, award criteria and contract performance clauses. All players involved in public procurement must support and contribute to the design and implementation of a new public procurement strategy, one that defines the achievement of public policy goals as structural elements in the purpose of the contract.

Bovis (2005) defined public procurement as «*the supply chain system for the acquisition of all necessary goods, works and services by the state and its organs when acting in pursuit of public interest*». The term social procurement» refers to how the purchase of good, services and works by organizations can generate positive social impacts. This means the inclusion of social matters in the procurement of goods or services and projects and therefore as part of the measured outcome.

Social benefit or social impact can be linked to procurement practice in a number of ways, the most common of which is the incorporation of social clauses into the procurement process. These must be appropriate to the purchasing objective of the contract and should include:

- reference to measurable performance indicators or social impact measures (Table 1), including information on:
- reporting of the impact by the supplier/contractor;
- monitoring of the impact by the contracting organization;
- the review process used to evaluate the contractor's performance in relation to the impact.

Halloran (2017) found that the monitoring and evaluation of contracts is seen by more public authorities as the most difficult aspect of social procurement. To facilitate the monitoring process, public authorities can use the outcome- or impact-based approach. The former uses simple short-term quantifiable indicators, for example, the number of people employed from a specific group. Impact-based approaches consider long-term, often qualitative, complex indicators, such as the effect of local procurement on reducing the poverty rate. The impacts of social procurement are difficult to articulate using a single measurable target (e.g., increased employment), and even more so within a specific contract. Consequently, organizations will generally monitor outcomes, as this approach is less costly and more tangible Hebb and Hachigian (2017). Nonetheless, by focusing on outputs they must avoid losing sight of the impacts sought.

3. The Barcelona City Council Decree for Socially Responsible Public Procurement

The following presentation of the *Barcelona City Council Decree for Socially Responsible Public Procurement* demonstrates the benefits of responsible public purchases and the inclusion of social considerations in the

contracting authority's strategy. In addition, it serves as a practical tool for public servants and employees in charge of tendering processes.

Tab. 1 – Social Impact Measures

Impact	Key value indicators
Employment and training impacts	- Number of jobs / training opportunities created - Retention rates of employees over time - Percent of jobs for particular groups / localities - Types of jobs / training opportunities created - Percent of people moving into mainstream employment (from transitional employment opportunities) - Percent of people employed who are long-term unemployed or come from particular target demographics
Social inclusion impacts	- Percent of spending on non-profits, social enterprises or other entities with social objectives - Percent of spending on businesses majority owned by particular target groups (e.g. local businesses) Qualitative reports of inclusion impacts from participants / constituents
Diversity and equality impacts	Percent and number of contracts held by diverse suppliers, e.g., social enterprises, local businesses, disability enterprise or social firms, enterprises owned by women - Nature of the contracts held by diverse suppliers
Service innovation impacts	Percent shift in key indicators of focus issues (e.g., a decrease in crime rates) of the target locality - Comparative impact data Amount spent in relation to the benefit of an innovative vs. traditional approach
Local sustainability impacts	Number or percent of contracts awarded to local businesses - Amount spent in the local economy - Number of local jobs or training opportunities generated - Multiplier effect calculation of local spending.
Fair trade impacts	Amount spent on fair trade products - Financial impact on producer communities compared with non-fair trade purchasing - Amount spent on organizations that support fair labor standards

Source: Burkett I. (2010), *Social procurement in Australia*

The Barcelona City Council has promoted a socially responsible public procurement process that incorporates social justice goals and supports the social and employment rights of the individuals who execute its contracts. The Decree was designed to tackle the city's increasing unemployment level, in particular among people with the most pressing socio-economic needs, including the unemployed receiving no form of income (representing half of all the unemployed), unemployed youth, and people living below the poverty line.

The Decree includes a number of innovative elements in public procurement practices:

- Contracting companies must commit to complying with socially responsible criteria;
- The traditional scope of public procurement should be expanded such that it aims not only at investing in the procurement of goods, but also at implementing public social policies;
- Small and medium enterprises, especially, social enterprises, should be favored in the tendering process.

The Barcelona City Council published a specific guide (Social Public Procurement Guide) in which social measures (Table 2) aimed at promoting the execution of contracts are specified while following a business model based on sufficient salaries and stable employment contracts. The guide also elaborates a code of ethical behavior in which gender equality and employment access for individuals who have difficulties securing jobs are a priority in the recruitment process. These measures seek to promote an economy based on cooperation, social awareness, and solidarity, with special protection for small and medium-sized enterprises.

Overall, the decree integrates social considerations into all municipal-public contracts. Tendering companies are required to comply with specific criteria over the duration of the contract (Table 3).

In its first year of implementation (2015), 75% of all published contracts incorporated the stipulated social clauses and 770 people in situations of social exclusion or at risk of social exclusion benefited from the decree.

Table 4 provides an example of the impact of the decree.

The initiative is still at an early stage and its long-term results remain to be determined. To allow measurement of the impact, the 2018 plan lists detailed indicators that can be applied to monitor the results.

The City Council will track contractors' performances and compliance using a specialized software tool. A report presenting the preliminary results, lessons learned, and best practices will be elaborated. The decree had yet to reach its full impact, in particular since the multi-annual contracts of many city administrations will incorporate the social criteria only when they come up for renewal.

The model has generated great interest in local administrations across Catalonia and in other parts of Spain.

Tab. 2 – Social measures

Measures supporting the employment rights of the workers executing the contracts	• Positively appraising open ended recruitment • Maintaining employment conditions, taking into account applicable employment agreements during the lifetime of the contract • Positively appraising improved wages with regard to benchmark employment agreements • Transfer of the work force • Joint responsibility for reconciling work with personal and family time
Measures for promoting employment and social inclusion	• Recruiting unemployed people with special job placement or social-exclusion problems • Workers with disabilities • Universal accessibility
Measures for promoting social undertakings and an economic model supporting social awareness and solidarity	• Reserved contracts • Subcontracting through social economy undertakings • Compliance with social and employment regulations in the production process and commercial distribution
Measures for promoting SMEs	• Paying subcontracted companies directly • Monitoring subcontracting at the contracts' execution stage
Measures supporting the employment rights of the individuals executing the contracts	• Gender equality. • Equal opportunities and nondiscrimination against LGBTI people

Source: adopted from Art. 4, Mayoral Decree S1/D/2017-1271

Following the example of the Barcelona City Council, many cities have expressed interest in replicating the model. For this purpose, the City Council is in contact with other municipalities and regularly holds conferences and information sessions to transfer its experience. To accelerate a national rollout, the Council is preparing an online platform to promote the exchange of best practices and lessons learned among municipalities with respect to social public procurement. In the next few years, the Council will consolidate the model and verify the outcomes. Given the broad consensus among the different actors as well as the current momentum in the area of social public procurement, the initiative has the potential to become a strong tool of social and economic transformation.

Tab. 3 – Specific Measures of Social Public Procurement

Voluntary Award Criteria	Obligatory Contract Performance Conditions	Reserved Contracts
Appropriate weight given to price to ensure quality of service and social rights (price is limited to 30% of the total score). Consideration of the highest tender in terms of the salaries offered to the workers assigned to perform the contract, taking into account among others, the sector's wages and the standard professional categories. Consideration of companies with a higher number of workers who have worked on stable employment in recent years (up to 10% of total score)	Subcontracting a specific part or parts of the contract subject matter to social economy enterprises (up to 35% of the price). Hiring unemployed people with particular job placement and social-exclusion problems (if the characteristics of the contract allow it). Submission of a gender equality plan in compliance with legislation on gender equality. At least 2% of staff must be people with disability in companies with more than 50 employees. Contracting body can pay the subcontractor directly if there is an unjustified delay on the side of the main contractor. Contractor should adopt measures to reconcile work time with family and personal time	Reservation of public contracts for special work centers and social integration enterprises to favour inclusion of socially marginalized groups. In the case of contracting with no competition, the reservation can be expanded to other non-profit organizations and businesses aiming at reintegrating socially excluded people in society.

Source: EVPA, Barcelona City Council Social Public Procurement, available on https://evpa.eu.co

4. Conclusions

The concept of social responsibility is usually considered inherent to the basic mission of PAs in society. However, it has become clear that the public sector must go beyond this definition, by changing its mode of operation such that it includes social aspects within its operations. Procurement is not simply a transactional process but a strategic operation of PSOs that can be leveraged to support societal goals (UNE, 2017). By including the adoption of social responsibility principles in their own management practices, PSOs can play a driving and revitalizing role in society as a whole in addition to providing a model for citizens and other business entities.

The attention to social aspects in public procurement must be part of the basic strategy of PSOs. Incorporating social criteria into daily procurement practices will facilitate the development of constructive routines and enable social responsibility to become a natural and integral part of the procurement process. Moreover, it will enhance the contribution of PSOs to improving social conditions and to the sustainable development of their communities and thus to society as a whole.

Tab. 4 – Barcelona public procurement: results from 2018

- €1.1b spent on public contracts (out of a total City Council budget of €2.55b);
- Between 30,000 and 40,000 public contracts;
- Around 500 tenders with social measures launched since adoption of the Decree.
- Between €8m and 9m reserved for special work centers, social integration enterprises and other non-profit organizations.

Municipalities and PSOs are becoming increasingly aware of the added value of social procurement and are therefore working towards embedding related practices within their overall procurement strategies. The development of a social public procurement guideline can encourage and facilitate public agencies to include social and/or environmental considerations in the procurement process. However, budget officials and administrators may not have the required skills or guidelines to allow them to proceed effectively. Thus, the provision of technical support and training to these individuals can help them to develop the skills necessary for incorporating social and/or environmental considerations into public procurement and for evaluating those aspects within tender proposals.

There is no best way to execute social public procurement and the chosen method must take into account the goals of the PSOs. However, the first step, i.e., a clear choice to support social procurement, will enable the later adoption of larger socio-economic goals related to poverty, labor, health and a robust economy.

The challenges include the weaknesses of monitoring systems; as social performance needs to be measured with the same level of robustness used to evaluate environmental or financial performance. Also, social clauses in public contracting remain voluntary. This is an area in which the EU can advocate, but should not impose, greater harmonization and systematization in procurement practices. It is essential to identify current social sustainability profiles to design potential improvements. The identification of good policies and practices that are already being implemented will facilitate their further adoption by other public or private organizations. Obtaining a cultural change in the public procurement practice is especially difficult, as it necessitates the adoption of new templates, contracts, and clauses. Administrative bodies have to change internally in order to incorporate new tendering principles and selection processes. At the same time, contractors must adapt to the new measures and implement guidelines for public contracts.

Disseminating information on socially responsible procurement and sharing positive experiences and examples with other contracting entities transmits a positive message of its impact and benefits. This awareness will

encourage both public and private buyers to include social considerations in procurement. For example, the positive experiences resulting from responsible procurement can be shared on the contracting entity's website. In addition to the sharing of good practices, the possible risks and the pitfalls that should be avoided should also be communicated. Open communication will also increase public sector transparency to the benefit of citizens and residents. It will also help suppliers of the products or services to be purchased to anticipate the social requirements established for the procurement.

References

Acar W., Aupperle K. E., Lowy R. M. (2001), "An empirical exploration of measures of social responsibility across the spectrum of organizational types", *International Journal of Organizational Analysis*, Vol. 9, No. 1: 26-57.

Adams C., Muir S., Hoque Z. (2014), "Measurement of Sustainability Performance in the Public Sector", *Sustainability Accounting. Management and Policy Journal*, Vol. 5, No. 1: 46-67.

Ajuntament de Barcelona (2017), Social Public Procurement Guide. Retrieved from: http://ajuntament.barcelona.cat/contractaciopublica/en/

Albareda L., Lozano J. M., Tencati A., Midtun A., Perrini F., (2008), "The changing role of governments in corporate social responsibility: drivers and responses", *Business Ethics: a European Review*, Vol. 17, No. 4: 347-363.

Albareda L., Lozano J. M. Ysa T. (2007), "Public policies on corporate social responsibility: The role of governments in Europe", *Journal of Business Ethics*: 391-407.

Alcaraz-Quiles F., Navarro-Galera A. and Ortiz-Rodríguez D. (2014), "Comparative analysis of transparency in sustainability reporting by local and regional governments", *Lex Local is*, Vol. 12, No. 1:55-78.

Bailey P., Farmer D., Crocker B., Jessop D. Jones D. (2008), *Procurement Principles and Management*, 10th Edition, Prentice Hall, Harlow.

Ball, A., Bebbington, J. (2008), "Accounting and reporting for sustainable development in public service organisations: Issues and emerging directions", *Public Money and Management*, Vol. 28, No. 6: 323-325.

Ball A., (2014), "A sustainability accounting project for the UK local government sector? Testing the social theory mapping process and locating a frame of reference", *Critical Perspectives on Accounting*, Vol. 15: 1009-1035.

Ball A., Grubnic S. Birchall J. (2014), *Sustainability Accounting and Accountability in the Public Sector* In J. Unerman *et al*. (eds.) *Sustainability Accounting and Accountability*, Routledge, Oxon and New York.

Boehe, D., Cruz, L. (2010), "Corporate social responsibility, product differentiation strategy and export performance", *Journal of Business Ethics*, Vol. 91: 325-346.

Bouckaert, L., Vandenhove, J. (1998), "Business ethics and the management of non-profit institutions", J*ournal of Business Ethics*, Vol. 17, No. 9/10: 1073-1081.

Bovis C. (2005), *Public procurement in the European union*, Palgrave Macmillan, New York.
Brammer S., Walker H. (2009), "Sustainable procurement in the United Kingdom public sector", *Business Process Management*, Vol. 14, No. 2: 128-137.
Brammer S., Walker H. (2011), "Sustainable procurement in the public sector: an international comparative study", *International Journal of operating, product management*, Vol. 31: 452-476.
Branco, M. C., Rodrigues L. L. (2006), "Corporate social responsibility and resource-based perspectives", *Journal of Business Ethics*, Vol. 69: 111-132.
Bratt C., Hallstedt S., Henrik K. R., Broman G., Oldmark J. (2013), "Assessment of criteria development for public procurement from a strategic sustainability perspective", *Journal of Cleaner Production*, Vol. 52: 309-316.
Burkett, I. (2010), *Social procurement in Australia*, Foresters Community Finance.
Carroll A. B. (2008), *A history of corporate social responsibility: Concepts and practices*, In *The Oxford Handbook of corporate social responsibility*, Oxford University, Oxford.
Cheng B., Ioannou I., Serafeim G. (2014), "Corporate social responsibility and access to finance", *Strategic Management Journal*, Vol. 35: 1-23.
Cravero C. (2018), "Promoting Supplier Diversity in Public Procurement: A Further Step in Responsible Supply Chain", *European Journal of Sustainable Development Research*, Vol. 2, No. 1: 1-14.
Dahlsrud A. (2008), "How corporate social responsibility is defined: An analysis of 37 definitions", *Corporate Social Responsibility and Environmental Management*, Vol. 15, No. 1, 1-13.
European Commission (2010), *Buying Social. A Guide to Taking Account of Social Considerations in Public Procurement*. Available at http://buysocialdirectory.org.uk/sites/default/files/eul14136_socconsidpubprocu_1012101.pdf EVPA, https://evpa.eu.com/uploads/publications/Policy_Nexus_ES_Barcelona_2018.pdf.
Farneti F., Guthrie J. (2009), "Sustainability reporting by Australian public sector organisations: Why they report", *Accounting Forum*, Vol. 33, No. 2: 89-98.
Fet A., Michelsen O., de Boe L. (2011), "Green public procurement in practice – The case of Norway", *Society and Economy*, Vol. 33, No. 1: 183-198.
Fox T., Ward A., Howard B. (2002), *Public sector roles in strengthening corporate social responsibility: a baseline study*, IIED.
Fusco F., Esposito P., Ricci P. (2018), "Rethinking CSR in public sector organisations: perimeter and designation of 'Public Sector Social Responsibility', *XXII International Research Society for Public Management* (IRSPM) Annual Conference, Edinburgh, 11th - 13th April, 2018.
Gelderman C. J., Semeijn J., Bouma, F. (2015), "Implementing sustainability in public procurement – the role of procurement managers, party-political executives and department heads", *Journal of Public Procurement*, Vol. 15, No. 1: 66-92.
Gelderman C. J., Semeijn J., Vluggen R. (2017), "Development of sustainability in public sector procurement", *Public Money and Management,* Vol. 37, No. 6: 435-442.

Gribben C., Pinnington K., Wilson A. (2001), *Governments as partners: the role of the central government in developing new social partnerships*, The Copenhagen Centre, Copenhagen.
Guthrie J., Farneti F. (2008), "GRI sustainability reporting by Australian public sector organizations", *Public Money and management*, Vol. 28, No. 6: 361-366.
Halloran D. (2017), *The Social Value in Social Clauses: Methods of Measuring and Evaluation in Social Procurement. Global Public Procurement Theories and Practices,* (pp. 39-58), Florida: Springer Publishing Eds. Khi Thai.
Hawrysz L., Foltys J., (2016), "Environmental Aspects of Social Responsibility of Public Sector Organizations", *Sustainability*, Vol. 8, No. 1: 19-32.
Hebb T., Hachigian H. (2017*), Social Value Procurement Measurement and Evaluation*. Carleton Centre for Community Innovation, Avaible on https://carleton.ca/3ci/wpcontent/uploads/SVPevaluation_Final_April_13_2017.pdf.
Hoejmose S. U., Adrien-Kirby A.J. (2012), "Socially and environmentally responsible procurement: A literature review and future research agenda of a managerial issue in the 21st century", *Journal of Purchasing and Supply Managemen*t, Vol. 18, No. 4: 232-242.
Hogan, E. (2008), *Does 'corporate' responsibility apply to not-for-profit organizations?,* In S. O. Idowu, and W. L. Filho (Eds.), Professionals' perspectives on corporate social responsibility (pp. 271–288),Springer, Berlin.
Hutchins M. J., Sutherland J. W., (2008), "An Exploration of Measures of Social Sustainability and their Application to Supply Chain Decisions", *Journal of Cleaner Production*, Vol. 16, No. 15: 1688-1698.
Lepoutre J., Dentchev N., Heene A. (2004), *On the role of the government in the corporate social responsibility debate*, Paper presented at the 3rd Annual colloquium of the European Academy of business in society, Ghent.
Lin-Hi N., Hörisch, J., Blumberg I. (2015), "Does CSR Matter for Nonprofit Organizations? Testing the Link Between CSR Performance and Trustworthiness in the Nonprofit Versus For-Profit Domain", *Voluntas*, Vol. 26: 1944-1974.
Lodhia S., Jacobs K., Park Y. J. (2012), "Driving public sector environmental reporting: The disclosure practices of Australian Commonwealth departments", *Public Management Review*, Vol. 14, No. 5: 631-647.
McCrudden C. (2004), "Using public procurement to achieve social outcomes", *Natural Resources Forum*, Vol. 28, No. 4: 257-67.
McWilliams A., Siegel D. (2000), "Corporate social responsibility and financial performance: Correlation or misspecification?", *Strategic Management Journal*, Vol. 21: 603-609.
Michelsen O., de Boer L. (2009), "Green procurement in Norway; a survey of practices at the municipal and county level", *Journal of Environmental Management*, Vol. 91:160-167.
Moon J. (2004), *Government as a driver of corporate socially responsibility: the UK in comparative perspective*, ICCRS Research paper series, 20-2004, ICCSR, University of Nottingham.
Moon, J., Sochaki R. (1996), "The Social Responsibility and New Governance", *Government and Opposition*, Vol. 27: 384-408.

Mussari R., Monfardini P. (2010), "Practices of Social Reporting in Public Sector and Non-profit Organizations", *Public Management Review*, Vol. 12, No. 4: 487-492.
OECD/EC (2017), *Boosting Social Enterprise Development: Good Practice Compendium*, OECD, European Union.
Parikka-Alhola K. (2008), "Promoting environmentally sound furniture by green public procurement", *Ecological Economics*, Vol. 68: 472-485.
Pirvu D., Stanciu-Tolea C.V. (2016), "Socially Responsible Public Procurement. Tools for Facilitation of Social Enterprises' Access to the Romanian Public Procurement Market," *Economic Alternatives*, University of National and World Economy, Sofia, Bulgaria, Vol. 3: 287-298.
Pollifroni M. (2007), *Public sector social responsibility. Strumenti di rendicontazione etico-sociale*, Giuffrè Editore, Milano.
Preuss L. (2009), "Addressing sustainable development through public procurement: the case of local government", *Supply Chain Management*, Vol. 14, No. 3: 213-223.
PricewaterhouseCoopers, (2015), *Strategic use of public procurement in promoting green, social and innovation policies*, European Commission, Bruxel.
Puentes, R., Mozas, A., Bernal, E., Chavez, R. (2012), "E–corporate social responsibility in small non–profit organisations: The case of Spanish 'non-government organisations", *Service Industries Journal*, Vol. 32, No. 15: 2379-2398.
Ross R. (2012), *Sustainable public procurement, mainstreaming sustainability critera in public procurement in developing countries*, Centre for Sustainability Management (CSM) Leuphana University of Lueneburg, Lueneburg.
Sangle, S. (2010), "Critical success factors for corporate social responsibility: A public sector perspective", C*orporate Social Responsibility and Environmental Management*, Vol. 17, No. 4: 205-214.
Tafuro A. (2013), *Strategie e strumenti contabili per la sostenibilità ambientale*, FrancoAngeli, Milano.
Testa F., Iraldo F., Frey M., Daddi T., (2012), "What factors influence the uptake of GPP (green public procurement) practices? New evidence from an Italian survey", *Ecological Economics*, Vol. 82: 88-96.
Testa F., Annunziata E., Iraldo F., Frey M., (2016), "Drawbacks and opportunities of green public procurement: an effective tool for sustainable production", *Journal of Cleaner Production*, Vol. 112, No. 3: 893-1900.
Thomson J., Jackson T. (2007), "Sustainable procurement in practice: lessons from local government", J*ournal of Environmental Planning and Management*, Vol. 50, No. 3: 421-444.
United Nations Environment. (2017). *Global Review of Sustainable Public Procurement,* Retrieved from: http://www.scpclearinghouse.org/sites/default/files/global review_web.pdf.
Vázquez J.L., Aza C. L., Lanero A. (2016), "Citizens' perceptions on social responsibility in public administration organizations: a case study on Spain", *Transylvanian Review of Administrative Sciences*, Vol. 48: 166-183.
Walker H., Brammer S (2009), "Sustainable procurement in the United Kingdom public sector", *Supply Chain Management: An International Journal*, Vol. 14, No. 2: 128-137.

Ward, H. (2004), *Public sector roles in strengthening corporate social responsibility: taking stock (English*), World Bank, Washington, DC.
Werther W., Chandler D. (2005), "Strategic corporate social responsibility as global brand insurance", *Business Horizons*, Vol. 48: 317-324.

4. BUSINESS ORIENTATION TOWARDS ECO-INNOVATIONS FOR THE PURSUIT OF CSR

by *Antonio Thomas*[*], *Renato Passaro*[*], *Ivana Quinto*[**], *Giuseppe Scandurra*[*]

Introduction

The sensitivity of citizens towards environmental issues and awareness of environmental risks has increased exponentially for at least thirty years. This circumstance has led the European Union and other nations to endorse somewhat pervasive actions finalized at generating superior levels of well-being compatible with the protection of natural capital, the use of renewable energy sources, the recycling of waste, the minimization of emissions, the creation of more comfortable workspaces.

The pursuit of these principles has led among companies to the diffusion of *Corporate Social Responsibility* (CSR) principles here meant as «a way to do business that respects stakeholders' expectations and maintains ethical values» (Coronella *et al.*, 2018, p. 645). Indeed, companies are progressively obliged to conform their governance and organizational models with the adoption of environmentally sustainable techniques, technologies and production processes in the face of requests from multiple stakeholders (Mio *et al.*, 2015; Balluchi and Furlotti, 2017). The obligation of a social and environmental reporting for large companies (directive 2014/95/EU) concerning, *inter alia*, the use of renewable resources, the emission of pollutants, the impact of their activity on health and safety of people, is a clear example of how these commitments have become rigorous constraints for corporate strategies.

[*] University of Naples "Parthenope", Italy. Department of Engineering.
E-mail: antonio.thomas@uniparthenope.it, renato.passaro@uniparthenope.it. Department of Management Studies and Quantitative Methods. E-mail: giuseppe.scandurra@uniparthenope.it.
[**] University of Naples "Federico II", Italy. Department of Industrial Engineering.
E-mail: ivana.quinto@unina.it.

Adherence to the principles of CSR, however, should not be interpreted only as a source of obligations and costs for companies. If in the '90s researchers wondered if adapting to the CSR principle was compatible with the pursuit of the traditional conditions of economic viability (Porter and van der Linde, 1995), nowadays it has been shown that this is not only possible, but essential for the same survival and development needs of the business development (Cafferata, 2009; Coronella *et al.*, 2016; Venturelli *et al.*, 2017). Moreover, scholars emphasize that competitiveness of companies is increasingly linked to the state of health of the surrounding environment (Porter and Kramer, 2006; Corazza *et al.*, 2017; Porter and Kramer, 2019).

Indeed, it is not a surprise considering that established assumptions of the Italian School of Business Administration and Accounting (Bertini, 1995; Coda, 1998; Catturi, 2009; Sorci, 2005) have long stressed that the development of companies must proceed through a multidimensional path, where profitability is just one of the dimensions with the social, environmental and competitive ones.

Since the engine of future firms' competitiveness lies in making investments to implement innovations (Malerba, 2000; Ahmed and Shepherd, 2010; Corbetta and Morosetti, 2018), the latter have to be compatible with the introduction of new product, process, organizational change or marketing solutions that reduces the use of natural resources and environmental hazards across the whole life cycle of goods and services. These innovations are defined as eco-innovations (Rennings, 2000).

At the international level, the issue of eco-innovations is quickly gaining momentum. Within economic and business literature, a flourishing debate concerning the determinants that favour their adoption has developed. So far, researchers' attention was mainly paid on large manufacturing corporations operating in traditional sectors, while scarce attention was devoted at mall and medium enterprises (SMEs). In addition, few studies are addressed to the national reality (Mazzanti and Zoboli, 2009; Cainelli and Mazzanti, 2013; Marin *et al.*, 2015).

In this view, this paper investigates the predisposition to eco-innovate among SMEs innovation-oriented that operate mainly in the services sector. According to leading scholars (e.g. van Stel *et al.*, 2007; Acs and Audretsch, 2009; Storey and Greene, 2010), these firms will represent the future of modern quaternary economies, as they operate in advanced or cutting-edge sectors and with a high probability of expanding rapidly and creating net employment such as "gazelles" or "high-growth firms".

Our purpose is to contribute to provide initial learning pathways for policy makers into the proposal of measures stimulating investments in eco-

innovations among SMEs. Meanwhile, we aspire to provide entrepreneurs with a knowledge base for such a critical for the future development of their organisations.

The paper is organized as follows. Paragraph 2 specifies the determinants of eco-innovation considered, while paragraphs 3 and 4 discuss, respectively, about the empirical investigation and the main results emerged. Paragraph 5 reports the conclusions.

1. The eco-innovations determinants

Like any investment, eco-innovations impact on consolidated production processes, therefore on actual and expected cost configurations and revenues, with consequences on economic and financial dynamics; as well as on medium-long term competitiveness. Usually the investments decisions can arise because of endogenous pushes (products differentiation, increasing customer satisfaction, equipment obsolescence, etc.) or as effect of external solicitations (regulations, incentives, technological progress, competitor's strategies, etc.). In any case, their adoption presupposes the availability of adequate tangible and intangible resources and overcoming the intrinsic resistance to change in economic organizations.

All these aspects introduce elements of uncertainty in the governance of a company, increase complexity and complicate the decision-making process. From the entrepreneurial perspective, therefore, there can be several pressures towards the adoption of eco-innovations, but also many obstacles.

Even so, international literature has so far analysed the determinants of innovation in a rather inhomogeneous and incomplete manner; succeeding to examine only a few determinants at a time, and usually recurring to dichotomous distinctions. For example, discussing between positive or negative determinants, internal or external drivers, technology-push or market-pull factors (De Marchi, 2012; Triguero *et al.*, 2013; Cai and Zhou 2014; Hojnik and Ruzzier, 2016; Del Rio *et al.*, 2017). In addition, the results obtained from these investigations can rarely be generalized, since the determinants can influence each other, their weight may vary according to the characteristics of the firm, and often they behave either as drivers, or as hindering factors (Pereira and Vence, 2012; Xavier *et al.*, 2017; He *et al.*, 2015).

In this view, this paper ponders the effects of a certain number of determinants according to the solicitations coming from the socio-environmental context, and the availability of endogenous resources. Specifically, in the first circumstance, the influence of stakeholders and, more explicitly, of public

administrations is considered. In the second circumstance, the possession of competencies and expected environmental and economic performance is examined.

Both customers and suppliers can solicitate their client firms to adopt those eco-innovations which are consistent with those already adopted by themselves, or to implement their innovative output (Yalabik and Fairchild, 2011; Guoyou *et al.*, 2013). Generally speaking, the greater the degree of integration and cooperation with other companies, the greater the likelihood of adopting eco-innovations (Wagner and Llerena, 2011; Triguero *et al.*, 2013). International openness is also significantly and positively associated with eco-innovation (Hojnik *et al.*, 2018); as well as the presence of a high competitive intensity (del Rio *et al.*, 2016; Tumelero *et al.*, 2019).

Anyway, the whole cultural environment can have a positive influence on the adoption of eco-innovations; both internally and externally (Horbach, 2014). In the first case, the same entrepreneurial or managerial team, or the whole company staff can stimulate the adoption of eco-innovations because encouraged by the company itself, or being customer or beneficiary of the changes introduced (Pereir and Vence, 2012). In the second case, reference is made to other institutions that may want to build, for their own purposes, a green or ethical image. For example, financial intermediaries and investors show a greater propensity to finance environmentally friendly investments (Halila and Rundquist, 2011).

However, it is possible to claim that probably the most influential stakeholder is represented by the public administrations. In fact, in order to support positive externalities connected to the diffusion of eco-innovations (e.g. lower pollution from emissions), public bodies endorse policy-driven eco-innovations by means territorial cross-fertilization of specific knowledge or imitative effects (Rennings, 2000), (Cainelli *et al.*, 2017; Mazzanti, 2018). These policies consist basically in fiscal or monetary benefits, in the offer of intangible assets mainly provided by universities, research laboratories and chambers of commerce or, more effectively, in the introduction of compulsory regulations (Mazzanti and Zoboli, 2009; Hojnik and Ruzzier, 2016; He *et al.*, 2018).

About the endogenous resources, determinants refer both to the availability of tangible human and financial resources, and to the technological, organizational and management competencies necessary to implement eco-innovations (Mazzanti, Zoboli, 2009; Wagner and Llerena, 2012; Kesidou and Demirel, 2012). Up to now, due to the difficulty of objectively assessing and measuring intangible assets, scholars have addressed this issue occasionally (Horbach, 2008; Pereira and Vence, 2012). However, in many cases these resources may play a role particularly relevant, if not decisive (del Rio *et al.*, 2016).

To evaluate the impact exercised by the expectations of greater economic performance following the adoption of eco-innovations is very difficult. In the face of certain investment costs, in fact, the expected revenues or other hoped benefits can only be estimated (Horbach, 2008). In addition, many business performances concern the other dimensions of corporate development (social, environmental and competitive) which include, for example, image improvement, legitimacy, to be a first mover, motivation of employees (Thomas, 2012; Fiorentino *et al.*, 2016). Even if these aspects can become a source of competitive advantages (Porter and van der Linde, 1995), they are very hard to quantify in advance.

To date, while scholars are uncertain about the economic outcome associated with eco-innovations between certain costs and expected benefits, as it depends on unpredictable reactions from the different industrial players (Pereira and Vence, 2012; He *et al.*, 2018), the effect of eco-innovations on environmental (and economic) performance is considered positive, as they determine a reduction in resource consumption, emissions and pollution with positive consequences on costs (Horbach, 2008; Demirel and Kesidou, 2011).

2. The investigated SMEs

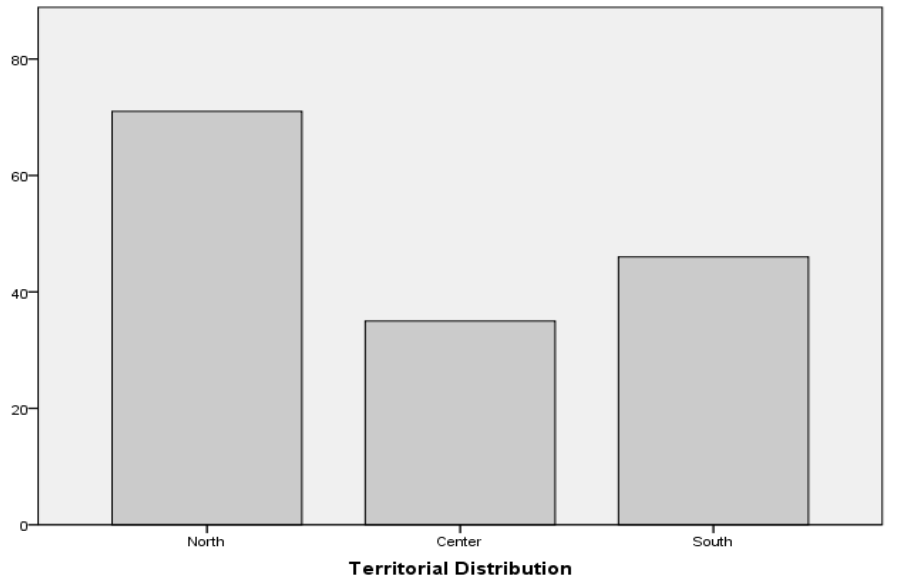
To verify the impact of the described determinants, a survey on a population of 1,035 innovative firms was considered. These firms were registered on 1 April 2019 in the database (Register of Innovative SMEs) established by Italian Law 33/2015. The latter aims at favouring the creation of an innovation ecosystem based on sustainable growth, technological development, technology transfer processes, research enhancement and the attraction of talents and capital. Firms having a production site or branch in Italy can register themselves in the database if satisfying defined requirements concerning dimension and technological innovation (incidence of R&D and innovation expenses, level of education and professional experience of founders, patents ownership). Registered companies benefit of advantages ranging from flexible rules for corporate management to the possibility of raising capital through equity crowdfunding, as well as from facilities for accessing bank credit to tax incentives for investments.

To avoid the typical limits (Zhang, 2012; Wallgren and Wallgren, 2014) related to the quality of the data coming from administrative archives (for example the missed or delayed update) that can introduce distortive effects caused by incorrect selection (and consequently coverage errors) all the firms included in the Register were initially contacted. From the list were excluded

51 firms for which it was not possible to trace website, e-mail or telephone number. Due to the spatial heterogeneity of company distribution, stratified sampling criteria was used, using the three Italian macro-areas as a stratification variable (Fig. 1).

The sample size was determined by considering the variability of some structural features, such as the classes of employees, capital and turnover in the Register on the accessed date.

Fig. 1 – Distribution by macro area of the firms included in the sample (%)



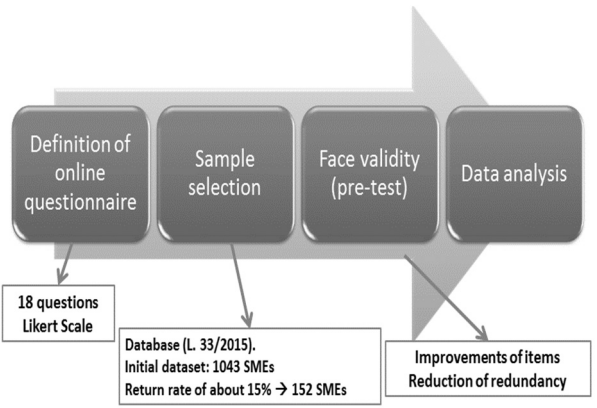
The sample was set at 155 units, representing over 15% of the reference population. All SMEs extracted from the list with simple random sampling were invited to participate in the survey by completing an on-line questionnaire divided into eighteen closed questions with a *5-way Likert scale*. Questions were organised into four topics: external determinants concerning stakeholders and public administrations, internal determinants regarding endogenous skills and expected economic and environmental performance. As three interviewed firms did not provide a feedback, the final sample size is limited to 152, despite attempts to recover unresponsive units.

The questionnaire partially replies the one proposed by the aforementioned survey of Cai and Li (2018). Nevertheless, as illustrated in Figure 2, it was previously discussed through two meetings of the research team with

three entrepreneurs, and with three experts of the economic system. In addition, before inviting SMEs to answer, a pilot questionnaire was also tested by directly interviewing five owners of local SMEs operating in advanced sectors (four for services, one for manufacturing).

Tab. 1 shows some structural business variables of the sample. It can be observed that we refer fundamentally to weakly capitalized small enterprises (in particular in the South), active by far in the services sector. However, being high value-added firms, proportionately higher turnover levels emerges.

Fig. 2 – The methodological approach



With regard to the structural features, it should be specified that the determinants of eco-innovation differ between sectors, being higher in the cutting-edge segments (Horbach, 2008; Cainelli and Mazzanti, 2013; Triguero *et al.*, 2013), while younger age and larger size tend to exert a positive influence (De Marchi, 2012; del Rio *et al.*, 2017). The young age of all the SMEs in the sample theoretically makes them possess a more open and sensitive mentality towards the theme of environmental sustainability. However, young and small companies may not yet be adequately structured to approach the problems of environmental sustainability in a systematic way (Cai and Zhou, 2014; Hojnik and Ruzzier 2016; Cai and Li, 2018).

To check if there is a relationship of dependence between the described company features and the territorial distribution, a test was conducted based on the $\chi 2$ statistic (Tab. 2). The analysis of the values of the performed statistical tests shows that the characteristics of the companies included in the register of SME's are independent of the territorial distribution.

3. The findings

Despite the surveyed SMEs, a high sensitivity to sustainable development emerges, their concrete actions towards eco-innovations emerge as overall modest. Therefore, even if a third of firms recognize that both their output, and production processes have to comply with precise eco-compatibility requirements, only 10% claim to adopt a documented plan or rules for ecological management, compared to 32% who admit they do not have it at all.

Tab. 1 – Percentage and absolute distribution (in brackets) of the sample

Italy	North	Centre	South	
Employees				**Total**
0-4	25,4 (18)	25,7 (9)	47,8 (22)	32,2 (49)
5-9	18,3 (13)	20,0 (7)	26,1 (12)	21,0 (32)
10-19	26,8 (19)	34,3 (12)	13,0 (6)	23,3 (37)
20-49	18,3 (13)	11,4 (4)	10,9 (5)	14,5 (22)
50-249	9,9 (7)	5,7 (2)	2,2 (1)	6,6 (10)
>250	1,4 (1)	2,9 (1)	0,0 (0)	1,3 (2)
Totale	*100* (71)	*100* (35)	*100* (46)	*(152)*
Turnover (€ *1.000)				
0-100	8,5 (6)	11,4 (4)	15,2 (7)	11,2 (17)
101-500	26,8 (19)	34,3 (12)	34,8 (16)	30,9 (47)
501-1.000	16,9 (12)	17,1 (6)	17,4 (8)	17,1 (26)
1.001-2.000	12,7 (9)	17,1 (6)	19,6 (9)	15,8 (24)
2.000-5.000	16,9 (12)	8,6 (3)	10,9 (5)	13,2 (20)
5.0001-10.000	9,9 (7)	0,0 (0)	2,2 (1)	5,3 (8)
10.001-50.00	8,5 (6)	11,4 (4)	0,0 (0)	16,6 (10)
Total	*100* (71)	*100* (35)	*100* (46)	*(152)*
Capital (€)				
0-5.000	2,8 (2)	0,0 (0)	0,0 (0)	1,3 (2)
5.000-10.000	12,7 (9)	8,6 (3)	21,7 (10)	14,5 (22)
10.000-50.000	33,8 (24)	40,0 (14)	39,1 (18)	36,8 (56)
50.000-100.000	11,3 (8)	20,0 (7)	8,7 (4)	12,5 (19)
100.000-250.000	12,7 (9)	5,7 (2)	13,0 (6)	11,2 (17)
250.000-500.000	4,2 (3)	5,7 (2)	6,5 (3)	5,3 (8)
500.000-1.000.000	4,2 (3)	5,7 (2)	8,7 (4)	5,9 (9)
1.000.000-2.500.000	9,9 (7)	2,9 (1)	2,2 (1)	5,9 (9)
2.500.000-5.000.00	1,4 (1)	5,7 (2)	0,0 (0)	2,0 (3)
>5.000.000	7,0 (5)	5,7 (2)	0,0 (0)	4,6 (7)
Total	*100* (71)	*100* (35)	*100* (46)	*(152)*
Sector				
Commerce	4,2 (3)	5,7 (2)	8,7 (4)	5,9 (9)
Manifacturing	19,7 (14)	22,9 (8)	28,3 (13)	23,0 (35)
Services	76,1 (54)	71,4 (25)	63,0 (29)	71,1 (108)
Total	*100* (71)	*100* (35)	*100* (46)	*(152)*

The findings are slightly better when considering environmental auditing as a management standard, while there is a strong pressure toward employees to engage into energy savings and emission reduction. In any case, the latter seem to only partially incorporate company invitations in proposing sustainability actions. Likewise, a specific professional figure such as the energy manager, is present in only 10% of firms, although 15% of respondents foresee his hiring. This last is particularly felt in the manufacturing sector (26%) than (8%) in the services sector ($\chi 2$ significant at 5%).

As specified, these findings are not in line with the high importance attributed to environmental sustainability. In the southern regions, in particular, more than half of the SMEs reveal huge attention towards eco-innovations ($\chi 2$ significant at 10%). Probably, it can be assumed that southern firms intend to eco-innovation as a way to reduce the disadvantages compared to firms of other areas, but also as a reaction to the well-known environmental criticalities that characterize many local areas.

Tab. 2 – χ^2 test values for firms' characteristics

Features	χ^2	p-value
Employees	14,963	0,133
Turnover	14,469	0,272
Capital	20,092	0,328
Sector	2,497	0,645

Another reason for the gap between sensitivity and concrete actions of respondents is linked to the fact that poorly structured SMEs may not have adequate financial resources to invest for this purpose. In this way, the aforementioned pressures toward the employees are explained as a tentative to look for a shortcut. In the face of this landscape, in line with the determinants of eco-innovation previously specified, a substantial territorial equivalence emerges in considering the influence exercised by the customer's expectations.

An additional finding concerns the stimulus coming from suppliers. They proved to be very limited, greater than that of the venture capitalists, but inferior both to ordinary financial intermediaries and to other economic system players. On closer inspection, the evidence is in line with the high weight that firms assign to internal capacities (see below) that support the R&D function for access to innovations, also with respect to the role played by research centres (reputed useful or very useful from 66.5%), partnerships (61.9%), and specialized consultancy (53.9%).

With reference to the second category of external determinants, namely the impulses connected to the role of public administrations, the majority of respondents do not believe that they provide adequate fiscal and monetary benefits to stimulate the adoption of eco-innovations. Moreover, the bureaucratic process to receive benefits appears particularly complex. Firms also judges the regulatory framework inadequate to stimulate eco-investments. Although globally weak, these findings seem to be entirely consistent with the low percentage (14%) of firms requesting the incentives provided by the regulations in favour of eco-innovation (only 8% received them), while over 51% believe that its features do not fit the regulations for requesting them, and 34% said they are not aware about them.

About internal determinants, the first investigated aspect concerns the availability of intangible (technological, organizational, managerial skills) and tangible resources (monetary) necessary to adopt eco-innovations of interest. While the three types of competences are considered sufficiently or completely adequate to the subjective needs, material and financial resources are instead highly inadequate. An observation that amplifies, in the perception of companies, the weak offer of incentives of public origin, with consequent discouraging effects.

With regard to the stimuli toward eco-innovations linked to the possibility to obtain future better environmental and economic performance, the findings appear to be quite different. From an environmental perspective, over 42% of companies points out that the adoption of eco-innovations has led to a clear reduction in the consumption of raw materials, emissions, and costs for energy and other materials (47%).

About the economic performances, around 60% of companies did not recognize benefits in terms of increasing in sales or production capacity of the plants. Nor a positive impact on profitability, an improvement in the competitive position or greater customer loyalty were distinctly perceived, refuting the Porter hypothesis. Besides, for more than 60% of respondents, the impact of eco-innovations on job creation is negligible.

3.1. The synthetic picture

In addition to these general findings, in order to offer a more systematic picture of the phenomenon under investigation, we researched for similarities between the investigated firms in relation to the drivers of eco-innovations through a *cluster analysis.* To this purpose, a two-step procedure was adopted. To identify the number of clusters, we use a hierarchical agglo-

merative algorithm. Then the firms were assigned to one of the groups obtained using the non-hierarchical clustering algorithm of the k-means.

The allocation of the companies to the individual identified clusters allows to recognise the characteristics shared by the ventures based on their proactivity level towards eco-innovations. Each of the identified clusters is described by a series of items included in the analysis that allows to describe the characteristics of the group, and consequently the aspects to which each of them is most sensitive.

The analysis carried out showed the presence of four homogeneous clusters of firms according to two latent features, previously identified using a Principal Component Analysis. The first feature concerns the declared *sensitivity* of firms or their staff toward eco-innovation and environmental sustainability. A high *sensitivity* indicates that enterprises are aware of the problems related to sustainability.

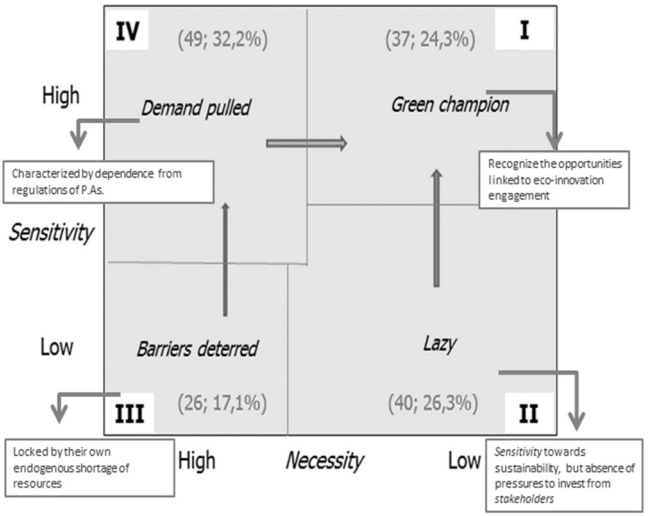
The second feature refers to the external or internal pressures experienced by the enterprises: the *necessity* push. This parameter is intended to explain how much the choice to adopt eco-innovations depends on stakeholders' pressures, on the endogenous stimuli linked to the need to react to competitors or to satisfy customers' requests, but also on the possibility to obtain funding by public administrations. A high *necessity* distinguishes among ventures that adopt eco-innovations because somehow obliged, and those that, on the contrary, are driven by the desire to anticipate competitors, to obtain greater legitimacy among stakeholders, to create an image of a sustainable development towards the community, or to answer at entrepreneurs' subjective desires of environmental protection. The four clusters, their features and labels are represented in Fig. 2.

A first cluster includes companies that show, in the meantime, a high *sensitivity* towards eco-innovations and the environmental sustainability, but a low *necessity* to adopt them. This cluster fundamentally includes firms aware about the normative and that possess enough competences to adopt innovations independently from the exogenous supports. Furthermore, while not particularly feeling the *necessity* to adopt eco-innovations, they prove to be very heedful to environmental problems, and to energy efficiency. Not by chance, their organizational model often displays the figure of the energy manager, whose role is precisely to reduce the environmental footprint of the firm. The sensitivity of these enterprises is also found with reference to the degree of attention paid to requests from stakeholders. This group, therefore, contains companies whose managers see the eco-innovations mainly as an opportunity for their future development

It should also be noted that this group is the one with the highest incidence of manufacturing companies, notoriously the most aware of their environmental impact and the consequent influence of the eco-innovations on income and economic dynamics. These reasons, together with the fact that, not infrequently, they are larger, more capitalized and with an international openness, make them more sensitive and open to eco-innovations compared to other sectors (Hojnik and Ruzzier, 2016; Hojnik *et al.*, 2018). Manufacturing firms are also more attentive to regulatory aspects and the provision of skills and positively influenced by the feedback and stimuli from the public administration. Summarizing, the firms of this group have been defined *green champion*, «since these firms seem to recognize the opportunities linked to intense eco-innovation engagement» (Marin *et al.*, 2015: 683); that is, they tend to more rapidly adapt to the changed context.

In the quadrants II and III are included firms with a low *sensitivity* toward corporate sustainability issues. In general, they are SMEs whose investments in eco-innovations are modest or null. The firms of the second group (40 units equal to 26.3% of the sample), in particular, even though begin to show a certain *sensitivity* towards environmental issues, at the moment do not appear interested in sustaining substantial investments due to the absence of adequate requests from stakeholders or of a prospective management vision. As they lack of adequate stimuli that could perhaps lead towards a path of more convinced environmental sustainability, they can be defined as *lazy*.

Fig. 2 – A representation of the characteristics of individuated clusters



The ventures included in quadrant III, the least numerous (26 units equal to 17.1% of the sample), make up the cluster of companies with low levels of *sensitivity*, but high levels of *necessity* to be ecologically innovative. Nevertheless, they are those that, in absolute, show the scarcest interest to the environmental sustainability and eco-innovations. Probably this weak interest reflects a precise managerial and organizational inability to implement eco-innovations. These firms, in fact, are normally aware of having to adapt to requests and solicitations from outside, but seem not to have enough skills, tangible resources, or managerial propensity to deal with it.

It is interesting to note that, in keeping with the above, manufacturing companies are almost absent in this group. Following the definition of Marin *et al.* (2015), it is considered appropriate to name the firms belonging to this cluster as *barriers deterred*, since they are locked by their own intrinsic limits. Hence, they are exposed to the risks associated with customer adaptation requests which are unable to satisfy in the short term.

Finally, in the IV quadrant there are firms that are characterized by a high *sensitivity* and the *necessity* to adopt innovations. This cluster is the most numerous (49 units, corresponding to 32.2% of the sample), but also that which includes almost all the few commercial firms which those that most complain about the bureaucratic delays and the limited resources made available by the public administrations. This feedback can be ascribed to the fact that this type of venture is often excluded from the policy measures encouraging the adoption of eco-innovations which, as mentioned, tend concentrate their efforts on the manufacturing sector (Cainelli and Mazzanti, 2013).

These firms are also characterized by being dependent on the stimuli or regulations of the public administration. However, this relationship is not perceived as constructive as companies complain about the inadequacy of the funds provided and bureaucratic difficulties that discourage the request. In a nutshell, the investments of these companies in eco-innovations rather than a deliberate choice are a consequence of external contingencies to avoid slipping out of the market. For these reasons, the cluster can be termed of *demand-pulled* firms.

As the most numerous clusters, *green champion* e *demand-pulled*, (I and IV quadrants) exhibit the higher sensitivity (56.6%), this allows us to judge with a certain optimism the approach towards the eco-innovations by the population of investigated firms. Nevertheless, considering the intrinsic innovative nature of this population, it would have been reasonable to expect an even greater propensity overall.

As told, the explanation could be the limited incidence of manufacturing companies with respect to services. This category shows the highest inci-

dence to the environmental pollution, but it also is the most heavily regulated and the most inclined to introduce innovative responses to environmental issues (Cainelli and Mazzanti, 2013; Cainelli *et al.*, 2017).

Even though this picture is not generalizable in light of the specificities of the population investigated, it is clear that the goal of policy makers should be to favour the transition of firms towards the best cluster of *green champions*. This objective could be achieved, as far as the II quadrant *lazy* companies are concerned, first of all by supporting them in strengthening the link with the actors of the context. The aim is to help them to improve their ability to grasp external stimulus, and therefore to adopt virtuous investment behaviour in eco-innovations. It would therefore be advisable to encourage the development of *networking abilities* (Mazzanti and Zoboli, 2009; Mazzanti, 2018).

For firms in the III quadrant, the *barriers deterred*, an essential first step to improve their environmental sensitivity would seem to be a closer contact with public institutions, universities and research centres included. The latter should spread a cultural model geared to environmental sustainability, and on the other hand help these firms to overcome the skills and knowledge gaps that prevent them from investing adequately in eco-innovations. The risk is that the inability to read or to answer to requests and external needs for adaptation to environmental compatibility could undermine the same survival conditions of these firms, they would be cut off from customers and suppliers.

In addition, firms belonging to quadrants II and III need to be made aware of the advantages associated with the adoption of eco-innovations; especially in the long term. Increasing the level of awareness regardless of stakeholder demands or public administration pressures would allow for future performance and competitiveness gains. Furthermore, due to the cooperation and collaboration links between enterprises, specific eco-innovations markets could arise; as well as eco-innovations diffusion by imitation would be accelerated. Even in this case a closer relationship with universities and research laboratories could be appropriate (Tumelero *et al.*, 2019).

Finally, for the *demand-pulled* companies of quadrant IV, firms that have the necessity to eco-innovate to keep up or to stay ahead to the competitors, the objective is first of all to improve both the quality of the public administrations' interventions and their relationship with the firms. From this point of view, it would be advisable a more specific legislation which reflects the sectorial or dimensional differences among ventures, as well as able to identify new paths and procedures stimulating investments in eco-innovations. A clear risk of penalizing the competitiveness of these companies arise when public administrations are not able to pander these requests, also with financial resources.

4. Conclusions

To adapt to the requirements of corporate social responsibility, providing environmental sustainability and pursuing a sustainable development, firms need to reengineer their organizational models and production processes (Cafferata *et al.*, 2009; Mio *et al.*, 2015; Corazza *et al.*, 2017). In this view it is important to understand the determinants that sustain the implementation of innovations which support the mentioned changes: the eco-innovations (Cainelli *et al.*, 2017; Corbetta and Morosetti, 2018; Porter and Kramer, 2019). So far, this issue has been surveyed chiefly about manufacturing corporations. While, with main reference to the Italian context, the investigations conducted so far on this issue are few and fragmented (Mazzanti and Zoboli, 2009; Cainelli and Mazzanti, 2013; Marin *et al.*, 2015).

With this in mind, this paper investigates the orientation toward eco-innovation of a population of innovation-oriented SMEs.

Even within the limits of this survey, some interesting and deserving future insights emerge. A first outcome shows that the problem of eco-sustainability proves to be sufficiently felt, above all thanks to the push of customers; but this sensitivity does not find correspondence in the actions and investments implemented. This gap slows down the adoption of eco-innovations, but also their systematic treatment in a business context, with the acquisition of ad hoc tools and skills that may not be present within the organizational unit.

Consistent with the specific literature, this gap can be partially attributed to the typical problems connected to the small dimension, when the low levels of capitalization and turnover hinders the carrying out of the wished investments. What is more, the weak investments of the customers do not encourage those of the partners, such as suppliers.

A second outcome concerns the limited nature of tangible resources rather than that of endogenous competencies. An obstacle related to the still incomplete national regulatory framework, poorly known and complex to pursue, as well as even regarding the offer of incentives and benefits for eco-innovation. The propulsive role of universities and research centres, considered as marginal, is consistent with this result. Abroad these institutions tend to receive a greater specific weight (Horbach, 2014; Tumelero *et al.*, 2019).

A third outcome concerns the feeble perception of the potential environmental and of the economic benefits connected to the adoption of eco-innovations and the consequent impact on firms' competitiveness. We can claim that, probably, a cultural trouble, which slow down the diffusion of the supposed benefits of the eco-innovations, exists (Horbach, 2014). Despite

established literature sustains that eco-innovations have a fundamental impact on the consumption of tangible or energy resources (e.g. Horbach, 2008; Demirel and Kesidou, 2011), many interviewed sustain that these advantages do not enough impact the economic dynamics, neither differentiate their product/service from competitors, or enhance business legitimacy. Neither a higher level of employment is expected. Consequently, the adoption of eco-innovations emerges as fundamentally *necessity-pulled*, rather than a choice autonomously matured by companies in anticipation of benefits that will manifest themselves over time (*opportunity-pushed*) according to the Porter hypothesis.

However, entrepreneurs show that they have clear ideas on the guidelines that proactive policies should follow to encourage the adoption of eco-innovations. Among them, the introduction of automatic incentives such as tax credit, a greater activism of funding institutions, support for the creation of partnerships and collaborations with larger companies and research institutions, the provision of organizational and managerial resources through ex-ante training and on-going assistance for the more complex eco-innovations, the availability of ad hoc incentives aimed also at new plants, as well as for the conversion of existing ones.

By analysing the four identified clusters, the objective of the policies can only be to support the transition from the less sensitive firms (*barriers deterred* and *lazy*) to the two groups of more sensitive companies. Similarly, also from those firms that are fundamentally sensitive because they are forced from contextual reasons (*demand-pulled*), towards the group of eco-innovators for intrinsic conviction. For this purpose, a policy priority should be the provision of specific resources and competences. For instance, *lazy* firms could benefit from more open and frequent relationships with other (proactive) actors, so that they become aware of the importance of eco-innovations even before having to chase a possible need for regulatory or competitive adjustments. In addition, for *barriers deterred* SMEs, a stimulus to transform their sensitivity into action seems to be linked first and foremost to obtaining regulatory certainties; or from being able to minimize the exogenous elements of uncertainty connected to investment decisions (*compliance costs*).

Obviously, the described picture cannot be generalized tout court. First of all, in line with all the previous quoted investigations, this paper considers only a part of the variables treated in the literature. In addition to the difficulties in contemplating all the determinants of the eco-innovations so far identified, there is the lack of precise distinction between drivers and barriers, which can often be interpreted each other as opposite (Marin *et al.*,

2015). Moreover, a high chance that reciprocal influence will occur between the variables exists (Pereira and Vence, 2012; Xavier *et al.*, 2017). Furthermore, investigations rarely distinct between incremental or radical eco-innovations, among process, product or organizational eco-innovations, or in relation to the different kind of customers (B2B, B2C...). But these differences can exert a distinct and relevant influence (Kesidou and Demirel, 2012; del Rio *et al.*, 2016).

Secondly, the above findings are affected by the high incidence, in the population considered, of service companies (mainly in the ICT sector). The latter have greater difficulty in improving their already contained ecological footprint. It is no coincidence that the companies that pay the most attention to environmental sustainability are those manufacturing, perhaps precisely because they are more aware of their own impact, but are also more recipients of ad hoc regulations, incentives and controls.

Thirdly, it must be taken into account that the companies surveyed present specific characteristics that are not common in most other Italian firms. Presumably they are among the most open to change in the SMEs population. This characteristic is consistent with the distinct perception of the problem of environmental sustainability; though not with that of the overall benefits descending from the adoption of eco-innovations. It is therefore probable that the picture here outlined is better than that obtainable with other samples.

The latter should cause some worries in policy makers. It is therefore desirable both to replicate this survey to other different populations of firms (by sector, size and geographical location), and to propose investigations conducted with different methods. In addition, focusing on a more limited number of variables could better catch the weight and the role they hold in the specific reality investigated. The goal is always to be able to provide a more effective and coherent picture of the heterogeneous panorama of elements that relate to the choice of eco-innovation, as part of a superior design to support both the need of companies to adapt to the CSR requirements and of policy makers to sustain the diffusion of CSR practices and initiatives.

References

Acs Z.J., Audretsch D.B. (1990), *Innovation and Small Firms*, University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.

Ahmed P.K., Sheperd C.D. (2010), *Innovation Management: Context, strategies, systems and processes*, Pearson.

Balluchi F, Furlotti K. (Eds) (2017), *La responsabilità sociale delle imprese. Verso un percorso di sviluppo sostenibile*. Torino: Giappichelli.
Bertini U. (1985), "In merito alle 'condizioni' che determinano il successo dell'imprese", *Finanza, Produzione e Marketing*, 3.
Cafferata R. (2009), "Il cantiere aperto della rsponsabilità sociale dell'impresa", *Impresa progetto*, 1: 1-7.
Cai W., Zhou X. (2014), "On the drivers of eco-innovation: empirical evidence from China", *Journal of Cleaner Production*, 79: 239-248.
Cai W., Li G. (2018), "The drivers of eco-innovation and its impact on performance: Evidence from China", *Journal of Cleaner Production*, 17: 110-118.
Cainelli G., Mazzanti M. (2013), "Environmental innovations in services: manufacturing-services integration and policy transmissions", *Research Policy*, 42(9), 1595-1604.
Cainelli G., D'Amato A., Mazzanti M. (2017), "Resource Efficiency, Environmental Policy and Eco-Innovations for a Circular Economy: Evidence from EU Firms", SWPS, 24.
Catturi G. (2009), "Crescita e sviluppo aziendale: il quadro di riferimento", In: Ibidem (ed.), *L'armonia della complessità. Dalla crescita allo sviluppo aziendale*. Padova: Cedam.
Coda V. (1988), *L'orientamento strategico dell'impresa*. Torino: Utet.
Corazza L., Scagnelli S.D., Mio C. (2017), "Simulacra and Sustainability Disclosure: Analysis of the Interpretative Models of Creating Shared Value", *Corporate Social-responsibility and Environmental Management*, 24: 414-434.
Corbetta G., Morosetti P. (2018), *Le vie della crescita. Corporate strategy e diversificazione del business*. Milano: Egea.
Coronella S., Mio C., Leopizzi R., Venturelli A., Caputo F. (2016), "Matching Economia Aziendale and Corporate Social Responsibility: roots and frontiers", *Rivista Italiana di Ragioneria e di Economia Aziendale*, 3: 322-342.
Coronella S., Caputo F., Leopizzi R., Venturelli A. (2018), "Corporate social responsibility in Economia Aziendale scholars' theories: A taxonomic perspective", *Meditari Accountancy Research*, 26(4), 640-656.
del Río P., Peñasco C., Romero-Jordán D. (2016), "What drives eco-innovators? A critical review of the empirical literature based on econometric Methods", *Journal of Cleaner Production*, 112: 2158-2170.
del Río P., Peñasco C., Romero-Jordán D. (2017), "Analysing firm-specific and type-specific determinants of eco-innovation", *Technological and Economic Development of Economy*, 23, 2: 270-295.
De Marchi V. (2012), "Environmental innovation and R&D cooperation: empirical evidence from Spanish manufacturing firms", *Research Policy*, 41: 614-623.
Fiorentino R., Garzella S., Lamboglia R., Mancini D. (2016), "Strategie di sostenibilità: dalle motivazioni ai sistemi di misurazione della performance", *Management Control*, 2: 115-142.
Guoyou Q., Saixing Z., Chiming, T., Haitao Y., Hailiang Z. (2013), "Stakeholders' influences on corporate green innovation strategy: A case study of manufacturing

firms in china", *Corporate Social Responsibility and Environmental Management*, 20, 1: 1-14.
Halila F., Rundquist J. (2011), "The development and market success of Eco-innovations: A comparative study of Eco-innovations and 'other' innovations in Sweden", *European Journal of Innovation Management*, 14: 278-302.
He F., Miao X., Wong C.W.Y., Lee S. (2018), "Contemporary corporate eco-innovation research: A systematic review", *Journal of Cleaner Production*, 174: 502-526.
Horbach J. (2008), "Determinants of environmental innovation-new evidence from German panel data sources", *Research Policy*, 37, 1: 163
Horbach J. (2014), "Do Eco-innovations need specific regional characteristics? An econometric analysis for Germany", *Review of Regional Research*, 34: 23-38.
Hojnik J., Ruzzier M. (2016), "What drives eco-innovation? A review of an emerging literature", *Environmental Innovation and Societal Transitions*, 19: 31-41.
Hojnik J., Ruzzier M., Manolova T.S. (2018), "Internationalization and economic performance: The mediating role of eco-innovation", *Journal of Cleaner Production*, 171: 1312-1323.
Kesidou E., Demirel P. (2012), "On the drivers of Eco-innovations: Empirical evidence from the UK, *Research Policy*, 41: 862-870.
Malerba F. (2000), *Economia dell'innovazione*, Roma: Carrocci.
Marin G., Marzucchi A., Zoboli R. (2015), "SMEs and barriers to Eco-innovation in the EU: Exploring different firm profiles", *Journal of Evolutionary Economics*, 25, 3: 671-705.
Mazzanti M., Zoboli R. (2009), "Embedding environmental innovation in local production systems: SME strategies, networking and industrial relations", *International Review of Applied Economy*, 23, 2: 169-195.
Mazzanti M. (2018), "Eco-innovation and sustainability: dynamic trends, geography and policies", *Journal of Environmental Planning and Management*, 61, 11: 1851-1860.
Mio C., Venturelli A., Leopizzi R. (2015), "Management by objectives and corporate social responsibility disclosure. First results from Italy", *Accounting, Auditing &Accountability Journal*, 28: 325-364
Pereira A., Vence X. (2012), "Key business factors for Eco-innovation: An overview of recent firm-level empirical studies", *Cuadernos de Gestion*, 12: 73-103.
Porter M.E., van der Linde C. (1995), "Toward a New Conception of the Environment-Competitiveness Relationship", *The Journal of Economic Perspectives*, 9, 4: 97-118.
Porter M.E., Kramer M.R. (2006), "The link between competitive advantage and corporate social responsibility", *Harvard Business Review*, 84: 78-92
Porter M.E., Kramer M.R. (2019), "Creating Shared Value", in G., Lenssen, N., Smith (eds.), *Managing Sustainable Business*. Springer.
Rennings K. (2000), "Redefining innovation. Eco-innovation research and the contribution from ecological economics", *Ecological Economics*, 32, 2: 319-332.
Sorci C. (2005), "Responsabilità sociale e sviluppo integrale delle aziende", *Contabilità e cultura aziendale*, 2. RIREA Editrice.

Storey D.J., Greene F.J. (2010), *Small business and entrepreneurship*. Toronto: Prentice Hall.
Thomas A. (2012), *L'orientamento allo sviluppo integrale nel governo dell'azienda*. Roma: Aracne.
Triguero A., Moreno-Mondéjar L., Davia M.A. (2013), "Drivers of different types of Ecoinnovation in European SMEs", *Ecological Economics*, 92.
Tumelero C., Sbragia R., Evans S. (2019), "Cooperation in R&D and eco-innovations: the role on the companies' socioeconomic performance", *Journal of Cleaner Production*, 207: 1138-1149.
van Stel A., Storey D.J., Thurik A.R. (2007), "The Effect of Business Regulations on Nascent and Young Business Entrepreneurship", *Small Business Economics*, 28: 171-186.
Venturelli A., Caputo F., Leopizzi R., Mastroleo G., Mio C. (2017), "How can CSR identity be evaluated? A pilot study using a Fuzzy Expert System", *Journal of Cleaner Production*, 141: 1000-1010.
Wagner M., Llerena P. (2011), "Eco-innovation through integration, regulation and cooperation: Comparative insights from case studies in three manufacturing sectors", *Industry and Innovation*, 18: 747-764.
Wallgren A., Wallgren B. (2014), *Register-based Statistics: Administrative Data for Statistical Purposes*. John Wiley, UK.
Yalabik B., Fairchild R. (2011), "Customer, regulatory, and competitive pressure as drivers of environmental innovation", *International Journal of Production Economics*, 131: 519-527.
Xavier A.F., Naveiro R. M., Aoussat A., Reyes T. (2017), "Systematic literature review of eco-innovation models: Opportunities and recommendations for future research", *Journal of Cleaner Production*, 149, 15: 1278-1302.
Zhang L.C. (2012). "Topics of statistical theory for register-based statistics and data integration", *Statistica Neerlandica*, 66, 1: 41-63.

5. CORPORATE SOCIAL RESPONSIBILITY AND CIRCULAR DESIGN: A NEW MODEL OF VALUE CREATION IN THE COSMETICS INDUSTRY

by *Simona Fortunati*[*]

Introduction

Barrena Martìnez *et. al* define «the increasing complexity and turbulence of the environment provokes that firms should develop competitive management models aimed not only at obtaining profit margins in the short term, but also to meet the balanced expectations of society and the different stakeholders involved in its activities in the long-term» (Barrena Martínez, López Fernández and Romero Fernández, 2016)**.**

According to Handy «the csr has the potential to produce a positive effect on different aspects of the organizations and negative on others the difference that positively influences the companies is in the management of the organization» (Handy, 2002).The European commission already in 2001 defines csr «as a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on the voluntary basis » as a development model for companies that want to implement the social and ethical aspect within organisations (European Commission, 2001).

Rexhepi *et al*. define «csr and innovation has emerged slowly over the past decade. Improvements in the csr process can refer to as «social innovation» (Rexhepi, Kurtishi and Bexheti, 2013)

Vanessa Prieto- Sandoval et. al. define «the growing importance of the concept of the circular economy as a way to attain sustainable development has encouraged scholars to propose different ways to understand it» (Prieto-Sandoval, Jaca and Ormazabal, 2018).

[*] University of Tuscia, Viterbo, Italy. Department of Economics, Engineering, Society and Business Organization. E-mail: simonafortunati@unitus.it.

Leandro and Paixao, define «csr is the corporate management philosophy and set of practices that better frames sustainability circular economy draws from the purest values of csr and puts them to practice.

Both help achieve the sd goals, and sustainable behaviour at large, for both citizens, institutions and corporations» (Leandro and Paixao, 2018).

1. Relevant literature

In according to Nemtanu « the first companies to integrate csr policies in their development strategy were (and still are) multinationals; the research aims to demonstrate this behavior of companies. Among these also the cosmetics companies are distinguished, organizations which by the nature of invented/produced/distributed products have a direct and personal impact on the consumer» (Nemtanu, 2012). Even in cosmetics companies, the adoption of corporate policies focused on ethical behavior throughout the production phase of the product is essential. Therefore, a good policy of social responsibility with mandatory rules is essential.

Consumers are increasingly attentive to the safety and ingredients with which cosmetics are made. Unfortunately, even today this aspect of communication by the company, even concerning the transparency of business practices, is still neglected. In this context, csr can be a valid help to support companies in their communication policies. In according to Ayob «increased usage of cosmetic products has caused a growing concern about the safety of these products, and yet little is known about cosmetics from the consumers' perspective» (Ayob *et al*., 2016). Csr is a new way of rethinking the company in an ever-expanding market like the current one, which must take into account many variables such as: income, age, gender, religion, etc. In current marketplaces, corporate social responsibility is a new expectation to be fulfilled by all sort of organizations in order to build a positive reputation and send a signal to their stakeholders (Vázquez-Burguete, Sahelices-Pinto and Lanero-Carrizo, 2017). Globalisation has led to a reappraisal of the way we do business. Even for mnc's it is essential to establish partnerships with all stakeholders, whether within the company with its employees or suppliers or outside it with customer (Jamali, 2010). Csr can, therefore, be understood not only as an element of business strategy, but also as a lever for innovation and technology by investing the entire production process (Pedersen, Gwozdz and Hvass, 2018). In this context, a fundamental role seems to be played by the economy as a factor for business growth. If sustainability and ethics go hand in hand, it is intuitive how a valid business strategy cannot

ignore the implementation of business models that implement the transition from a linear to a circular economy (Jurgilevich *et al*., 2016). Reuse of packaging, reduction of waste emissions, minimization of waste is just some of the aspects that involve all those who are looking for valid solutions to implement a real evolution of the whole system (Worrell, 2014). In according to Slavova *et al*. «environmental responsibility, as one of the constructs of the comprehensive concept of corporate social responsibility, stands out with its own identity and has many similarities with the circular economy idea» (Slavova and Ivanova, 2019). Companies that apply the csr model while remaining in line with sustainability objectives are also able to implement economic models that create value while respecting the environment (González Ordaz and Vargas-Hernández, 2018). In according to Esken *et al*. «managerial implications for multinational corporations (mnc's) concerning to circular economy (ce) by using data on corporate social responsibility (csr) perception in different types of market economies owing to diverse institutional contexts. These managerial implications can contribute to the linking of csr and ce strategies for mnc's (Esken, Franco-García and Fisscher, 2018). The pss product system service is an ecological system which includes both sustainability principles and business models (Tukker, 2015) providing products and services to meet the needs of the customer and stakeholders.

Services are concentrated in ex-post sales (servicing, maintenance, upgrading) while products are intended as a means of achieving the transition to a circular economy where economic growth does not depend on resource consumption. The pss can increase reuse, recycling at the end of life of the product by improving energy efficiency, resource productivity and waste reduction in line with the objective of the circular economy to close the loop of materials, create less waste by promoting sustainable growth. In according to Michelini et.al. 2017, «the pss is a useful system for the company in order to use resources through the circular economy both from the point of view of sustainability and from the economic point of view» (Michelini, Moraes, Cunha, Costa, and Ometto, 2017). Applying a business model like the pss involves a different view from selling products to functionality services. the design of products and services for a single life cycle is not suitable for a circular economy. The implications of pss for activities and knowledge involve design methods for products and services that are not limited to a single life cycle. In according to den Hollander *et al.* «the resources that enter the economic system must remain accounted for before during and after their life as useful systems» (den Hollander, Bakker and Hultink, 2017). The products must be returned to their original or similar state, thus maintaining their value and being reusable. The role of product design in the pss in a circular

economy perspective becomes fundamental to extend the end of life of a product. In according to Ramani *et al*. «design plays a key role in the end of life of a product» (Ramani *et al*., 2010).

2. Corporate social responsibility and cosmetics industry

The new concept of doing business has evolved more and more in recent years in favour of sustainability and a strong focus on values such as the environment and respect for the ecosystem. (Bognar, 2011). The cosmetics sector has also been affected by this paradigm shift, being sensitive to consumer demand for products with a low environmental impact, often accompanied by organic certifications that guarantee the reliability of the formulations (Varvaresou *et al*., 2009). In fact, terms such as safety, lack of toxic substances and tolerability of the product are increasingly required for cosmetics to be marketed. Many companies pay particular attention and a certain sensitivity towards their buyers so as to be guarantors of increasingly environmentally friendly products, biodegradable without neglecting the quality. In according to Sahota «sustainability has come to the fore in the cosmetics and personal care industry. Rising ethical consumerism and the need for resource efficiency are making cosmetic companies – small, independent firms to global giants – take steps towards sustainable development» (Sahota, 2013). This is where eco-dermo-compatible cosmetics come in, capable of combining interests of reliability and safety with those of lesser environmental impact (Ross, 2006). To verify the environmental impact that a cosmetic product can create in the entire production cycle, it is necessary to consider a whole series of factors that go to analyse the emissions of co2 or the energy or water used to produce it and the increasingly frequent use of energy produced from alternative sources to fossil fuels (Francke and Castro, 2013).

The choice of materials and adequate eco-design linked to reducing the impact of packaging is also a fundamental choice for a company that wants to adopt sustainable, innovative packaging with ethical labels (White, Sarpong and Ndrecaj, 2015). Environmental sustainability is a key concept that is well defined and not far from the value chain that is part of the company's business model. Being able to map every single process also means being able to count the criticality and environmental impact of products in order to better manage their reduction. Attention to the environment as well as to employees and the community is evident in the csr models (Murphy and Ng'Ombe, 2009). Also in the cosmetics industry this aspect seems to permeate the organization integrating the corporate social responsibility in

the company policy through practices of collaboration sharing with its employees, suppliers and users (Dimitrova, Kaneva and Gallucci, 2009).

The numerous certifications in the cosmetics field show how companies promote eco-compatible solutions, following strict quality and environmental standards also adopt practices of waste reduction, co2 reduction, adoption of eco-design, adoption of iso certifications, and packaging reduction (Bary *et al*., 2012).

2.1. Circular economy

The circular economy is currently a valid alternative to the linear model. Its objectives are to be found in the rethinking of business strategies that create value through innovative ideas, sustainable development of technological systems capable of supporting these changes. The value of the products is maintained for as long as possible to be subjected to reuse and recycling with a consequent reduction in waste. In according to Ruggieri et al.«Circular economy results from a long awareness-raising process connected with problems concerning environmental protection and a more rational use of natural resources» (Ruggieri, Mosconi and Poponi, 2018). One of the objectives of this new way of rethinking the economy is that the customer is inclined to buy a service rather than a product with a systemic approach. The adoption of the pss product-system service is a fundamental tool for the company because through this it is possible to establish lasting contact with the customer creating added value (Schweitzer and Aurich, 2010). The design, therefore, plays a fundamental role to understand more specifically how to implement the implementation of a product or service. In according to Muto et al.«since both products and services are included in the design object, the pss design process has become increasingly complicated. The designers need to organize reliably what they should accomplish during the pss design process. However, it is difficult for designers to grapple what they need to focus on during pss design process» (Muto, Kimita and Shimomura, 2015)**.** Unfortunately, to date, the major strategies of companies have focused only on reuse, recovery, reuse and end-of-life management of products. Less attention is given to design as a business model and sustainability practices as a whole to implement the process towards the circular economy (Stewart and Niero, 2018). In order to implement the circular economy model, not only efficient methods and practices have to be studied, but also tools capable of supporting the work of the research team through the various phases of the company's development (Lin, 2018).

2.2. Circular design

The importance of design and the role of designers in creating increasingly sustainable models have been much discussed in the academic world and elsewhere. In this context, in order to propose an alternative and responsible function in the way of designing, terms such as: "eco-design", "green design", "environmental design", "sustainable design" have been used more and more frequently (Swedberg, 2003). These can be considered elements in which environmental sustainability scenarios can be inserted, mainly linked to key principles such as: use of production processes capable of significantly reducing energy consumption, greater durability of the product, ease of disassembly of materials, the possibility of reusing a product or service at the end of its life (Ramani *et al*., 2010).

All this is translated into environmental, social and economic terms and then passed on to the benefit of society. The definitions of eco-design and sustainable design increasingly refer to concepts that address relevant issues such as: environmental protection, water pollution, air quality, waste management, while having an approach that starts with very different terms (Romli, Prickett, Setchi and Soe, 2015). The eco-design focuses mainly on the present in order to assess and prevent as much as possible the consequences arising from environmental impacts in the short term (Jawahir and Bradley, 2016), sustainable design takes into account the effects of environmental and social protection and long-term economic development (Pascu and Nedea, 2013). The "bill of rights for the planet", are principles for sustainable design also called "hannover principles" by the architect William McDonough that are inspired by the elimination of waste, the exploitation of processes and services throughout the life cycle, continuous improvement supported by sharing and collaboration between all stakeholders, suppliers, customers, users, employees, focusing the internal policy on ethical, environmental and social responsibility (McDonough, 2000). This role is well outlined in the csr self-regulation model where corporate policies are increasingly attentive not only to the environment as such but also to training and professional growth and the transmission of know-how (Brammer, He and Mellahi, 2015).

Ellen MacArthur defines the circular economy «as an industrial system that can be repaired or regenerated by intention and design» (Ellen-MacArthur Foundation, 2013). In the circular economy design radically changes the concept of "end of life" and transforms it into various forms such as reuse, recovery, use of energy from renewable sources, elimination of toxic chemicals and waste (Benton, 2015). All this can be possible if a

change of corporate mentality is implemented that already focuses a priori on a design suitable for multiple uses such as that of specific materials, products, systems and innovative business models «design acts as both a barrier to and catalyst for moving away from the current » take-make-dispose linear model to a circular economy» (Piscicelli and Ludden, 2016).

2.3. Circular design and circular economy

The design has a strategic role within circular economy systems, even if today there are still many limitations and barriers that prevent its implementation and implementation. In according to Moreno et al. «most academic and grey literature on the circular economy has focused primarily on the development of new business models, with some of the later studies addressing design strategies for a circular economy, specifically in the area of resource cycles and design for product life extension». In the «design for the real world: human ecology and social change» Papanek affirms «that design is a key element in defining the environmental profiles of goods and services» (Jackson, 1993). Products and services are defined at the design stage. The company must implement a change of mentality and the choice of products and materials used must produce the least possible impact on the environment. The circular design minimizes the use of raw materials by minimizing loss of value, extending the life cycle and improving resources. The linear design differs from the circular design. In fact, in linear design, the company pays much more attention to the aesthetics and advertising campaigns around that product. In circular design there is particular attention to the economic and social aspects as well as environmental being an overcoming of sustainable design by creating and optimizing new business models for the transition to a circular economy (Prendeville and Bocken, 2017). In this context, the "circular network" is a tool for identifying all those who come into contact with a product throughout its life cycle (rsa, 2016). The circular design concept also covers the cosmetics sector. In fact, if we could design from the beginning durable products whose packaging is also easily reusable, recyclable and easily disassembled, we would combat obsolescence while preserving products and materials to produce maximum value. The triple bottom line as a tool for economic growth and respect for the environment, is a fundamental factor behind this transition for the creation of value together with the principles of design (Braungart and McDonough, 2002). Some of the designs that could be applied in the cosmetics industry for the transition to circular models are described (tab.1)

Tab. 1 – Some of the designs that could be applied in the cosmetics industry for the transition to circular models

Design for attachment and trust	The element of durability is a key element to instil confidence in the consumer who buys it "emotional design.	(Bocken, De Pauw, Bakker and Van der Grinten, 2016)
Design for durability	Type of design for the design of more durable products.	(Bocken *et al.*, 2016)
Design for standardisation and compatibility	Design for some parts of the product with multifunctionality objectives	(Bocken *et al.*, 2016)
Design for dis-and reassembly	The products and their parts can be easily separated and reassembled.	(Bocken *et al.*, 2016)

While the circular design guide of the Ellen MacArthur Foundation described methods for the correct application of circular design. The definitions of some of the methods suggested by the circular design guide are given (Tab. 2), hypothesizing their application in the cosmetics industry (Ellen-MacArthur Foundation- Ideo, 2017).

3. Methodology

The research work was conducted on a study of eight multinational companies (mnc's) that adopt cosmetic csr practices. In particular, the areas of companies examined in the research work were those of governance, community, workers and the environment. The document adopts a qualitative methodological approach based on the protocol for the study of a multiple case of a descriptive type defined by Yin (Yin, 2003) in order to examine recurrent processes and situations and with the aim of hypothesizing conclusions following the study of real situations.

The phases considered for the case study were: the definition of the research problem to verify if csr and circular design could be the drivers for value optimization within cosmetic industries. a theoretical framework of csr, circular economy and circular design and pss was analysed in order to identify strategies for value optimization. subsequently, a relevant literature of the issues in question was carried out and an analysis of the possible problems in the relationship between csr, circular design and circular economy was carried out to define the hypothesis on which the research is based.

Tab. 2 – Framework the circular design guide and potential applications in the cosmetics industry

Methods describe in the circular design uide	Definition of the methods describe in the circular design guide of the Ellen MacArthur Foundation	Potential applications in the cosmetics industry
Smart material choises	«materials play an essential role in a circular economy, so we need them to be made of safe ingredients that can be continuously cycled…»	Design plays an essential role in a circular economy. Companies should use materials that are safe, recyclable, and bio-composable.
User-centred research	«user-centred research helps you gain empathy for the people you are designing for. In the circular economy, you are not only designing for a customer or user…»	Consumer-focused research is a valuable aid in being able to tune in to the needs of the consumer himself.
Embed feedback mechanisms	«Embedding mechanisms to gather feedback before you release your product or service…»	Studying the procedures to acquire feedback before the product or service is produced will allow to provide essential information to the company.
Rapid prototyping	«prototyping is a great way to make your idea tangible, get input in a low-stakes environment …»	It is essential to make prototypes to verify and test your product and service.
Define your challenge	«circular design is inherently systemic, so it is particularly valuable to have a clear definition of what you are trying to solve and how you plan to go about it…»	The circular design is inherently systemic, so it is necessary to define how to proceed.
Building teams	«as with all design processes, interdisciplinary teams are important when designing for the circular economy…»	The importance of interdisciplinarity in circular design for solving complex problems. The holistic approach is necessary to benefit from a variety of perspectives and skills.
Materials journey mapping	«when choosing safe materials, it is essential to explore the implications of material choices at each phase of its life cycle…»	It is necessary to choose safe materials, during the production phase, use and post use of the same in every phase of the life cycle.
Material selection	«material choices play a fundamental role in designing for a circular economy…»	By choosing safe and reusable materials you can prevent any kind of possible contamination.
Moving forward with materials	«material health is a key component when designing for a circular economy, to ensure that safe materials can stay in circulation…»	The designer has a fundamental role not only for the design itself but also for the opportunities and strategies that the company has decided to adopt.

The selection of case studies followed the logic of literal replication (Yin, 2003) based on their current state to obtain similar results. The data preparation and collection phase was planned according to the sequence of topics to be discussed and analysed according to the research protocol followed, as well as the material used, the documents and the sites consulted in order to obtain greater completeness of the data itself. The analysis of the data, documents and information was selected through the documentation present on the company's websites and on the social reports.

Other information was selected on social media and on the official annual reports of the same companies. The companies selected for multiple benckmarking are: Guerlain, l'Orèal, Clarins, Shiseido, Yves Rocher, Lush, Chanel, Avon.

4. Discussions and results

The research work has been conducted on a study of eight multinational (mnc's) cosmetics companies that adopt csr practices. In particular, the areas examined in the research work were those of governance, workers, the community and the environment (tab. 3).

Tab. 3 – Enterprises object of the analysis

Guerlain	The company is based in Paris. It was founded in 1828 by Pierre Francois Pascal-Guerlain. Guerlain's production site "la ruche" in Chartres. The reference sectors are perfumes and only later were the lines of cosmetics and beauty treatments added. The production plants are: in orphin for fragrances and in chartres for skincare and makeup. always sensitive to issues of sustainability (eco-design), in fact, one of its first fragrances was contained in a bottle with engraved bees (beers) in relief to emphasize the link between nature and production.
L'Oréal	The company is based in Clichy, France. It was founded in 1909. the reference sectors are cosmetics and beauty treatments. it currently employs 86,000 people at various locations around the world in western Europe, North America, Asia, Africa, India and is a world leader in cosmetics in over 156 countries.
Clarins	The company is based in France in Neuilly-Sur-Seine. Born in 1954 in Paris. currently the sectors of activity are cosmetics and makeup, perfumes, fashion. the clarins brand was ranked first in 2017 for high-end facial care products in most european countries and body care products in Europe and Asia-Pacific.
Shiseido	The company is the largest Japanese company for the production of cosmetics and beauty products, as well as the oldest company in the sector in the world. The group includes 26 brands, divided into business areas: prestige, fragrance, cosmetics, personal care, professional.
Yves Rocher	The company was founded in 1959 by the French entrepreneur Yves Rocher in La Gacilly, France. The head office is located in Rennes (Brittany). It's business sectors are: besides cosmetics, perfumes, also herbal teas and dietary supplements. The company has always paid particular attention to innovative extraction processes and to cosmetics that respect nature.
Lush	The company was founded in 1995 and is based in Poole (Dorset) the United Kingdom. Initially, it was born as a retailer of cosmetics. lush produces creams, soaps and other cosmetics for the face, hair and body using only vegetarian or vegan recipes.
Chanel	The company was founded in 1909 and is based in France Neuilly - Sur- Seine by Gabrielle Bonheur Chanel (Coco Chanel). It's business sectors are: haute- couture, jewellery, fragrances, cosmetics and body creams.
Avon	The company was founded in 1880 by David H. McConnell who initially founded the California perfume company. Avon expanded into Canada in 1914, South America in 1954, Europe in 1959, China in 1982 and Russia, Asia and Africa.

From the multiple comparative analysis (tab. 4) of the companies taken into consideration in the areas of governance, it can be seen that all of them pay particular attention to their customers and suppliers.

Tab. 4 – Impact areas

Company name	Governance	Workers	Community	Environment
Guerlain	Its objective is to increase the company's value with particular attention to social issues.	Encourages employees to develop their innovative ideas They promote social activities.	It promotes initiatives for disadvantaged groups. Promotes cultural initiatives in universities.	Eco-design – protection of biodiversity. Annual report co2. Iso 14001 certification. To reduce noise pollution
L'Orèal	It has as its strategy key principles such as: integrity in relations, respect for all stakeholders.	Support for parenting, contributions to nurseries, help employees with elderly parents	Organizes the citizen day solidarity program. organizes beauty training courses for marginalized women.	Reduction of the environmental, respect for biodiversity, eco-design, reduction of greenhouse gas emissions.
Clarins	The company believes in cooperation and for this reason invents a new model of interests in the supply of raw materials.	Organizes training of employees for the development of their talent, recognizes the importance of sharing ideas and collaborating with its employees.	Social and environmental projects. Organizing events for the beauty and body care of women with cancer. For the environment, it is committed to preserving the alpine regions and plant species.	Fairtrade, reduce gas emissions, preserve biodiversity, ecoconception. Clarins laboratories received the good laboratory practices (glp), obtained an ecocert certificate.
Shiseido	The company's mission is to improve transparency in management and communications.	Initiatives aimed at women workers in society so that they can take on increasingly active roles within the company. It promotes the employment of people with disabilities.	Support for research in the dermatological sector, Aid initiatives following the earthquake in eastern japan initiatives aimed at educating children about exposure to the sun's rays.	Reuse, recycling, carbon cycle, reduction C02, designed to be easily separated after use for recycling.
Yves Rocher	The cultivation of plants is the mission of the company, do get the premium "gold medal" from the french animal welfare company.	Initiatives aimed at collaboration for continuous improvement, monitoring and solving employee problems	The foundation yves rocher, aims at equality of gender and female autonomy. They fund scholars, researchers and botanists for the protection of biodiversity.	Use of renewable energy, energy efficiency measures, measures to reduce water consumption. The Yves rocher foundation has committed itself to plant 100 million trees
Lush	Transparency policies and correctness of the information. Product traceability to ensure the health and safety of customers.	The company's employees actively collaborate with csr policies, guarantees working conditions respectful of individual dignity	Donations to charities working in the field of environment, social and animal welfare.	65% of its products come without packaging and those that have packaging come from post-consumer recycled waste.
Chanel	Promotion of ethical, social, environmental practices	Training courses for its employees, maintaining the professionalism of the craftsmen who work within the company	Collaboration with cosmetic research institutes, collaboration with suppliers for the creation of sustainable products.	Sustainable production, processes, raw materials, audits to assess risks and impacts on ecosystems.
Avon	Conviction, integrity, respect, trust and humility are the key elements of the company's policy.	Employee health insurance, performance incentives. Financial and personal assistance programmes, sharing of ideas with workers	Collaboration with associations for the fight against breast cancer.	The fundraising initiative "beautiful world", for reforestation, environmental footprint reduction.

In addition, particular attention is paid to privacy, information management and customer satisfaction, transparency and clarity of information. In the workers' area under investigation, it is noted the professional growth of employees. In the community area, the companies examined proved to be particularly active in promoting social projects. In the investigated area of the environment all companies have shown a strong inclination towards attitudes of environmental sustainability.

There is a particular predisposition to resort to practices of recycling of water resources used, to techniques of waste reduction, to the adoption of measures for the reduction of energy and plastic used for packaging during the entire production process, packaging and the reduction of co2 emissions and eco-design.

5. Conclusion

Today's cosmetics multinationals, driven by an ever-increasing focus on sustainability issues, tend to look for new business models such as the circular economy, rethinking the way they design cosmetics and personal care products in closed-loop cycles (Bourguignon, 2016).

The companies examined in the research even though they have csr models and adopt ethical practices and environmental sustainability such as eco-design have not yet fully activated the transition to the circular economy. The tool of circular design as an improvement of eco-design could be a valuable support to implement the new models of circularity.

It is necessary to rethink how to replace existing packaging with sustainable alternative materials and implement a series of actions to raise customer awareness. In particular, the design phase is essential so that even in the cosmetics industry do not have to face problems related to sustainability, the materials used for cosmetics can be recycled several times (Braungart, McDonough and Bollinger, 2007).

In particular, the greatest criticality is found in the packaging of current cosmetic products where packaging waste such as plastic is not properly recycled (Issara, Zzaman and Yang, 2014).

Chemicals in cosmetics will also need to be replaced by sustainable materials. New skills and competencies are needed if supported by policies that can raise manufacturers' awareness of new circular design practices (Charter, 2018) and financial incentives for the implementation of innovation for the transition to the circular economy. The interpretation of the results also considering the limit of the use of several case studies as a research

methodology has led to the hypothesis that most companies practice behaviors that can be traced back to circular economy models, but that are not yet entirely sufficient for the implementation of the new economic model. The next phase of the research will also be developed through information that will be collected through more in-depth semi-structured surveys (Corbetta, 2011) with direct interviews, questionnaires, etc. In the future, more in-depth research will be carried out on csr and the relationship with the circular economy and the creation of value within companies, with a more detailed analysis that uses either new surveys or specific new case studies on the nature of emerging relationships and correlations.

References

Ayob A., Awadh A. I., Hadi H., Jaffri J., Jamshed S.and Ahmad H. M. A. (2016). "Malaysian consumers' awareness, perception, and attitude toward cosmetic products: questionnaire development and pilot testing", *Journal of pharmacy and bioallied sciences*, Vol. 8, No. 3:229.

Barrena Martínez J., López Fernández M. and Romero Fernández P. M. (2016). "Corporate social responsibility: evolution through institutional and stakeholder perspectives", *European journal of management and business economics*, Vol. 25, No. 1: 8-14.

Bar y M., Cashore B., Clay J., Fernandez M., Lebel L., LyonT. and Whelan T. (2012). "Towards sustainability – the roles and limitations of certification, final report", *Prepared by the Steering Committe of the State-of-Knowledge Assessments of Standards and Certification, Washington, DC.*

Benton R. (2015). "Reduce, reuse, recycle and refuse", *Journal of macromarketing.* Vol. 23, No. 1: 111-122.

Bocken N. M. P., De Pauw I., Bakker C. and Van Der Grinten B. (2016). "Product design and business model strategies for a circular economy", *Journal of industrial and production engineerin,* Vol. 33, No. 5: 308-320.

Bognar G. (2011). "Respect for nature. ethics, policy and environment", *Journal Ethics, Policy & Environment*, Vol. 14, No. 2: 147-149.

Bourguignon D. (2016). "Closing the loop new circular economy package. european parliamentary research service", *Journal European Parliamentary Research Service.*

Brammer S., He H.and Mellahi K. (2015). "Corporate Social responsibility, employee organizational identification, and creative effort: the moderating impact of corporate ability", *Journal Group and Organization Managemen*t, Vol. 40, No. 2: 323-352.

Braungart M.and McDonough W. (2002). "Design for the triple top line", *Journal Corporate Environmental Strategy,* Vol. 9, No. 3: 251-258.

Braungart M., Mcdonough W. and Bollinger A. (2007). "Cradle-to-cradle design:

creating healthy emissions – a strategy for eco-effective product and system design", *Journal of Cleaner Production*, Vol. 15, No. 13-14: 1337-1348.
Charter M. (2018). "Designing for the circular economy. designing for the circular economy", *Journal Designing for the Circular Economy*.
Corbetta P. (2011). "Social Research: Theory, Methods And Techniques. Social Research: Theory, Methods And Techniques", *Journal Social Research: Theory, Methods and Technique.*
Den Hollander M. C., Bakker C. A. and Hultink E. J. (2017). "Product design in a circular economy: development of a typology of key concepts and terms. Journal", *Journal Of Industrial Ecology*, Vol. 21, No. 3: 517-525.
Dimitrova V., Kaneva M. and Gallucci T. (2009). Customer knowledge management in the natural cosmetics industry", *Journal industrial management & data systems*, Vol. 109, No. 9: 1155-1165.
Ellen-Macarthur Foundation- Ideo. (2017). "The circular design guide"
Ellen-Macarthur Foundation (2013). "Toward the circular economy: accelerating the scale-up across global supply chain, World Economic Forum".
Esken B., Franco-García M. L. and Fisscher O. A. M. (2018). "Csr perception as a signpost for circular economy", *Journal Management Research Review*, Vol. 41, No. 5: 586-604.
European Commission (2001). "Green paper: promoting a european framework for corporate social responsibility commission of the european communities", *Journal Commission of the European Comunities.*
Francke I. C. M. and Castro J. F. W. (2013). "Carbon and water footprint analysis of a soap bar produced in brazil by natura cosmetics", *Journal Water Resources And Industry,* Vol. 1-2, No. 2: 1-90.
González Ordaz, G. I. and Vargas-Hernández J. (2018). "The circular economy as a factor of social responsibility", *Journal Economia Coyuntural, Revista de temas de perspectivas y coyuntura,* Vol. 2, No. 3: 105-130.
Handy C. (2002). "What's a business for?", *Journal Corporate Governance: An International Review*, Vol. 1, No. 1: 14-17.
Issara U., Zzaman W. And Yang T. A. (2014). "Rambutan Seed Fat As A Potential Source Of Cocoa Butter Substitute In Confectionary Product", *Journal International Food Research Journal*. Vol. 21, No. 1: 25-31.
Jackson F. (1993). "Design for the real world: human ecology and social change", *Journal Of Design History*, Vol.6, No. 4 : 307-310.
Jamali D. (2010). "The Csr of mnc subsidiaries in developing countries: global, local, substantive or diluted?", *Journal of Business Ethics*, Vol. 93, No. 93: 181-200.
Jawahir, I. S. and Bradley R. (2016). "Technological elements of circular economy and the principles of 6r-based closed-loop material flow in sustainable manufacturing", *Journal Procedia Cirp*, Vol. 40: 103-108.
Jurgilevich A., Birge T., Kentala-Lehtonen J., Korhonen-Kurki, K., Pietikäinen J., Saikku L.and Schösler, H. (2016). "Transition towards circular economy in the food system", *Journal Sustainability (Switzerland)*. Vol. 8, No. 1: 69.
Leandro A. and Paixao S. (2018). "Corporate social responsibility and circular

economy: two ways, same destinations? an outlook on both concepts and cases from portugal", pp. 1-24.
Lin K. Y. (2018). "User Experience-Based Product Design For Smart production to empower industry 4.0 in the glass recycling circular economy", *Journal computers and industrial engineering*, Vol. 125: 729-738.
McDonough W. (2000). "The hannover principles", *Journal of Economic Issues*, Vol. 15, No. 4: 937-942.
Meinel C. and Von Thienen J. (2016). "Design thinking", *Journal Informatik-Spektru*, Vol. 39: 310-314.
Michelini, G., Moraes, R. N., Cunha, R. N., Costa, J. M. H. And Ometto, A. R. (2017). From Linear To Circular Economy: Pss Conducting The Transition. *Journal Procedia Cirp*, Vol. 64, 2-6.
Murphy D. and Ng'Ombe A. (2009). "Corporate social responsibility", *Book in corporate social responsibility and urban development, lessons from the south*. Palgrave Macmillan, London.
Muto K., Kimita K. and Shimomura Y. (2015). "A guideline for product-service-systems design process", *Journal In Procedia Cirp*, Vol. 30, 60-65.
Nemtanu M. (2012). "Corporate social responsibility for cosmetics companies", *Working papers series on social responsibility ethics, & sustainable business*, Vol. 1, 33-34.
Pascu E. and Nedea P. S. (2013). "Sustainable development through eco-design (english)", *Journal Management Intercultural*, No. 29: 248-254.
Pedersen E. R. G., Gwozdz, W. and Hvass K. K. (2018). "Exploring the relationship between business model innovation, corporate sustainability, and organisational values within the fashion industry", *Journal of Business Ethics*, Vol. 149, 267-284.
Piscicelli L. and Ludden G. (2016). "The potential of design for behaviour change to foster the transition to a circular economy", *Journal Drs2016: Future-Focused Thinking*.
Prendeville S. and Bocken N. (2017). "Sustainable Business Models Through Service Design", *Journal Procedia Manufacturing*, 292-299.
Prieto-Sandoval V., Jaca C. and Ormazabal M. (2018). "Towards a consensus on the circular economy", *Journal Of Cleaner Production*, Vol. 179, No.: 605-615.
Ramani K., Ramanujan D., Bernstein, W. Z., Zhao, F., Sutherland, J., Handwerker, C. and Thurston, D. (2010). "Integrated sustainable life cycle design: a review", *Journal Of Mechanical Design, Transactions of The Asm,.* Vol. 132, No. 9: 1-15.
Rexhepi, G., Kurtishi, S. and Bexheti G. (2013). "Corporate social responsibility (csr) and innovation–the drivers of business growth?", *Journal Procedia – Social and Behavioral Sciences*, Vol. 75: 532-541.
Romli, A., Prickett, P., Setchi, R. and Soe S. (2015). "Integrated eco-design decision-making for sustainable product development", *Journal International Journal of Production Research*, Vol. 53, No. 2: 549-571.
Ross, G. (2006). "A perspective on the safety of cosmetic products: a position paper of the american council on science and health", *Journal International Journal of*

Toxicology. Vol. 25, No. 4: 269-277.
Rsa. (2016). "Designing for a circular economy: lessons from the great recovery", *Journal Rsa Action and Research Centre.*
Ruggieri, A., Mosconi, E. M. and Poponi, S. (2018). "The b corp certification as a standard of the entrepreneurial pathway towards the circular economy perspective", *Journal XXVIII National Congress of Commodity Sciences*, 269-277.
Schweitzer, E. and Aurich, J. C. (2010). "Continuous Improvement of industrial product-service systems", *Journal Cirp Journal of Manufacturing Science And Technology.* Vol. 3, No. 2: 158-164.
Slavova, I. and Ivanova V. (2019). "Corporate environmental responsibility within the circular economy context: opportunities for development and sustainability", *Journal Economic Alternatives*, No. 2: 184-204.
Stewart, R. and Niero M. (2018). "Circular economy in corporate sustainability strategies: a review of corporate sustainability reports in the fast-moving consumer goods sector", *Journal Business Strategy And The Environment*, Vol. 27, No. 2: 184-204.
Swedberg, J. (2003). Sustainable design. *Fabric Architecture*.
Tukker, A. (2015). "Product services for a resource-efficient and circular economy - a review", *Journal Of Cleaner Production*, Vol. 97, 76-91.
Varvaresou, A., Papageorgiou, S., Tsirivas, E., Protopapa, E., Kintziou, H., Kefala, V. and Demetzos, C. (2009). "Self-preserving cosmetics", I*nternational Journal of cosmetic science*, Vol. 31, No. 3: 163-175.
Vázquez-Burguete, J. L., Sahelices-Pinto, C. and Lanero-Carrizo, A. (2017). "Corporate social responsibility and consumer behavior in the cosmetics sector: a study in the spanish context", *Journal International Review On Public And Nonprofit Marketin*, Vol. 14, 375-390.
White, G. R. T., Sarpong, D. and Ndrecaj V. (2015). "Sustainable packaging", *International Journal of social ecology and sustainable development*, Vol. 6, No. 3: 1-10.
Worrell, E. (2014). "Recycling of packaging", *Journal handbook of recycling: state-of-the-art for practitioners, analysts, and scientists*, 297-307.

6. SUSTAINABILITY IN BANKS' CORPORATE GOVERNANCE SYSTEMS. WHAT EVIDENCE FROM THE EUROPEAN BANKING SYSTEM?

by *Grazia Dicuonzo*[*], *Francesca Donofrio*[*], *Antonia Patrizia Iannuzzi*[*], *Vittorio Dell'Atti*[*]

Introduction

The corporate governance of banks, including management structures, employee relations and executive remuneration, plays a fundamental role in ensuring the inclusion of social and environmental considerations in the decision-making process. Many Supervisory Authorities are starting to focus on this important issue. Indeed, as the OECD Corporate Governance principles stated, «*the board is not only accountable to the company and its shareholders but also has a duty to act in their best interests. Boards are expected to take due regard of, and deal fairly with, other stakeholder interests including those of employees, creditors, customers, suppliers and local communities. Observance of environmental and social standards is relevant in this context*» (G20/OECD, 2015). Recently, the High-Level Expert Group on Sustainable Finance, in its final report, stated that the composition of executive and supervisory governing bodies is the key lever for aligning businesses more closely with long-term and sustainability perspectives. Business success hinges on executive and non-executive supervisory directors understanding sustainability drivers and being able to translate the risks and opportunities into their business models. Moreover, financial sector supervisory authorities should assess whether members of governing bodies are able to anticipate longer-term risks and sustainability challenges and whether they take account of sustainability considerations as part of their decisions processes. In line of these considerations, the European Commission adopted in March 2018 "*The Action plan on Sustainable Finance*" as part of a strategy to integrate environmental, social

[*] University of Bari "Aldo Moro", Italy. Department of Economics, Management and Business Law.
E-mail: grazia.dicuonzo@uniba.it, francesca.donofrio@uniba.it, antoniapatrizia.iannuzzi@uniba.it, vittorio.dellatti@uniba.it.

 ISBN 9788835103752

and governance considerations into its financial policy framework and mobilize finance for sustainable growth. More in detail, the Action 10 of this regulatory initiative urges financial sector to foster the sustainable corporate governance in order to mitigate short-termism in capital markets. Indeed, also for the European Commission, corporate governance can significantly contribute to a more sustainable economy, allowing companies to take the strategic steps necessary to develop new technologies, to strengthen business models and to improve performance.

In line with these considerations, this paper aims to explore the level of integration of sustainability strategies and considerations in the banks' corporate governance systems. In order to achieve this goal, we carry out an explorative analysis on a sample of 25 international and listed banks over the period 2015-2018. The analysis focuses on the elaboration of a research model, composed of 40 essential information, for the construction of a score, called "ESG integrated corporate governance index". The main findings reveal a strong heterogeneity in the behavior of banks: only some banks seem to give a really attention to the integration of sustainability issues in their corporate and governance process. However, the study also shows the growing trend of the score ("ESG integrated corporate governance index") that is evidence of the gradual awareness by banks of the importance of using and spreading sustainability issues in their corporate governance system.

The paper is structured as follows: paragraph 2 presents the literature review; paragraph 3 describes the empirical analysis and the research model; paragraph 4 discusses the results and finally paragraph 5 presents the conclusions, the implications and the future research lines.

1. Literature review and research question

Corporate social responsibility probably derives from a wide range of problems with corporate behavior (Boele *et al*., 2001, Johnson and Greening, 1999; Knox and Maklan, 2004). In order to recognize the concerns of all the stakeholders of an organization and thus increase the level of responsibility towards the interested parties, they felt the need to develop a code for corporate governance in order to guide them towards appropriate relations with stakeholders. Whether it's corporate environment or society in general, good governance is obviously important in every area of society. In fact, in the face of too limited resources with respect to people's minimum expectations, it is precisely a good level of governance that can help promote the well-being of society (Durnev and Kim, 2005).

Corporate governance can be considered an environment of trust, ethics and moral values and in recent years it has acquired enormous importance as a result of the economic liberalization and deregulation of industry and companies, of the demand for new ethical principles (Joyner and Payne, 2002). In addition, other factors that have been responsible for the sudden exposure of the corporate sector to a new corporate governance paradigm is a more rigorous respect for the environment and the demand for greater corporate responsibility towards their shareholders and customers (Bushman and Smith, 2001). Recently, many authors have investigated the impact of corporate governance on the external environment, suggesting an increased focus of the organization on a wider audience than its shareholders and its social performance. Ackerman (1975), argued that large companies were recognizing the need to adapt to a new social climate of community responsibility, but that the corporate orientation to financial results inhibited social responsiveness. McDonald and Puxty (1979), on the other hand, argue that companies are no longer the tools of shareholders alone but exist within the company and therefore have responsibilities towards that company, and therefore there is a move towards greater responsibility of companies towards all participants. Moreover Rubenstein (1992) goes further and supports the need for a new social contract between a company and its stakeholders, based on a concern for the future in terms of sustainability. This term sustainability has become omnipresent both in the discourse of globalization and in the discourse of corporate performance, although it is a controversial issue and there are many definitions of what is meant by the term. In the broader definitions' sustainability, as understood by Crowther (2002), concerns the effect that the action undertaken in the present has on the options available in the future.

Sustainability – expressed in terms of the carrying capacity of the ecosystem (Hawken, 1993) and described with input-output models of resource consumption – implies that the company must not use more than one resource than can be regenerated. Seeing an organization as part of a broader social and economic system (Hart, 1997) implies that these effects must be taken into account, not only for the measurement of costs and value created in the present, but also in a future perspective for the company itself.

There therefore seem to be two common assumptions that permeate the discourse on corporate sustainability. The first is that sustainability is synonymous with sustainable development. The second is that a sustainable company will simply exist by recognizing environmental and social issues and integrating them into its strategic planning. Some authors claim that there is no specific definition of corporate sustainability and each organization must develop its own definition to meet its goals and objectives. According to

Marrewijk and Werre (2003) corporate sustainability and corporate social responsibility seem to be synonymous and based on voluntary activity that includes environmental and social concerns, implicitly adopting the EU approach. Most sustainability analyzes do not recognize financial performance as an integral part of sustainability (Dyllick and Hockerts, 2002; Spangenberg, 2004). One problem is the fact that the dominant assumption of the researchers is based on the incompatibility of optimizing both financial and socio-environmental performances for a company. In other words, financial performance and socio-environmental performance are seen in conflict with each other through this subdivision (Crowther, 2002).

Often the bank, in order to obtain a competitive advantage in the market, pursues the goal of becoming global while remaining sustainable. Since the mid-1980s, corporate governance has attracted a lot of attention, as a result of the issuance of the Anglo-American codes of good corporate governance. The impetus stimulated the creation and subsequent adoption of corporate governance codes in many other countries in developed markets and even the supranational authorities such as the World Bank and the Organization for Economic Co-operation and Development (OECD) did not remain passive and have developed its own set of standard principles and recommendations.

This type of self-regulation has been chosen above a set of legal standards (VandenBerghe, 2001). After the recent major corporate scandals and big business failures, investor protection has become a much more important issue for all financial markets. Hence the importance of corporate governance: investors ask companies to implement strict principles of corporate governance in order to obtain better returns on investments and reduce agency costs. The report on a company's corporate governance is one of the main tools for investor decisions, which most of the time are willing to pay more for companies to have good governance standards (Beiner *et al*., 2004).

Among the many corporate governance mechanisms, the board is particularly important in the banking context, characterized by limited competition, intense regulation and high information asymmetry. In fact, this body contributes to mitigating the weaknesses of other governance mechanisms, as it is a key tool to monitor the behavior of bank managers and protect the interests of shareholders. To this end several studies have over time analyzed the characteristics of the board's dimension (Jensen, 2001; Agoraki, Delis, Staikouras, 2008; Linck, Netter, Yang, 2008).

Given that different stakeholders are involved in banking performance, including at least the shareholders, depositors, supervisory authorities, customers and other operators in the economic system, it is possible to hypothesize how these subjects can be stakeholders with sometimes diverging

interests, for which corporate governance is a valid tool for guaranteeing all bank stakeholders an adequate level of legal protection (La Porta *et al*., 2002). In the light of these considerations, it is possible to evaluate how the governance mechanisms of the banks are configured as management discipline tools, which should allow to reduce the risk appetite of the same, together with the probability of financial collapse and therefore pursue the interests of the investors and other corporate stakeholders.

In addition, the economic literature has dealt extensively with the issue of remuneration for directors and top executives, both with the aim of assessing the governance variables that can influence remuneration structures, and with the aim of identifying the possible relationship between these and company performance. The use of variable remuneration systems, linked to results, is a widespread practice within financial intermediation (Kose, Qian, 2003). Of course, it is not secondary to consider how the structure of the incentive system should be based on the long-term performance of the company, in such a way as to avoid excessive maximization of short-term performance, possibly also through a high risk-taking by part of the bank, as evidenced precisely in the context of the recent sub-prime crisis (Kirkpatrick, 2009).

Within the sphere of financial intermediation, a growing attention has been devoted to the issue of transparency of financial intermediaries, which has recently taken on a fundamental role for the realization of a solid and effective corporate governance, as specifically envisaged in the Basel 2, third pillar regulation. Adequate information from banks is able to promote market discipline and sound corporate governance, as it allows operators and other interested parties to monitor the stability of the bank. Therefore, it contributes to increasing the quality of the governance of credit intermediaries, even regardless of the degree of effectiveness of the regulatory and supervisory system (Barth, Caprio and Levine, 2002; Laeven and Levine, 2009).

Another element of corporate governance that is particularly important, especially in financial institutions, is the internal control system (Pesic, 2009). It consists of the set of rules, procedures and organizational structures that allow identifying, measuring and managing the main risks, in order to guarantee a healthy and correct business management, with a view to effectively pursuing the strategic, operational objectives of compliance and reporting (CoSo, 2017). Also, in this case, a fundamental role is attributed to the board, which is responsible for the entire control system, periodically assesses its adequacy, defines the guidelines, and guarantees its perfect operation and continuous improvement (Bank of 'Italy, 2008).

As part of the analysis, it was considered appropriate to combine the governance assessment approach, taking into account the organizational methods

chosen to increase board efficiency and effectiveness, through the establishment of one or more internal committees (John and Senbet, 1998; Davidson, Pilger and Szakmary, 1998). Therefore, it was considered that a part of the literature has analyzed how the effectiveness of the board and, consequently, of corporate governance depends also on the number of assignments assigned to each director, with conflicting opinions based on the preference for reputational motivations (Perry and Peyer, 2005), or the fear of excessive workloads and limited capacity for monitoring by counselors (Fich and Shivdasani, 2006).

For these reasons, companies cannot ignore the pressure for good governance from shareholders, potential investors and other market players.

Over time, various researches have been conducted to investigate the relationship between the characteristics of a company and its dissemination (Cowen *et al*., 1987; Gray *et al*., 2001) as well as the characteristics of a company and the benefits of the Corporate Social Responsibility (Burke and Longsdon, 1996). It is clear that these benefits are also directly linked to the sustainability of a company and the success of such an enterprise and it is clear that there should be some attention to sustainability within a company's corporate governance.

In light of what has been said so far, the role of corporate governance is central to achieving corporate objectives and strategies. Therefore, companies must improve their strategy and the actual path towards implementing the principles of governance, thus investigating what their corporate governance policies and practices should be. Consequently, good corporate governance can be expected to encourage sustainability in general.

2. Empirical Analysis

2.1. Sample, method and data sources

The analysis focuses on the major European banking groups that can be traced back to the global systemically important institutions (G-SIIs) as follows on December 2018 (see, https://eba.europa.eu/risk-analysis-and-data/global-systemically-important-institutions). Among the reasons for selecting these banks is, above all, the dimensional aspect. The largest intermediaries, in fact, for both systemic and reputational reasons, are certainly the first subjects called to integrate sustainability issues into their corporate governance systems. The financial system is undergoing reform to complement what has been learned from the experience of the financial crisis and in this context, it can be part of the solution to a greener and more sustainable economy.

The reorientation of private capital towards more sustainable investments requires a far-reaching transition in the way the financial system operates. This is a necessity if the EU aims to develop more sustainable economic growth, ensure the stability of the financial system and promote greater transparency with a long-term vision in the economy (European Commission - Action Plan, 2018).

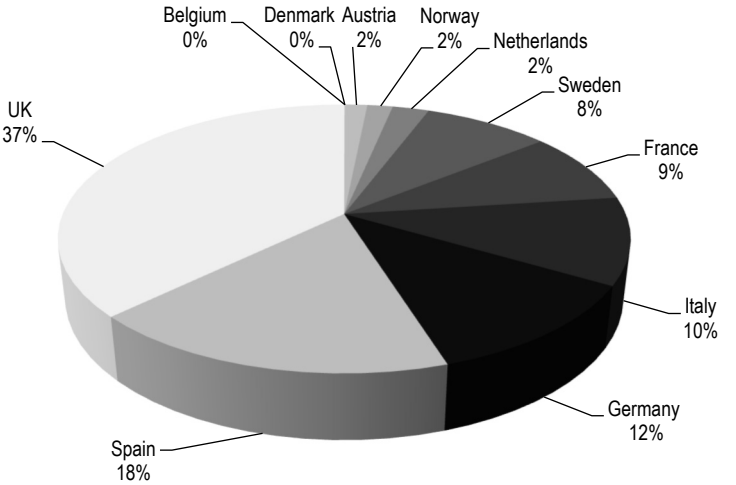
Secondly, it has chosen to focus on the Universe of European G-SIIs also because the business models adopted by these banks are rather uniform. If, on the other hand, the analysis had also been extended to other international banks, the sample would have been uneven, including banks that also specialize in investment banking, which are known to be characterized by balances. Economic The global systemically important institutions universe (G-SIIs) consists of 36 banks. Our sample consists of only 25 banks, belonging to the G-SIIs universe, as 11 of these banks (Banque Postale, Bayern LB, BFA, BPCE, Credit Mutuel, DZ Bank, ING, LBBW, Nationwide, Nykredit, Rabobank) are not included in the Eikon-Thomson Reuters database that represented one of the sources of the items of the survey model.

Therefore, our sample includes 25 global, belonging to European geographical areas over the period 2015-2018. In terms of managed assets in December 2018 (Chart 1), the UK banks manage overall 37.2% of total assets attributable to the whole sample of examining banks. They are followed by Spanish banks with 17.7% of managed assets, by German banks with 11.7%, and Italian with 10.5% (for more detail, see Appendix 1). In order to ascertain the degree of integration of sustainability issues by the selected banks, a quantitative score (which we have called the "ESG integrated corporate governance index") was constructed to summarize the level of performance of banks in identifying the most virtuous behaviors. Preliminary analysis focused on the development of a research model consisting of 40 elementary information. Subsequently, adopting the approach of content analysis (Abbott and Monsen, 1979; Beattie, Thomson, 2007), all the bank's official documents on governance and sustainability policies (Corporate Governance report, sustainability report where drafted separately, Annual Report, etc.), as well as the Datastream database (with regard to the overall ethical performance of banks, as well as some economic and financial variables), were analyzed in order to enhance the elementary items and thus achieve the construction of the final rating.

As regards the model, it was developed with reference to both operational practices, i.e. the approaches actually taken by banks (especially larger ones), as well as reference literature (Maas, 2016) as well as some recent research reports worthy of having developed this theme in a thorough and

crosscutting way (Cavallito *et al*., 2019). The joint analysis of these three sources has led to a model which, with regard to the objectives set, seems completely innovative.

Chart. 1 – Total Assets of Banks by Countries (year 2018)



Source: Author Processing

2.2. The research model

At the outset, the analysis focused on the elaboration of a research model, composed of 40 essential information, for the construction of a score, called "ESG integrated corporate governance index". The metrics can be traced to seven different macro categories. The first macro category concerns board sustainability composed of 9 indicators; the second consists of policy, international certification and award and including 10 indicators; the third area investigates on board committees, to which 2 metrics belong. The fourth area relates to risk management and include 5 items; the fifth area, composed of 4 indicators, concerns sustainability reporting; the sixth macro categories consists of a single item and concerns compliance and internal audit. Finally, the last area consists of remuneration policy to which 10 metrics belong.

The model investigates the number of other corporate affiliations for the board member (item 1). It is believed that a greater number of corporate affiliations improves the skills of the directors and therefore its contribution to

the CSR of the bank (item 17). The first useful element to analyze the integration of sustainability policies in the activities of the top management is the set of elements related to the vision and the company's strategy (item 2). For a broader assessment of the level of integration of sustainability policies in companies, it was considered appropriate to delve into how the topic is incardinated at the organizational level, and whether there are dedicated figures, such as the CSR Manager (item 3).

In addition, the additional items relate to Targets or objectives to be achieved on diversity and equal opportunity (item 4), percentage of female on the board (item 5), percentage of female executive members (item 6) and CEO or CFO women (item 7). With regard to these latter items, the European Union has repeatedly intervened with its own legislative measures and guidelines addressed to the Member States: among the most recent the Green Paper published in 2001 to promote the Social Responsibility of Enterprises and the Social Agenda 2005-2010 which states that equality between women and men is a constituent part of the European social model, which is also implemented by increasing female participation in the labor market. Non-discrimination, including gender, and attention to human resources are the central part of business engagement in the social sphere (item 16) for the European Union. The integration of social and environmental issues among the issues covered by the board favors in the administrators the perception of a greater ability of the company leadership to manage the risks related to the business activity. Independent directors positively perceive the strategic value of CSR in companies that include references to socio-environmental issues in the industrial plan, rather than in the Code of Ethics alone. To oversee and direct socio-environmental activities, independent directors perceive a greater focus on the company's reputation on CSR, than when they are managed by the CSR Manager alone, or when they are not a dedicated function (items 8 and 17) (BCE, 2018).

With regard to the second area of investigation, item 10 investigates the focus of companies in minimizing the environmental impact of their processes and products, in order to strengthen their reputation and the trust of stakeholders. Recently, a positive relationship has been highlighted between environmental performance, especially when implemented through the Environmental Management System (EMS) and economic performance (Montabon *et al*., 2007; Jacobs, 2010).

Connected to the world of certifications is the adjustment to Law 231/2001 which for the first time introduces into our system the obligation for legal entities to have to be criminally liable for crimes committed within their structure. Among the main actions of compliance with the law is the

publication of a descriptive document of the internal organizational model (Corporate Governance) and the adoption of the code of ethics (item 12) (Chatterjee and Lefcovitch, 2009).

The items related to the "Risk management" area investigate all those risks, in our opinion related to the issues of social responsibility. In particular, reputational risk management, Misconduct risk, Sustainability risk management, crisis management Systems and Climate change risk management are investigated. Conceptualizations of reputation range from an economic/strategic management informed perspective that views reputation as a resource, to a sociologically informed perspective that sees reputation as the outcome of shared socially constructed impressions of a firm (Larrinaga *et al*., 2008).

On the other hand, mitigating mismanagement risk is an important issue for both firms and national authorities (item 23). While the authorities can take steps to promote strong internal practices of firms, these do not replace the actions that firms should take to promote appropriate conduct within their organizations (FSB 2018). Finally, in relation to Item 24 – Climate change risk management – the European Committee of the Regions, welcoming the report on the final recommendations of June 2017 of the Task Force of the Financial Stability Committee on information Climate Change (TCFD), considers climate risk management to be an essential tool for the implementation of the Paris Agreement, in which it prioritizes raising investor awareness of the risks and opportunities associated with climate change. Climate change, seeing it as a factor that encourages more sustainable investment (FSB, 2019).

The research then sought to examine reporting practices to see if and how the sample companies communicate their CSR activities externally. In particular, it refers to the integrated annual report (item 27) and the environmental sustainability or climate change report (item 28), integration of financial and extra-financial factors in the management discussion and analysis (MD&A) section in the annual report (item 29) and adoption GRI (Global Reporting Initiative) guidelines (item 30) (Moravčíková *et al*., 2015).

Finally, the latest items in the model focus on remuneration policies: extra-financial performance oriented compensation policy (item 32) and number of non-financial performance remuneration targets used (item 34), in order to jointly contemplate financial and non-financial criteria; adoption of non-financial performance remuneration targets (item 33); the customization of non-financial targets for each executive (item 35) and the quantification of each non-financial targets (item 36); the balance between non-financial and financial performance criteria (item 37); the adoption of claw-back or malus clauses (item 38) and, finally, the percentage of independent board members on the compensation committee.

With regard to this last aspect, the behavior of those banks, which with regard to a non-financial indicator, such as customer satisfaction, also establishes a quantitative target to be achieved, is certainly more commendable. Only in this way, in fact, do non-financial metrics take on an effective importance of being subject, like financial ones, to a specific measurement process; on the adoption of claw-back or malus clauses, i.e. the recovery of variable compensation in the presence of unethical behavior by managers (item 38, e.g. serious violations of the code of conduct); percentage of independent board members on the compensation committee (item 39) and percentage of non-executive board members on the compensation committee as stipulated by the company (item 40).

The scores of the items vary between zero (non-compliance of the items or absence of related information) and 1 (compliance of the bank with essential information) (Gompers *et al*., 2003; La Porta *et al.*, 1998). For some items a graded evaluation was used. More specifically, the first item "Average number of other corporate affiliations for the board member" was enhanced with a scale of one to 3 (if <0.7 = 3; if <1.5 = 2; if> 1.5 = 1); this choice is justified by the fact that a greater number of corporate affiliations improves the skills of the directors and therefore its contribution to the CSR of the bank. Items 5 (Percentage of female on the board), 6 (Percentage of female executive members), 8 (Percentage of independent board members) and 39 (Percentage of independent board members on the compensation committee) were also considered a graded assessment (if> 20% = 1, if> 30% = 2, if> 40% = 3).

These choices are justified by the fact that equality between women and men is a constituent part of the European social model, which is also implemented by increasing female participation in the labor market. It is therefore considered that non-discrimination, including gender, and attention to human resources are the central part of the commitment of companies in the social sphere.

As for the independent directors, we have chosen to adopt a gradual assessment because it is considered that a greater number of independent directors are associated with greater attention to the company's reputation on CSR, compared to when these issues are managed by the CSR Manager alone or when they are not a dedicated function.

Finally, to evaluate the 34th item (Number of non-financial performance remuneration targets used) a graded evaluation was considered (if <3 = 0; if > 3 = 1), as well as for item no. 40 - All compensation committee members are non-executives - (if <40% = 1; if <70% = 2; if> 70% = 3).

Then, we calculated the cumulative score using the following formulation:

$$\text{ESG integrated corporate governance index} = \frac{\text{NO. of items disclosed by bank}}{\text{Total items of the model}}$$

3. Results and Discussion

The following table (Table 1) shows, for all the areas of investigation examined, the respective rating value assigned.

Table 1 – The spread of corporate governance metrics of social responsibility assessment (years 2015-2018)

AREA OF INVESTIGATION	2015	2016	2017	2018
BOARD	54%	57%	58%	61%
POLICY, INTERNATIONAL CERTIFICATION, AWARD	67%	68%	71%	75%
BOARD COMMITTEES	46%	50%	50%	52%
RISK MANAGEMENT	52%	55%	55%	58%
SUSTAINABILITY REPORTING	56%	63%	64%	66%
COMPLIANCE AND INTERNAL AUDIT	92%	96%	100%	100%
REMUNERATION	64%	65%	67%	68%

Source: Author Processing

Examining the first area of investigation, entitled "Board", the banks show a propensity to integrate sustainability issues into their corporate governance system. In fact, in the years analyzed, analyzing the average of the items included in the first research area shows a positive trend, going from 54% in 2015 to 60% in 2018. In particular, with the exception of items 2,3 and 7 that remain constant over time, the other items improve significantly over the years considered.

However, the items regarding the inclusion of women on the boards (items 5, 6 and 7) have very low scores. In fact, with the exception of item No. 5 – Percentage of female on the board – which stands at a level higher than the average of the surveyed area (68% in 2018), in relation to the sixth and seventh item the figures suddenly collapse, reaching a maximum of 21% in 2018 in the first case and a maximum of 12%, again in 2018, in the second case. With specific reference to the sixth items, the Percentage of female executive members is relevant only in some banks, including ABN Amro, KBC, DNB, Handelsbanken, Swedbank, RBS, Standard Chartered.

Many investigated companies have chosen not to draw up a report or formal documentation – area of investigation no. 5 – (for example Environmental sustainability report, climate change report or integration of financial and extra-financial factors in the MD&A section), while operating on the main issues of social responsibility, in many cases acquiring numerous environmental certifications (ISO 1400), adopting, within the sphere of corporate governance, self-regulatory ethical codes or codes of conduct, self-discipline and conduct, based on the principles of responsibility , fairness, ethics in relations with institutions, suppliers, competitors and users. All the banks investigated have positive values in this area. The only anomalous figure concerns "Policy on roles and responsibilities of the board" with a constant average value, in the years considered, by 32%.

Further critical issues emerged from the analysis of subsequent items, which circumstance that denotes the presence of Social/Environmental committee. In fact, there are still very few banks that present a Social/Environmental committee (equal to about 8% in 2018; item 21), those that present a CSR or Sustainability committee are many more (between 88 and 96% in the survey period; item 20). Furthermore, in 2018 100% of the banks examined presented External auditor of the CSR / H & S / Sustainability report (item 31). During the period under consideration, the attention of banks is growing towards the management of reputational risk, climate risk, sustainability risk and Crisis Management Systems (items 22,24,26).

Further critical issues emerged from the analysis of 23th item, which circumstance that denotes Misconduct risk management by banks. Only 12% of the banks considered have policies for managing the risk of misconduct (3 banks (ABN AMRO, HSBC and RBS) out of 25).

The last area of analysis concerns the remuneration policies implemented by the banks. The number of banks that adopt Extra-financial performance-oriented compensation policy is growing in the survey period (item 32) as well as the adoption of non-financial performance remuneration targets (item 33). The number of banks that discourse about the number of non-financial performance criteria use is constant from 2015 to 2018. If one tries to check whether banks differentiate the qualitative criteria for single executives (item 35), then the figures grow, reaching a maximum of 24% in 2018 (16% in 2015).

The overwhelming majority of the investigated intermediaries, therefore, choose to apply these criteria considering the specificity of the role and functions held by each executive manager.

Further critical issues emerged also from the analysis of the subsequent items, a circumstance that denotes the presence of behavioral standards susceptible to ample room for improvement. In fact, although the percentage is

low, a growing number of banks defines quantitative targets associated with non financial criteria (equal to about 28% in 2018; item 36).

With regard to the balance between financial criteria and qualitative criteria, although most banks (around 60% throughout the period - item 37) are concerned with estimating and communicating this relationship. Not only that, always above the average (about 72% at the end of 2018) appears banks that adopt appropriate claw-back or meal arrangements for variable compensation in the presence of unethical conduct by the manager (item 38).

Finally, the percentage of independent board members on the compensation committee (item 39) amounts to an average of 100% in 2018 and in addition, the percentage of non-executive board members on the compensation committee (item 40) remains constant in the period under investigation, settling at an average value of 88%.

The following table (Table 2) shows, for all the banks examined, the respective rating value assigned. A first important aspect concerns the extreme homogeneity of the indicated scores, which stand around the average value of 67% in 2018 (about 61% in 2015). This aspect shows a strong homogeneity in the behavior of the banks.

During the survey periods, the Dutch banks, with an average score of 73%, are particularly attentive to sustainability issues in their corporate governance systems.

However, as there is only one Dutch bank in the sample, it is considered more correct to outline as the leader of the ranking the UK banks, which have an average score of 70%. German, Austrian, Spanish, French, Norwegian and Italian banks have an average score varying between 62 and 68%; finally, the Danish, Belgian and Swedish banks, with an average final score between 55 and 58%, are positioned in the final part of the ranking.

Next, by aggregating the information found for each individual bank, the average final rating per country expressed in percentage terms (Table 3) was determined.

Table 2 – ESG integrated corporate governance index (years 2015 -2018)

NO.	COUNTRY	BANKS	2015	2016	2017	2018
1	Austria	Erste Group	60%	60%	60%	70%
2	Belgium	Kbc	53%	49%	64%	66%
3	Denmark	Danske Bank	49%	55%	57%	60%
4	France	Bnp Paribas	58%	68%	68%	72%
5	France	Credit Agricole	60%	60%	64%	64%
6	France	Societe Generale	64%	64%	74%	72%
7	Germany	Commerzbank	53%	64%	64%	64%
8	Germany	Deutsche Bank	59%	58%	66%	64%
9	Italy	Intesa Sanpaolo	64%	68%	68%	70%
10	Italy	Unicredit	64%	66%	66%	72%
11	Netherlands	Abn Amro	58%	75%	77%	79%
12	Norway	Dnb	62%	68%	70%	74%
13	Spain	Santander	66%	70%	72%	70%
14	Spain	Bbva.Mc	68%	70%	70%	72%
15	Spain	La Caixa	49%	51%	55%	60%
16	Spain	Sabadell	58%	60%	64%	64%
17	Sweden	Nordea	55%	55%	55%	58%
18	Sweden	Seb	66%	68%	62%	60%
19	Sweden	Handelsbanken	43%	53%	55%	55%
20	Sweden	Swedbank	57%	58%	62%	64%
21	UK	Barclays	70%	70%	68%	70%
22	UK	Hsbc	74%	72%	72%	79%
23	UK	Lloyds	74%	74%	72%	72%
24	UK	Rbs	64%	64%	60%	60%
25	UK	Standard Chartered	70%	74%	74%	74%

Source: Author Processing

The growing trend of the score is evidence of the gradual adjustment to new regulatory obligations as well as an awareness by banks of the importance of using and spreading sustainability issues in their corporate governance system. Banks that show a higher level of score belong to those

countries (England, Holland, France, Norway and even Italy) where clearly the attention of banks to sustainability issues is at a more advanced stage.

Table 3 – ESG integrated corporate governance index: descriptive variables and geographical trends (percentage values, years 2015-2018)

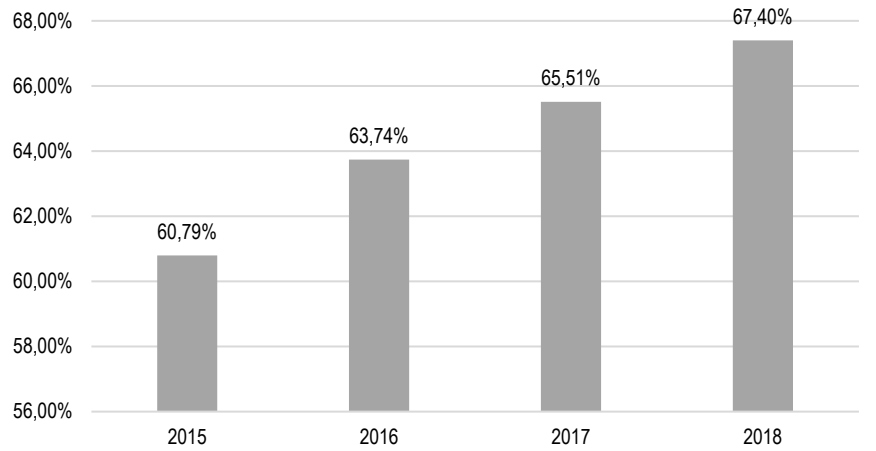
COUNTRY	2015 (%)	2016 (%)	2017 (%)	2018 (%)	Δ 2015 - 2018 (%)
AUSTRIA	60,38	60,38	60,38	69,81	+ 15,63
BELGIUM	52,83	49,06	64,15	66,04	+ 25,00
DENMARK	49,06	54,72	56,60	60,38	+ 23,08
FRANCE	61,01	64,15	68,55	69,18	+ 13,40
GERMANY	56,13	60,85	65,09	64,15	+ 14,29
ITALY	64,15	66,98	66,98	70,75	+ 10,29
NETHERLANDS	58,49	75,47	77,36	79,25	+ 35,48
NORWAY	62,26	67,92	69,81	73,58	+ 18,18
SPAIN	60,38	62,74	65,09	66,51	+ 10,16
SWEDEN	55,19	58,49	58,49	59,43	+ 7,69
UK	70,19	70,57	69,06	70,94	+ 1,08
AVERAGE	59,10	62,85	65,60	68,18	+ 15,38
MIN	49,06	49,06	56,60	59,43	+ 21,15
MAX	70,19	75,47	77,36	79,25	+ 12,90

Source: Author Processing

Chart 2 shows the average final Corporate Governance rating for all banks analyzed.

According to what has been said so far, the overall average score trend is also increasing (which has increased from 60.79% in 2015 to 67.40% in 2018). This, as mentioned above, demonstrates the gradual adaptation to new regulatory obligations and the awareness on the part of the banks of the importance of integrating the issue of the sustainability corporate governance system.

Chart 2 – ESG integrated corporate governance index (average percentage values, years 2015-2018)



Source: Author Processing

4. Conclusions, Implications and Future Research Lines

Banks focus on corporate social responsibility as an additional lever of innovation and development to better compete in the market in the medium and long term. Our work aims to explore the level of integration of sustainability strategies and considerations in the banks' corporate governance systems. In order to achieve this goal, we carry out an explorative analysis on a sample of 25 international and listed banks belonging to the G-SIIs universe over the period 2015-2018.The analysis focuses on the elaboration of a research model, composed of 40 essential information, for the construction of a score, called "ESG integrated corporate governance index".

The growing trend of the score is evidence of the gradual adjustment to new regulatory obligations as well as an awareness by banks of the importance of using and spreading sustainability issues in their corporate governance system.

Our findings have several important implications for both practitioners and scholars. Indeed, the research model assumes two different but complementary functionalities. First, it can be utilized by investors to discern banks that best implement ESG criteria in their corporate governance systems from banks that, instead, seem to be more late in this process. From this point of view, the research model represents an "analysis tool" in order to understand

how and if banks are integrating sustainability issues in their corporate and decision-making processes. In this may, investors and practitioners could take their decisions and base their assessment more consciously. Second, the research model also assumes an important internal functionality because it can be adopted by banks as a "diagnostic tool" in order to perform a self-assessment process. By means of the rating banks could verify what are their areas of improvements where it is necessary to enhance the integration of sustainability criteria.

Finally, our study opens up many different future research lines. More specifically, the proposed rating could be used to perform several econometric studies in order to verify if a greater integration of ESG criteria in the banks' governance system can positively impact on their economic performance, on their riskiness profile or on their funding costs.

References

Abbott, W. F., Monsen, R. J., (1979), "On the Measurement of Corporate Social Responsibility: Self-Reported Disclosures as a Method of Measuring Corporate Social Involvement", *The Academy of Management Journal*, Vol. 22, No. 3: 501-515.

Ackerman, R.W. (1975), *The Social Challenge to Business*, Harvard University Press, Cambridge, MA.

Agoraki, M.E., Delis, M., Staikouras, P.K. (2008), "The Effect of Board Size and Composition on Bank Efficiency", *Mpra Paper*, No.18548.

Bank of Italy (2008), *Disposizioni di vigilanza in materia di organizzazione e governo societario delle banche*, March 2008.

Barth, J.R., Caprio, G., Levine, R. (2002), "Bank Regulation and Supervision: What Works Best?", *World Bank Policy Research Working Paper*.

BCE (2018), *Guide to fit and proper assessments,* Updated in May 2018 in line with the joint ESMA and EBA Guidelines on suitability, May 2018.

Beattie, V., Thomson, S.J. (2007), "Lifting the lid on the use of content analysis to investigate intellectual capital disclosures", *Accounting Forum*, Vol. 31, No. 2: 129-163.

Beiner, S., Drobetz, W., Schmid, M.M., Zimmerman, H. (2004), "An integrated framework of corporate governance and firm valuation – evidence from Switzerland", working paper No. 34/2004, *European Corporate Governance Institute, Brussels.*

Boele, R., Fabig, H., Wheeler, D. (2001), "Shell, Nigeria and the Ogoni. A study in unsustainable development: II. Corporate social responsibility and 'stakeholder management' versus a rights-based approach to sustainable development", *Sustainable Development*, Vol. 9 No. 3: 121-35.

Burke, L., Longsdon, J.M. (1996), "How corporate social responsibility pays off", *Long Range Planning*, Vol. 29 No. 4: 495-502.

Bushman, R.M., Smith, A.J. (2001), "Financial accounting information and corporate governance", *Journal of Accounting and Economics*, Vol. 32: 237-333.
Cavallito, M., Isonio, E., Meggiolaro, M. (2019), "La finanza etica e sostenibile in Europa", *second report*, *Ethical Finance foundation*.
Chatterjee, C., Lefcovitch, A. (2009), "Corporate social responsibility and banks", *Amicus Curiae*, 10.14296/ac.v2009i78.1198.
CoSo (2004), *Committee of Sponsoring Organizations of The Treadway Commission, Internal Control - Integrated Framework*, June.
Cowen, S.S., Ferreri, L.B., Parker, L.D. (1987), "The impact of corporate characteristics on social responsibility disclosure: a typology and frequency-based analysis", *Accounting, Organizations and Society*, Vol. 12 No. 2: 111-22.
Crowther, D. (2002), "A Social Critique of Corporate Reporting", *Ashgate*, Aldershot.
Davidson III, W.N., Pilger, T., Szakmary, A. (1998), "Golden Parachutes, Board and Committee Composition, and Shareholders Wealth", *Financial Review*, 33: 17-32.
De Vincentiis, P. (2014), "Lo status di banca sistemica gioca un ruolo significativo? Una verifica empirica sui Cds delle maggiori banche europee", *Bancaria*, No. 12: 12-27.
Durnev, A., Kim, E.H. (2005), "To steal or not to steal: firm attributes, legal environment, and valuation", *Journal of Finance*, Vol. 60 No. 3: 1461-93.
Dyllick, T., Hockerts, K. (2002), "Beyond the business case for corporate sustainability", *Business Strategy & the Environment*, Vol. 11: 130-41.
European Commission (2018), *Commission action plan on financing sustainable growth*, March.
Fich, E., Shivdasani, A. (2006), "Are Busy Boards Effective Monitors?", *Journal of Finance*, Vol. 61: 689-724.
FSB (2018), *Strengthening Governance Frameworks to Mitigate Misconduct Risk: A Toolkit for Firms and Supervisors*, April.
FSB (2019), *Task Force on Climate-related Financial Disclosures: Status Report*, June
Gompers, P., Ishii, J., Metrick, A. (2003), "Corporate Governance and Equity Process", *The Quarterly Journal of Economics*, Vol. 118, No. 1: 107-155.
Gray, R., Javad, M., Power, D.M., Sinclair, C.D. (2001), "Social and environmental disclosures and corporate characteristics: a research note and extension", *Journal of Business, Finance and Accounting*, Vol. 28, No. 3/4: 327-56.
Hart, S.L. (1997), "Beyond greening: strategies for a sustainable world", *Harvard Business Review*, Vol. 75 No. 1: 67-76.
Hawken, P. (1993), *The ecology of commerce: a declaration of Sustainability*, ISBN: 9780062281463.
Jacobs, M. (2010), "Green Growth: Economic Theory and Political Discourse", *Centre for Climate Change Economics and Policy (CCCEP).*
Jensen, M.C. (2001), "*Value Maximization, Stakeholder Theory, And the Corporate Objective Function",* In Chew D.H., Gillan S.L. (eds.), "*Corporate Governance at the Crossroads: A Book of Readings*", McGraw-Hill, New York.
John, K., Senbet, L. (1998), "Corporate Governance and Board Effectiveness", *Journal of Bank Finance*, Vol. 22: 371-403.

Johnson, R.A., Greening, D.W. (1999), "The effects of corporate governance and institutional ownership types on corporate social performance", *Academy of Management Journal*, Vol. 42 No. 5: 564-76.
Joyner, B.E., Payne, D. (2002), "Evolution and implementation: a study of values, business ethics and corporate social responsibility", *Journal of Business Ethics*, Vol. 41: 297-311.
Kirkpatrick, G. (2009), "The Corporate Governance Lessons from the Financial Crisis", *OECD Financial Market Trends*.
Knox, S., Maklan, S. (2004), "Corporate social responsibility: moving beyond investment towards measuring outcomes", *European Management Journal*, Vol. 22 No. 5: 508-16.
Kose, J., Qian, Y. (2003), "Incentive Features in Ceo Compensation in the Banking Industry", *Economic Policy Review*, Vol. 9: 109-121.
La Porta, R., Lopez, F., Shleifer, A., Vishny, R.W. (1998), "Law and finance", *Journal of Political Economy*, Vol. 106: 1113-1155.
La Porta, R., Lopez-de-Silanes, F., Shleifer, A. (2002), "Government Ownership of Banks", *Journal of Finance*, Vol. 57: 265-302.
Laeven, L., Levine, R. (2009), "Bank Governance, Regulation and Risk Taking", *Journal of Financial Economics*, Vol. 93, No. 2: 59-275.
Larrinaga, C., Bebbington, J., Moneva, J. (2008), "Corporate Social Reporting and Reputation Risk Management", *Accounting, Auditing & Accountability Journal*, Vol. 21.
Linck, J., Netter, J., Yang, T. (2008), "The Determinants of Board Structure", *Journal of Financial Economics*, Vol. 87: 308-328.
Maas, K. (2016), "Do Corporate Social Performance Targets in Executive Compensation Contribute to Corporate Social Performance?", *Journal of Business Ethics*.
Marrewijk, M., Were, M. (2003), "Multiple levels of corporate sustainability", *Journal of Business Ethics*, Vol. 44, No. 2/3: 107-19.
McDonald, D., Puxty, A.G. (1979), "An inducement - contribution approach to corporate financial reporting", *Accounting, Organizations & Society*, Vol. 4, No 1/2: 53-65.
Montabon, F., Sroufe, R., Narasimhan, R. (2007), "An examination of corporate reporting, environmental management practices and firm performance*", Journal of Operations Management*, Vol. 25, No. 5: 998-1014.
Moravčíková, K., Stefanikova, L., Rypáková, M. (2015), "CSR Reporting as an Important Tool of CSR Communication", *Procedia Economics and Finance*, Vol. 26: 332-338.
Perry, T., Peyer, U. (2005), "Board Seat Accumulation by Executives: A Shareholder's Perspective", *Journal of Finance*, Vol. 60: 2083-2123.
Pesic, V. (2009), "*Il sistema dei Controlli Interni nella banca. Obiettivi manageriali ed esigenze di vigilanza per il governo dei rischi",* Bancaria Editrice, Roma.
Rubenstein, D.B. (1992), "Bridging the gap between green accounting and black ink", *Accounting Organizations & Society*, Vol. 17 No. 5: 501-508.
Spangenberg, J.H. (2004), "Reconciling sustainability and growth: criteria, indicators, policy", *Sustainable Development*, Vol. 12: 76-84.
Van den Berghe, L. (2001), "Beyond corporate governance", *European Business Forum*, Vol. 5.

Appendix 1 – Sample with specification of total asset and country

N	Banks	Total Asset 31.12.2018 (in € million)	Country
1	ERSTE GROUP	236.791,83	Austria
2	KBC	3.108,93	Belgium
3	DANSKE BANK	1.486,41	Denmark
4	BNP PARIBAS	25.418,86	France
5	CREDIT AGRICOLE	9.998,37	France
6	SOCIETE GENERALE	1.309.428,00	France
7	COMMERZBANK	462.369,00	Germany
8	DEUTSCHE BANK	1.348.137,00	Germany
9	INTESA SANPAOLO	787.721,00	Italy
10	UNICREDIT	831.468,72	Italy
11	ABN AMRO	381.295,00	Netherlands
12	DNB	265.945,64	Norway
13	SANTANDER	1.459.271,00	Spain
14	BBVA	676.689,00	Spain
15	LA CAIXA	386.622,25	Spain
16	SABADELL	222.322,42	Spain
17	NORDEA	551.408,00	Sweden
18	SEB	252.888,32	Sweden
19	HANDELSBANKEN	293.336,21	Sweden
20	SWEDBANK	221.229,56	Sweden
21	BARCLAYS	1.260.565,54	UK
22	HSBC	2.230.479,48	UK
23	LLOYDS	887.178,71	UK
24	RBS	772.206,69	UK
25	STANDARD CHARTERED	600.545,36	UK

Source: Author Processing

7. TOWARDS NEW CONCEPTUALIZATION AND SCOPE OF ENVIRONMENTAL DIMENSION IN THE STRATEGIC FORMULA

by *Stefano Garzella*[*], *Raffaele Fiorentino*[*], *Rosita Capurro*[*]

Introduction

Environmental and social responsibility are increasingly relevant topics in the current economic context.

In the past decade, research on social, environmental, ethical issues and green management has rapidly expanded (Andersson *et al.,* 2013; Freedman and Jaggi, 2010; Schiederig *et al*., 2012; Taylor *et al*., 2018). In the field of business studies, the socio-environmental themes were studied by scholars from a lot of disciplines, such as strategy, accounting and operations (Bowen *et al*., 2018; Haden *et al*., 2009; Lucas, 2010; Burrit *et al*., 2019; Hansen and Schaltegger, 2016). The academic debate on these themes has determined progressive verticalization and several categorizations on topics (Azzone and Noci, 1996; Epstein, 1998; Xie and Hayase, 2007; Metcalf *et al*., 1995; Kurland and Zell, 2011). Specifically, some scholars argue that correct implementation of social strategies can be considered a success factor for firms able to trigger new competitive dynamics (Bowen, 2007; Clarkson *et al.,* 2011). Moreover, studies have suggested that the recognition of environmental dimension is a critical variable for the strategic positioning of firms. The literature showed ample interest in whether and how firms could align their strategies to environmental dimension and their practices to sustainability direction (Porter and Van der Linde, 1995; Perego and Hartman, 2009; Roy *et al*., 2013).

In this seam of research, scholars developed the Environmental Social Responsibility as an autonomous research topic (Hart, 1995; McWilliams

[*] University of Naples "Parthenope", Italy. Department of Accounting, Management and Economics. E-mail: stefano.garzella@uniparthenope.it, raffaele.fiorentino@uniparthenope.it, rosita.capurro@uniparthenope.it.

and Siegel, 2001, Devinney, 2009; Taylor *et al*., 2018). Indeed, the environmental dimension, for a long time considered a sub-dimension of Corporate Social Responsibility studies, have moved from a narrow - and often marginalized - notion to a complex concept implying a multi-lens perspective to strategic decision-making process (Cochran, 2007). This led to recognize the key role of environmental dimension not only in social strategies but also for implementing successful competitive and financial strategies. Indeed, the integration of environmental sustainability aspects into the strategic formula (De Luca *et al*., 2016) can contribute to strengthen the competitive positioning in the firm-customers and firm-investors relationships increasing the firm value creation process (Baumgartner and Rauter, 2017; Capurro *et al*., 2018; Coda, 2005).

These studies have provided new reflections and critical points to stimulate a future evolution of research on environmental dimension and green management processes. However, the literature is characterized by several approaches not always harmonically related (Bowen, 2007; Garza-Reyes, 2015; Geissdoerfer *et al*., 2017; Berrone *et al*., 2013; Ciccullo *et al*., 2018); there is a lack of integration across research streams pertaining the study of environmental strategies.

In order to bridge this gap, the aim of this paper is to investigate the current and future conceptualization and the scope of environmental dimension in the strategic formula. Consistently with this aim, the paper advances a crossover study on environmental dimension in order to underline the role and the value of this variable in the corporate and business strategies.

For developing this conceptual paper, first, we reviewed the literature on strategic formula, corporate and business model and sustainability and environmental strategies (Coda, 1984; 2012; Bocken *et al*., 2014; De Marchi *et al*., 2013; Galeotti and Garzella, 2013; Banarjee, 2001; Rivera, 2019; Collis and Montgomery, 1997; Cavalcante *et al*., 2011) and, then, we provide a comprehensive framework extending current studies and practices.

Our findings highlight the new relevance of environmental dimension not limited to the social strategy "perimeter". More in depth, the advanced framework provides a new conceptualization and scope of environmental dimension in the strategic formula. The advanced framework posits the integration of environmental dimension into the several fronts and sides of strategic formula by identifying sustainable actions, decisions and practices that firms can embrace to improve growth and competitive advantage.

This paper is structured as follows. The next section analyses the entrepreneurial strategic formula as a theoretical business model useful to defining the firms' strategic profile and to evaluating it over time. Section 3

provides the theoretical background on environmental dimension and green management process. Section 4 advances a framework based on the relationship between environmental dimension and the different levels of system of strategies. Finally, Section 5 summarizes the main contribution of the paper and provides implications and ideas for future research.

1. The conceptual model of "strategic formula"

In a context characterized by a high level of dynamism and by an increasing competition, one of the most relevant issues for firms is to define a systematic strategy useful to support the growth processes.

The definition and development of the firms' strategy should not be considered as separate stages, isolated and unique, but as a process, continuous and dynamic (Bertini, 1995; Abell, 1993). This process requires, on one side, a model characterized by both internal efficiency and effectiveness and, on the other side, a coherent and balanced system of relationships with external actors (Grant, 1991; Teece, 2007; Lamberg *et al*., 2009).

In this sense, scholars have proposed an ideal and conceptual model known as Strategic Formula (Coda, 1984; 2012). Specifically, the Strategic Formula can be considered as a theoretical model useful for defining and evaluating the firms' strategic profile (Cavalcante *et al*., 2011; Hacklin and Wallnofer, 2012; Galeotti and Garzella, 2013, Invernizzi, 2017). This model allows firms to assess their ideas, decisions and actions by considering two different strategic fronts: internal front and external front (De Luca *et al*., 2016; Galeotti and Garzella, 2013). The increase in competitive pressure, the globalization of markets and technological developments have made the traditional distinction between internal and external strategies less useful to analyze the new strategic business practices that firms could embrace to create innovative paths and growth (Kortmann *et al*., 2014; Liu and Liang, 2015; Zhang, 2011; Capurro *et al*., 2019). At the moment, the evolution of studies on strategic formula let to recognize also an area related to "boundary zone" where occurring activities and processes neither internal nor external because jointly controlled and influenced by many organizations (Garzella 2000; Galeotti and Garzella, 2013)

The internal strategic front is defined by all the elements, both tangibles and intangibles, needed for the construction and the achievement of the competitive advantage. Specifically, this front represent the firm's structure and includes distinctive resources and skills, the operational processes, the organizational model and rules, roles and procedures of corporate governance

and the condition of financial and balance assets strength (Grant, 1991; Mintzberg, 1994; Barney, 1991; 2001; Galeotti and Garzella, 2013; Nelson and Winter, 1982); the ways in which these elements are combined, generating the uniqueness of the firms and defining the firms' specific features, are the main reason why a firm is different from another (Chandler, 1992; Mintzberg, 1979; Cavalieri, 1995).

The external strategic front refers to the structural relationships between the firm and the several players, both economic and non-economic, operating in its environment (Galeotti and Garzella, 2013; De luca *et al*., 2017; Freeman, 1984). In particular, the external strategic front allows to identify firm's strategies for competing in three main directions: in the real markets, in the financial markets – and in the social context (Porter, 1987; Barney, 1986; Drucker, 1984; Hamel and Prahalad, 1989, Galeotti, 2008)

The jointly capability of the firm to compete in the three directions and to simultaneously create value for all its players depends on the firm's structure; the firm's structure is the junction among business, portfolio, financial and social strategies fostering the establishment of a virtuous circle between them (Porter, 1987; Mintzber *et al*., 2003; Coda, 2012; De Luca *et al*., 2017).

Specifically, the *Figure 1* shows how the model of Strategic Formula defines the firm's strategic profile in its external front based upon its internal elements.

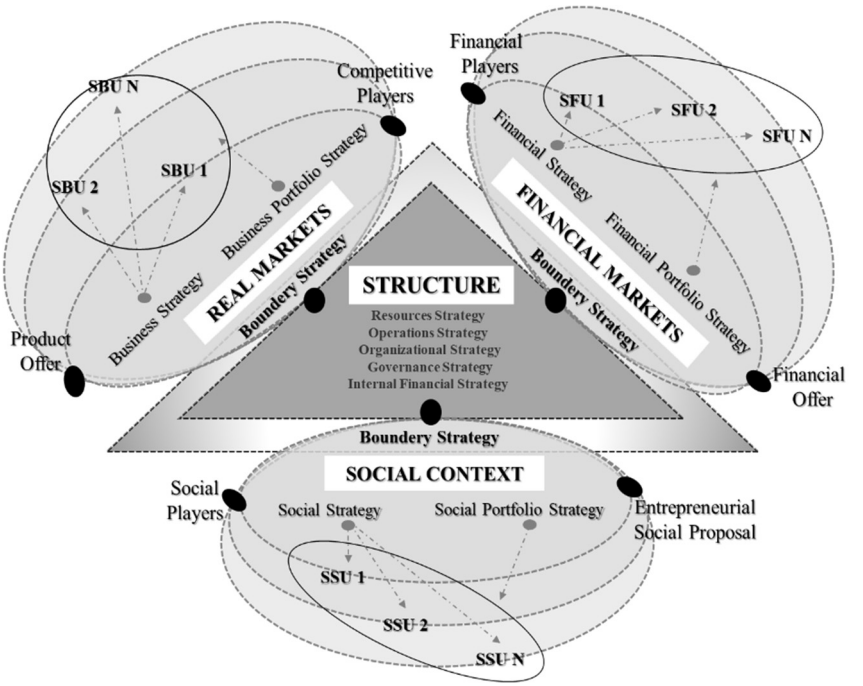
In particular, the characteristics of firm's structure allow for the definition of a business strategy, in each competitive context of real markets where the firm competes, to realize a product offer in line with needs and expectations of customers and able to face all the competitive players so as to establish positions of competitive advantage (Porter, 1980; 2008).

Moreover, the firm's structure fosters the definition of a financial strategy in financial markets. In this field, the firm competes by defining a financial offer, meaning an investment proposal, in line with the need and expectation of financial players – both equity and debt holders – in order to acquire funds needed to finance its investments and activities at favourable conditions (Galeotti and Garzella, 2013; Galeotti, 2008). At the same time, firms should pay attention to their debts position, the quality of cash flow shocks, the working capital adequacy and the ratio of realized returns and expected returns. These strategic decisions must be taken in order to pursue a model of financial self-sufficiency able to increase the perception of a solid and reliable firm (Galeotti, 2008).

The firm's capabilities, useful for creating value in the business and for raising capital in financial markets, allows also the firm to define a social strategy in the social context (Porter and Kramer, 2006). The social strategy

is based upon an entrepreneur-social proposal which should satisfy the interests of social stakeholders - such as workers, managers, local community, institution and so on, with a direct or indirect interest in the firm's activities - by involving them in the entrepreneurial project. By implementing its entrepreneur-social proposal, firm could obtain, in return, human resources and general consensus needed for its sustainable development (Baden-Fuller *et al*., 2000; Carroll 1991; Chun and Huang 2018; Clarkson, 1998). In addition, the presence of high-value human resources increases the quality, efficiency and effectiveness of the firm's internal structure, hence increasing the firm's competitiveness in the real and financial markets (Barney, 1991; Bowman and Ambrosini, 2007).

Fig. 1 – The Strategic Formula Model



Source: our elaboration on Galeotti and Garzella (2013), Governo strategico dell'azienda. Prefazione del Prof. Umberto Bertini, p. 39

The model proposed shows as the competitive advantage in the real markets is closely connected to the competitive advantage in the financial markets and in the social context. In attempt to create a strategy able to generate value over time, firms need to evaluate their strategic formula considering

the "consonance" of the internal and external fronts in a dynamic perspective (Coda, 1984; Galeotti and Garzella, 2013). Indeed, the firm's internal and external fronts are closely related according to a systemic relationship over the time. On the one hand, the internal structure allows to achieve and consolidate competitive advantages in the real and financial markets and in social context; the continuous research of new positions of competitive advantages demands for changes in the firm's internal structure in order to anticipate or adapt to dynamic evolution of the business.

In this way, the strategic formula allows to keep under control simultaneously the competitiveness of the firm at corporate and business level (Collis and Montgomery, 1997; Aspara *et al*., 2013; Barabba *et al*., 2002; Gambardella and McGahan, 2010; Osterwalder, 2004; Tikkanen *et al*., 2005). The first level concerns the overall objective, scope and processes of firm to accomplish its goals and to fulfil stakeholder's expectations; the business level, instead, involves the achievement of new positions of competitive advantage on based of firm's strategic decisions.

For each front - internal, external and on boundaries - firm develops and implements a plurality of interconnected strategies (Coda, 1989; Hofer and Schendel, 1984). Specifically, the external front involves the development of positioning strategies in order to trigger and/or to enhance the firm's role in real markets, financial markets and social context (Galeotti and Garzella, 2013). In this sense, positioning strategies include business strategy, financial strategy and social strategy (Thompson *et al*., 2013; Markides, 1997; Galeotti, 2008; Husted and Allen, 2007). These strategies may be directed to the development of firm's competitive position in a single strategic unit; specifically, the object of business strategies are the strategic business units (SBU), the financial strategies address the strategic financial units (SFU) and the social strategy refers to the strategic social units (SSU).

However, for each front, the firm may also compete across multiple strategic units; in this sense, firm should develop a strategic portfolio approach by looking across all its units to determine how to create the most aggregate value.

On the other hand, internal strategies define the firm's structure and are distinguished in resources strategy, operations strategy, organizational strategy, governance strategy and internal financial strategy – with reference to the achievement of financial self-sufficiency.

As anticipated, the continuous stimulus to renew the sources of competitive advantage characterizes managerial issues and makes the management of firm boundaries a key variable (Adamides, 2015; Foss *et al*., 2013;

Garzella 2000; Gonzalez-Benito and Lannelongue, 2014; Ritter *et al*., 2004; Schmenner *et al*., 2009; Swink *et al*., 2007).

The management of boundaries aims to create value, by identifying new integration and coordination opportunities among the value chains of the firm and the value chains of external "partners", and by focusing on processes, activities and resources that cannot be considered neither internal nor external (Yang and Lin, 2010). In this way, the concept of boundary pushes to redesign the firms' corporate processes and their strategic positioning (Garzella, 2000). Recognizing the strategic autonomy of firms' boundaries promotes the development of "linking" and "bearing" strategies (Caputo et al., 2018; Scott, 2003). The "linking strategies" seek to internalize the resources and skills of the partners promoting the redefinition of the entire business model and improving the overall operating efficiency; at the same time, however, firms need to supervise the sharing processes by developing "bearing" strategies that allow protecting from the risk that external actors of the supply chain should acquire key information by the relationship with the firm.

In this sense, the management of resource, knowledge and activities on the "boundary zone" should be a new paradigm to obtain and sustain competitive advantage (Dyer and Singh, 1998; Caputo *et al*., 2018 Wagner, 2003).

In order to develop a corporate business model that allow the integration of the environmental dimension into each level of strategy, it's important analyze, firstly, the evolution studies on topic and, then, the strategic role of green management process.

2. The environmental strategies and the Corporate Social Responsibility

According to stakeholder theory and corporate social responsibility approaches, an increasing number of firms decides to recognize the relevance of the environmental dimension in addition to financial and social dimensions (Freeman, 1984; Buysse and Verbeke, 2003; Campbell, 2007).

Specifically, the environmental dimension is related to "the organization-wide recognition of the legitimacy and importance of the biophysical environment in the formulation of organization strategy and the integration of environmental issues into the strategic process" (Banerjee, 2001). Based on this definition, environmental issues reflect the firm degree of acceptance and adoption of environmental issues and principles in the strategic management with the integration of environmental, values in firms' mission and

vision (Aragon-Correa, 1998; Lee and Rhee, 2007; Sharma and Enriques, 2005; Hutchinsons, 1996).

In this vein, the development of environmental strategies can be considered a complex phenomenon that differ along a continuum from a reactive to a proactive approach according to several studies on topic (Capurro *et al*., 2018; Porter and van der Linde, 1995).

Specifically, some scholars argue that there is a trade-off between environmental strategies and firm performance. In this stream of research, the development of environmental actions implies costs higher than benefits, and usually the environmental strategies are formulated only for moral and social reasons or to mitigate reputational and legal risks – for example possible accidents or sanctions for failure to compliance of environmental regulation (Freedman and Jaggi, 1998; Marcus and Fremeth, 2009; Fiorentino *et al*., 2006). This approach pushes firms to engage the environmental strategies in response to legitimate demands from stakeholders (Sprengel e Busch, 2011; Clarkson, 1995).

Other studies differently argue that effective environmental actions can be a critical success factor for firms able to trigger new competitive dynamics (Bowen, 2007; Clarkson *et al*., 2011). According to these studies, framed in the resource-based theory, environmental strategies may constitute a support for developing corporate resource and distinctive capabilities (Porter e Kramer, 2006; Russo e Fouts, 1997; Berchicchi *et al*., 2012); moreover, environmental strategies could pay off in terms of social reputation, corporate image, compliance, sustainability reporting and customer preferences (Lamboglia *et al*., 2018; Hart and Milstein, 2003; Garzella and Fiorentino, 2013a).

The latter proactive approach to environmental strategies has led firms to recognize the relevance of the environmental dimension in addition to competitive, financial and social dimensions (Freeman, 1984; Berry and Rondinelli, 1998; Epstein, 2010; Sadiq e Khan, 2006; Kim *et al*., 2016; Galbreath, 2009).

Specifically, strategic management scholars captured the relevance of environmental dimension at corporate and business levels (Hens *et al*., 2018; Primc and Čater, 2016, Garzella and Fiorentino, 2013b). In fact, the environmental dimension affects the decision makers; managers should carefully analyse the environmental issues by considering them alongside other traditional strategic variables such as cost, quality, price, and so on. In this way, firms can take decision regarding, for example, the exit from pollutant business or the increase of eco-R&D investments in order to develop sustainable products, services, processes and initiatives focused on the social needs of people and on the environmental preservation (Peattie and Belz, 2010; Hansen *et al*., 2009; De Medeiros *et al*., 2014).

Table 1 provides some example cases of environmental actions carried out by the 2019 world's most sustainable companies, belonging to different activity sectors, according to Dow Jones Sustainability Indices (DJSI)[1].

Based on these insights, the adoption of green actions requires some essential decisions regarding the selection of environmental aims and their transformation into strategic actions in order to improve environmental performance. In this vein, the green management play a key role to support the development of proactive and effective environmental actions while simultaneously lowering costs and creating differentiation benefits and value for internal and external firm's actors (Siegel, 2009; Darnall, *et al.*, 2010).

Tab. 1 – Environmental strategies of 2019 World's most sustainable companies

	Company	State	Activity Sector	Green actions
1.	BMW	Germany	Cars	Leader for its outstanding environmental performance. The company's efficiency improvements have led to a reduction in average fleet emissions of CO2 per kilometre by 3.3% over the past year.
2.	LG ELECTRONIC	South Korea	Consumer Goods	Since 2008, the manufacturer has reduced total greenhouse gas emission by 353,000 tonnes. Through green packaging guidelines, LG has reduced the weight of packaging and logistical costs. LG has set itself 'Greener 2020' goals which include a 40% reduction in greenhouse gas emissions, as well as a 15% increase in 'green' new business.
3.	NESTLÉ	Switzerland	Food and drink	The company's products and processes are as environmentally and socially friendly as possible. For example, in Switzerland Nestlé recently partnered with local farmers to open the country's largest agriculture biogas plant, which uses manure from cattle to generate green energy for its *Henniez* bottled water factory and the Swiss power grid. In return, the farmers receive a more environmentally friendly manure, and Nestlé also helps them care for the local environment.
4.	UNILEVER	Nether-lands	Household products	The Unilever Sustainable Living Plan has a goal of halving the environmental impact of the company's products. The company already has reduced the amount of waste associated with the disposal of products by 29% since 2010.
5.	HEWLETT PACKARD ENTERPRISE & Co.	USA	Technology hardware	HPE continues to prioritise economic, environmental, and social aspects in its business strategies. Their primary environmental focus is on reducing carbon emissions through use of renewable energy and minimizing landfill through reuse and recycling programs.

[1] The DJSI is a globally recognised independent benchmark that measures the sustainable performance of the largest 2,500 global companies. The last DJSI/CSA results were announced on 13 September 2019.

However, both the formulation of sustainable ideas and implementation of socio-environmental actions do not necessarily guarantee positive outcomes (Wood, 2010; Capurro, 2019). In this vein, the predisposition and effective application of green management processes facilitates the attainment of environmental aims, driving results along the overall strategy process by facilitating internal and external communication goals (Ambec and Lanoie, 2008; Miles and Covin, 2000; Mustapha *et al*., 2017; Babiak and Trendafilova, 2011).

By this way, environmental decisions and actions have acquired for firms a growing importance and concern the overall firm strategic process both in the formulation, in the implementation and in the subsequent evaluation steps (Garzella and Fiorentino, 2014). In this context, recent studies on Environmental Social Responsibility have highlighted the key role of environmental dimension not limited to the social strategy "perimeter" but extended to the overall system of strategies (Garzella and Fiorentino, 2013b; Capurro *et al*., 2018).

Thus, if the boundaries between sustainability and traditional business become increasingly blurred, the alignment between the system of strategies and environmental dimension, with the related sustainable practices, requires an evolution in the conceptualization and scope of environmental dimension.

3. A framework on the environmental dimension in the strategic formula

Based on the insights from literature review, and recognized the autonomous relevance of environmental dimension, firms need frameworks useful to select sustainable actions for achieving concrete and tangible results with reference to impact of strategic actions on the biophysical environment, on one side, and impact of environmental performance on revenues, costs and competitive advantage, on the other (Bocken *et al*., 2014; Clarkson *et al*., 2011; Epstein, 2008; Ilinitch *et al*., 1998).

In this vein, a new conceptualization and scope of environmental dimension in the strategic formula is provided. The development of environmental goals and their integration into the overall strategic process can contribute to strengthen the firms' competitive positioning in real and financial markets and to improve the firms-customers and firms-investors relationships, and to increase the value creation process. The achievement of environmental aims implies multi-lens perspective to green management decision-making that concern the overall strategic process both in firm's external fronts, in internal front and on boundaries; in this sense, the scope of environmental dimension

should be extended from the social strategy to the different levels of the strategic formula.

In order to underline the cross-strategies conceptualization and the extended scope of environmental dimension, Table 2 - consistently with the model of strategic formula – suggests for each level of strategy, both external, internal and on boundaries, sustainable actions, decisions and practices that firms can embrace to improve growth and competitive advantage considering simultaneously the accountability to a wide range of firms' actors.

In particular, for the business strategy, the development of new environmentally friendly products and services, the use of environmental advanced technologies and processes and/or the implementation of eco-innovations could involve the achievement of competitive advantage by differentiation or by cost leadership options (Sharma and Enriques, 2005; Azzone and Noci, 1996; Dangelico *et al*., 2017; Song and Yu, 2018). In this way, firms can develop a product offer able to meet the needs of customers increasingly attentive to socio-environmental issues.

For firms that compete through several strategic sub-units, implementing sustainable actions "environmental oriented" affect the choices related to business portfolio (Lamond, 2009; Barabba *et al*., 2002; Xin-gang *et al*., 2018; Elkington, 1994). In this sense, firms could decide, for example, to exit from pollutant business or to enter in green business, by exploiting possible synergies and strategic alliances, in order to increase exposure to high-value sustainable market positions and reducing risk exposure.

For the social strategy, the commitment of firms is embodied in defining initiatives and programs to effectively manage environmental impact associated with their business activities aimed to improve the living conditions of their local communities (Longoni and Cagliano, 2015; Lamboglia *et al*., 2018; Margolis and Walsh, 2003; Pane Haden *et al*., 2009; Adams, 2001). In this sense, the definition of an entrepreneurial social proposal must be directed to the creation of environmental benefits in addition to social value (Hart, 1997); specifically, firms should create more social well-being, while at the same time implementing initiatives for reducing the effects of air pollution and climate change, for improving waste and water management, for developing greener business transports by smoothing traffic flows. These actions determine a return for firms in terms of reputation and corporate image, as well as, the opportunity to receive green awards and founds and support, as incentive for future, new green initiatives.

Tab. 2 – The scope of environmental dimension in the strategic formula

The main strategies	Green actions	Benefits
Strategy in real markets	• Environmentally friendly products/services, • Product offer for environmental conscious consumers • Introduction of recyclable packaging • Development of eco-innovations • Programs to educate consumers on environmental issues • Communication of firm's environmental actions to consumers • Restructuring firm's portfolios business • Green business entry • Pollutant business exit • Green strategic alliances • Green synergies	• Competitive advantage by differentiation or by cost leadership options • Increase quality perception • Increase customer perception of environmental performance • Increase corporate image • Increase exposure to high-value sustainable market positions • Reduction of risk exposure • Efficient resource allocation
Strategy in financial markets	• Implementation of processes in respect of biophysical environment • Green investments • Adoption of environmental, social and governance (ESG) practices	• Possibility of receiving capital at favourable conditions • Less exposed to operational, legal and reputational risks • More interest by investors and financial stakeholders
Strategy in social markets	• Environmental impact reduction • Improve the living conditions of local communities. • Cooperative alliances with environmental organizations • Reduction of air pollution and climate change • Improve waste and water management • Development of greener business transports • Green programs and communication of environmental actions to community • Reduction of environmental incidents	• Increase firm's value • Increase social reputation • Increase corporate image • Green initiatives found and supports • Green awards • Social stakeholders' perception of environmental performance
Resources strategy	• Environmental standards for suppliers selection • Reduction in consumptions of natural resources • Use of sustainable energy sources • Use of replaceable resources, components and raw materials	• Increase quality perception • Reduction of production costs • Development new competences and capabilities • Positive perception by environmental conscious consumers • consumptions reduction
Operations strategy	• Designing appropriate environmental structures and systems • Environmental advanced technologies and eco-red investments • Decisions on centralization/decentralization • Reduction of environmental impact for unit of output.	• Reduction of production costs • Minimize product's lifecycle impacts • Increase firm's eco-efficiency

Organizational strategy	• Promote incentive systems based on rewards to employees who develop new environmental ideas • Create organizational "green units" projects • Create cross-functional teams to improve environmental performance • Promote programs to raise employee awareness on environmental issues • Improving the internal communication of environmental actions to employees	• Positive impact on firm's routine • Positive impact on corporate culture • Positive feedback from employees • Shared and clear business objectives
Governance strategy	• Independent audits of environmental performance • Environmental standard adoption • Environmental management systems • Change in ownership and board structure • Reduction of green lawsuits and crimes • Increase green compliance • Environmental committees and reporting • Environmental communication with stakeholders • Environmental policies and procedures • Internal transfer of an orientation to environmental and social sustainability	• Positive effect on internal and external corporate governance mechanisms • Introduction of new rules and standards for corporate accountability and transparency • Creative corporate governance structures reduce the pressure from environmental activist groups
Boundary strategy	• Collaborative networks • Green strategic alliances • Green partnerships • Green technological clusters • Smart working • Collaboration with Research centers/Universities to solve general environmental problems	• Increase firm's value • Improve business performance • Innovative green ideas • Exploitation of new emerging technologies • Reduction of costs during the design and development of products • Minimize the environmental impacts related to the overall supply chain.

Moreover, the environmental challenge has implications for the financial strategy in the financial markets. In fact, the financial players are changing the way they manage their financial investments, giving priority to firms that adopt virtuous practices and processes that respect the biophysical environment (Miles and Covin, 2000; Martin and Moser, 2016; Zhang *et al*., 2018; Molina Azorin *et al*., 2009). In this way, the firms' definition of a financial offer based on green investments and environmental, social and governance (ESG) practices could help firms to receive capital needed at favourable conditions. Indeed, firms that are more aware of ESG factors are generally less exposed to operational, legal and reputational risks, and more oriented towards innovation and efficient resource allocation and, therefore, they are deemed more interesting by investors and benefit from lower cost of capital.

Based on these insights, competitive, social and financial decisions also become environmental variables with a strong impact in defining the internal

strategies. Thus, the integration of environmental dimension in the firm system strategies drives decision-making processes transformations, including changes in operational process, governance practices, supply chains, and organizational models.

In this sense, environmental decisions effect on the selection of suppliers in order to reduce the consumptions of natural resources in favour of the replaceable resources, components and raw materials and renewable energy, as well as, to decrease the products environmental impact (Govindan, *et al*., 2015; Geissdoerfer *et al*., 2017). In addition, the use of sustainable resources shall be compatible with the implementation of advanced technologies, processes, structures and systems and must be accompanied by decisions on centralization/decentralization of operational activities in order to foster the firm's eco-efficiency reducing environmental impact for unit of output (Hens *et al*., 2018; Leach *et al*., 2012).

Fostering the environment preservation in decision-making process involves several internal changes with a strong impact on employees, routine management activities and corporate culture (Harris and Crane, 2002; Margaretha and Saragih, 2012; Bertels *et al*., 2010; Olson, 2008). The role of top management is of utmost importance to set up the appropriate strategic actions to make possible these changes. In this sense, top management efforts could be directed to promote incentive systems based on rewards to employees who develop new environmental ideas, organizational "green units" projects or cross-functional teams to improve environmental performance, programs to raise employee awareness on environmental issues improving the internal communication of advantages related to implemented environmental actions by firm.

The integration of environmental dimension into the overall strategic process, affects both internal and external corporate governance mechanisms. The achievement of environmental goals has led to the introduction of new rules and standards for corporate accountability and transparency, such as environmental committees and reporting, an environmental expert's inclusion in a firm's board and independent audits development of environmental performance (Amran *et al*., 2014; de Villiers *et al*., 2011; Bowen, 2002; Brammer and Pavelin, 2008). In this sense, the governance strategy can play active role to addition environmental and ecological issues in the corporate management plan. Firms could create a corporate governance structure, that engages with more Corporate Social Responsibility (CSR) activities, to solve the currently environmental challenges able to support the communication with stakeholders about firm's strategies and policies regarding the natural environment, to reduce the pressure from environmental activist groups and

to transfer internally to all levels of firm's an orientation to environmental and social sustainability (Comyns, 2016; Perrault and Clark, 2016; Ben-Amar *et al*., 2017; Oh *et al*., 2011).

Finally, the environmental challenges shift, sometimes, the attention of the top management in that area of business periphery that cannot be considered neither internal nor external. The strategic management of boundaries encourage the development of new perspectives in business processes able to increase the sustainability performance of firm's products and services and, thus, to create green paths and competitive advantage (Stenberg, 2007; Darnall *et al*., 2008; Grekova *et al.*, 2014; Sarkis, 2012).

The boundaries strategic management encourages firms to expand their environmental considerations beyond their internal operations to their suppliers and customers. If so, firms may create additional opportunities to enhance environmental sustainability by partnerships and strategic alliances among the actors operating on the boundaries to support value creation. In this way, firms could potentially access external green resources, technologies and know-how hardly to develop internally; at the same time, working on boundaries, firms could externalize their knowledge and green ideas in order to achieve the market faster than they could through internal development. Firms, expanding their focus beyond the boundaries, could minimize system-wide environmental impacts in order to design environmentally and economically sustainable supply chains.

In view of the above, the integration of the environmental dimension, and the extension of its scope, into the overall strategic process requires an appropriate decision-making process able to account for all levels of strategies; this will further strengthens the competitive positioning in the firms-customers and firms-investors relationships and increases the firm's social value, form a side, and to support the implementation of coherent firm internal organizational model based on best sustainable practices and process, on the other side.

4. Conclusions

This study develops a comprehensive framework supporting a new conceptualization and scope of environmental dimension in the strategic formula by identifying sustainable actions, decisions and practices that firms can embrace to improve growth and competitive, financial and social advantage.

We contribute to several literature streams such as Strategic Management, CSR and Green Management. Specifically, our contribution is relevant for

strategic management studies because it proposes a crossover analysis on environmental dimension and highlights problems and limits related to its integration in the strategic planning process. Moreover, with reference to CSR and green management, the framework provides a conceptual model able to identify environmental variables at corporate and business level, maximizing potentiality and reducing risks in implementing environmental strategy.

Driving on and extending prior studies on topic, our proposed framework offers a broad perspective on environmental dimension capturing its strategic relevance at corporate and business levels. Indeed, starting from the theoretical background on environmental strategy and green management, we provide a new perspective to analyse the relationships between environmental dimension and the strategic formula. Our findings push to overcome the traditional concept of environmental dimension as a "part" of social strategy by moving the focus on the strategic value of this variable even for implementing successful competitive, financial and internal strategies, as well as, boundary strategies.

Moreover, the framework, by highlighting the multiple dimensions of green management, shows relevant practical implications from integrating the environmental dimension into the overall strategic process monitoring tools for the strategic assessment of performance and results achieved in order to provide a concrete response to corporate issues in terms of social and environmental responsibility. Furthermore, we suggest, for each level, environmental ideas, goals and actions, with related benefits, for firms supporting the decision-making process of green management; the list of items is not intended to be a comprehensive one but represents a starting point to further and future improvements.

Based on the results of this study, future research should: test the effectiveness of the advanced framework; measure the value added of environmental dimension to firms' internal and external strategies.

References

Abell, D.F. (1993), *Managing with Dual Strategies: Mastering the Present, Preempting the Future*, New York, NY: Simon & Schuster.

Adamides, E.D. (2015), "Linking operations strategy to the corporate strategy process: a practice perspective", *Business Process Management Journal*, Vol. 21 No. 2: 267-287.

Adams, W.M. (2001), *Green Development: environment and sustainability in the third world*, London: Routledge.

Ambec, S., Lanoie, P. (2008), "Does it pay to be green? A systematic overview", *Academy of Management Perspectives*, Vol. 22, No. 4: 45-62.
Amran, A., Lee, S. P., Devi, S. S. (2014), "The influence of governance structure and strategic corporate social responsibility toward sustainability reporting quality", *Business Strategy and the Environment*, Vol. 23, No. 4: 217-235.
Andersson, L., Jackson, S.E., Russel, S.V. (2013), "Greening organizational behavior: an introduction to the special issue", *Journal of Organizational Behavior*, Vol. 34, No. 2: 151-155.
Aragon-Correa, J.A. (1998), "Strategic proactivity and firm approach to the natural environment", *Academy of Management Journal*, Vol. 41, No. 5: 556-567.
Aspara, J., Lamberg, J.A., Laukia, A., Tikkanen, H. (2013), "Corporate Business model transformation and inter-organizational cognition: The case of Nokia", *Long Range Planning*, Vol. 46: 459-474.
Azzone, G., Noci, G. (1996), "Measuring the environmental performance of new products: an integrated approach", *International Journal of Production Research*, Vol. 34 No. 11: 3055-3078.
Babiak, K., Trendafilova, S. (2011), "CSR and environmental responsibility: motives and pressures to adopt green management practices", *Corporate Social Responsibility and Environmental Management*, Vol. 18, No. 1: 11-24.
Baden-Fuller C., Ravazzolo F., Schweizer T. (2000), "Making and measuring reputations – the research ranking of European business schools", *Long Range Planning*, Vol. 33, No. 5: 621-50.
Banerjee, S.B. (2001), "Corporate environmental strategies and actions", *Management Decision*, Vol. 39, No. 1: 36-44.
Barabba, V., Huber, C., Cooke, F., Pudar, N., Smith, J., Paich, M. (2002), "A multimethod approach for creating new business models: the General Motors OnStar project", *Interfaces*, Vol. 32, No. 1: 20-34.
Barney, J. B. (1986), "Strategic factor markets: Expectations, luck, and business strategy", *Management science*, Vol. 32, No.10: 1231-1241.
Barney, J.B. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17, No. 1: 99-120.
Baumgartner, R. J., Rauter, R. (2017), "Strategic perspectives of corporate sustainability management to develop a sustainable organization", *Journal of Cleaner Production*, Vol. 140: 81-92.
Ben-Amar, W., Chang, M., McIlkenny, P. (2017), "Board gender diversity and corporate response to sustainability initiatives: Evidence from the carbon disclosure project", *Journal of business ethics*, Vol. *142, No.* 2: 369-383.
Berchicchi, L., Dowell, G., King, A.A. (2012), "Environmental capabilities and corporate strategy: exploring acquisitions among US manufacturing firms", *Strategic Management Journal*, Vol. 33, No. 9: 1053-1071.
Berry, M.A., Rondinelli, D.A. (1998), "Proactive corporate environmental management: a new industrial revolution", *Academy of Management Executive*, Vol. 12, No. 2: 38-50.
Berrone, P., Fosfuri, A., Gelabert, L., Gomez-Mejia, L. R. (2013), "Necessity as the mother of 'green' inventions: Institutional pressures and environmental innovations", *Strategic Management Journal*, Vol. *34, No.* 8: 891-909.

Bertels, S., Papania, L., Papania, D. (2010). *Embedding sustainability in organizational culture. A systematic review of the body of knowledge,* London, Canada: Network for Business Sustainability.
Bertini, U. (1995), *Scritti di politica aziendale*, Torino: Giappichelli.
Bocken, N. M., Short, S. W., Rana, P., Evans, S. (2014), "A literature and practice review to develop sustainable business model archetypes", *Journal of cleaner production*, Vol. 65: 42-56.
Bowen, F. (2007), "Corporate social strategy: competing views from two theories of the firm", *Journal of Business Ethics*, Vol. 75, No. 1: 97-113.
Bowen, F., Bansal P., and Slawinski, N. (2018), "Scale matters: The scale of environmental issues in corporate collective actions.", *Strategic Management Journal, Vol.* 39, No. 5: 1411-1436.
Bowen, F.E. (2002), "Organizational slack and corporate greening: broadening the debate", *British Journal of Management*, Vol. 13: 305-316
Bowman, C., Ambrosini V. (2007), "Firm value creation and levels of strategy", *Management Decision,* Vol. 45, No. 3: 360-371.
Brammer, S., Pavelin, S. (2008), "Factors influencing the quality of corporate environmental disclosure", *Business Strategy and the Environment*, Vol. 17, No. 2: 120-136.
Burritt, R. L., Herzig, C., Schaltegger, S., Viere, T. (2019), "Diffusion of environmental management accounting for cleaner production: Evidence from some case studies", *Journal of cleaner production*, Vol. 224: 479-491.
Buysse, K., Verbeke, A. (2003), "Proactive environmental strategies: a stakeholder management perspective", *Strategic Management Journal*, Vol. 24: 453-470.
Campbell, J.L. (2007), "Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility", *Academy of management Review*, Vol. 32, No. 3: 946-967.
Capurro, R. (2019), "Pianificazione e controllo della strategia ambientale: analisi teoriche e proposte operative", *Management Control*, Vol. 2: 67-97.
Capurro, R., Fiorentino, R., Lombardi, R., Garzella, S., (2019), "*Implementing open innovation: the role of boundaries management"* In Collana Proceedings IF-KAD.
Capurro, R., Fiorentino, R., Garzella, S. (2018), *La corporate social responsability e il green management: dalla "dimensione sociale" verso la complessiva formula strategica. In:* Garzella S., L'azienda e la corporate social responsibility. Approfondimenti dottrinali e riflessioni gestionali, Milano: Franco Angeli: 65-101.
Caputo, A., Fiorentino, R., Garzella, S. (2019), "From the boundaries of management to the management of boundaries", *Business Process Management Journal*.
Carrol, A.B. (1991), "The pyramid of corporate social responsibility. Toward the moral Management of Organizational Stakeholders" *Business Horizzons,* Vol. 34, No. 4: 39-48.
Cavalcante, S, Kesting, P., Ulhoi, J. (2011), "Business Model dynamics and innovation: (re)establishing the missing linkages", *Management Decision*, Vol. 49, No. 8: 1327-1342.
Cavalieri, E. (1995), *Variabilità e strutture d'impresa*, Padova: Cedam.

Chandler, A.D. (1992), "Organizational capabilities and the economic history of the industrial enterprise", *Journal of economic perspectives*, Vol. 6, No. 3: 79-100.
Chuang, S. P., Huang, S. J. (2018), "The effect of environmental corporate social responsibility on environmental performance and business competitiveness: The mediation of green information technology capital", *Journal of Business Ethics*, Vol. 150, No. 4: 991-1009.
Ciccullo, F., Pero, M., Caridi, M., Gosling, J., Purvis, L. (2018), "Integrating the environmental and social sustainability pillars into the lean and agile supply chain management paradigms: A literature review and future research directions", *Journal of Cleaner Production,* Vol. 172: 2336-2350.
Clarkson, P.M., Li, Y., Richardson, G.D., Vasvari, F.P. (2011), "Does it really pay to be green? Determinants and consequences of proactive environmental strategies", *Journal of Accounting & Public Policy,* Vol. 30, No. 2: 122-144.
Clarkson, M.B.E. (1998), *The corporation and its stakeholders. Classic and contemporary reading,* Toronto: University of Toronto Press.
Clarkson, M. (1995), "A Stakeholder Framework for analyzing and Evaluating Corporate Social Performance", *Academy of Management Review*, Vol. 20, No. 1: 92– 117.
Coda, V. (2005), *Responsabilità sociale e strategia dell'impresa* in Sacconi L. (a cura di), *Guida critica alla Responsabilità sociale e al governo d'impresa. Problemi, teorie e applicazioni della Csr*, Roma: Bancaria Editrice.
Coda, V. (1984), "La valutazione della formula imprenditoriale", *Sviluppo & Organizzazione*, Vol. 82: 7-19.
Coda, V., (2012), "The evaluation of the Entrepreneurial Formula", *European Management Review*, Vol. 9, No. 2: 63-74
Cochran, P.L. (2007), "The evolution of corporate social responsibility", *Business horizons*, Vol. 50, No. 6: 449-454.
Collis, D.J., Montgomery, C. (1997), *Corporate Strategy*, New York, NY: McGraw-Hill.
Comyns, B. (2016), "Determinants of GHG reporting: an analysis of global oil and gas companies", *Journal of business ethics*, Vol. *136, No.* 2: 349-369.
Dahlmann, F., Brammer, S., Millington, A. (2008), "Environmental management in the United Kingdom: new survey evidence", *Management Decision*, Vol. 47, No. 2: 264-283.
Dangelico, R.M., Pujari, D., Pontrandolfo, P. (2017), "Green product innovation in manufacturing firms: A sustainability-oriented dynamic capability perspective", *Business Strategy and the Environment*, Vol. 26, No. 4: 490-506.
Darnall, N., Jolley, G. J., Handfield, R. (2008), "Environmental management systems and green supply chain management: complements for sustainability?", *Business strategy and the environment*, Vol. 17, No. 1: 30-45.
Darnall, N., Henriques, I., Sadorsky, P. (2010), "Adopting proactive environmental strategy: The influence of stakeholders and firm size", *Journal of management studies*, Vol. 47, No. 6: 1072-1094.
De Luca, P., Ferri, S., Galeotti, M., (2016), "*The entrepreneurial strategic formula of the firm: a theoretical business model",* International Journal Business Performance Management, Vol. 17, No. 4: 447-465.

De Luca, P., Ferri, S., Galeotti, M. (2017), "The Company's Business Model and its Valuation: A Theoretical Approach", *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 7, No. 3: 139–150.
De Marchi, V., Di Maria, E., Micelli, S. (2013), "Environmental strategies, upgrading and competitive advantage in global value chains", *Business Strategy and the Environment,* Vol. 22 No. 1: pp. 62-72.
De Medeiros, J. F., Ribeiro, J. L. D., Cortimiglia, M. N. (2014) "Success factors for environmentally sustainable product innovation: a systematic literature review", *Journal of Cleaner Production,* Vol. 65: 76-86.
De Villiers, C., Naiker, V., Van Staden, C. J. (2011), "The effect of board characteristics on firm environmental performance", *Journal of Management*, Vol. 37, No. 6: 1636-1663.
Devinney, T.M. (2009), "Is the socially responsible corporation a myth? The good, bad and ugly of corporate social responsibility", *Academy of Management Perspectives*, Vol. 23, No. 2: 44-56.
Dyer, J.H., Singh, H. (1998), "The relational view: cooperative strategy and sources of interorganizational competitive advantage", *Academy of Management Review*, Vol. 23 No. 4: 660–679.
Drucker, P.F. (1984), "Converting social problems into business opportunities: The new meaning of corporate social responsibility", *California Management Review (pre-1986)*, Vol. 26: 53.
Elkington, J, (1994), "Towards the sustainable corporation: win-win business strategies for sustainable development", C*alifornia management review*, Vol. 36, No. 2: 90-100.
Epstein, M.J. (2008), *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental and Economic Impact*, San Francisco, CA: Berrett-Koehler Publishers.
Epstein, M.J. (2010), "*The challenge of simultaneously improving social and financial performances: new research results*", in Epstein, M.J., Manzoni, J., Davila, A. (Eds), *Performance Measurement and Management Control: Innovative Concepts and Practices*, Bingley: Emerald Publishing.
Epstein, M.J., Roy, M. (1998), "Managing corporate environmental performance: a multinational perspective", *European Management Review*, Vol. 16, No. 3: 284-296.
Fiorentino, R., Garzella, S., Lamboglia, R., Mancini, D. (2016), "Strategie di sostenibilità: dalle motivazioni ai sistemi di misurazione della performance", *Management Control*, Vol. 2: 115-142.
Foss, N. J., Lyngsie, J., Zahra, S. A. (2013), "The role of external knowledge sources and organizational design in the process of opportunity exploitation", *Strategic Management Journal*, Vol. 34 No. 12: 1453-1471.
Freedman, M., Jaggi, B. (1988), "An analysis of the association between pollution disclosures and economic performance", A*ccounting, Auditing & Accountability Journa*l, Vol. 1, No. 2: 43-58.
Freedman, M., Jaggi, B. (2010), *Sustainability, Environmental Performance and Disclosure*, Bingley: Emerald Publishing.

Freeman, R.E. (1984), *Strategic Management: A Stakeholder Approach,* Boston, MA: Pitman.
Galbreath, J. (2009), Building corporate social responsibility into strategy, *European business review*, Vol. 21, No. 2: 109-127.
Galeotti, M. (2008), *Le strategie competitive dell'azienda nei mercati finanziari,* Roma: Aracne.
Galeotti, M., Garzella, S. (2013), *Governo strategico dell'azienda. Prefazione del Prof. Umberto Bertini*, Torino: Giappichelli.
Gambardella, A., McGahan, A. M. (2010), "Business-model innovation: general purpose technologies and their implications for industry architecture", *Long Range Planning*, Vol. 43, No. 2-3: 262-271.
Garza-Reyes, J. A. (2015), "Lean and green–a systematic review of the state of the art literature", *Journal of Cleaner Production*, Vol. 102: 18-29.
Garzella S. (2000), *I confine dell'azienda. Un approccio strategico*, Milano: Giuffré.
Garzella, S., Fiorentino, R. (2014), "An integrated framework to support the process of green management adoption". *Business process management journal*, Vol. 20, No. 1: 68-89.
Garzella, S., Fiorentino, R. (2013b). *The Current Environmental Strategy Reporting Model: What can be Learned from Corporate Reports?* In Accounting Information Systems for Decision Making (pp. 93-120), Berlin, Heidelberg: Springer.
Garzella, S., Fiorentino, R. (2013a), "How to control environmental strategy?", *Management Control*, Vol. 1: 45-76.
Govindan, K., Rajendran, S., Sarkis, J., & Murugesan, P. (2015). Multi criteria decision making approaches for green supplier evaluation and selection: a literature review. *Journal of Cleaner Production*, *98*, 66-83.
Geissdoerfer, M., Savaget, P., Bocken, N. M., Hultink, E. J. (2017), "The Circular Economy–A new sustainability paradigm?", *Journal of cleaner production*, Vol. 143: 757-768.
Grant, R.M. (1991), *Contemporary Strategy Analysis. Concepts, Techniques, Applications*, Oxford: Blackwell.
Grekova, K., Bremmers, H. J., Trienekens, J. H., Kemp, R. G. M., Omta, S. W. F., (2014), "Extending environmental management beyond the firm boundaries: An empirical study of Dutch food and beverage firms", *International Journal of Production Economics*, Vol. 152: 174-187.
Hacklin, F., Wallnofer M. (2012), "The Business model in the practice of strategic decision making: insights from a case study", *Management Decision*, Vol. 50, No. 2: 166-188.
Haden, S.S.P., Oyler, J.D., Humphreys, J.H. (2009), "Historical, practical, and theoretical perspectives on green management: An exploratory analysis", *Management Decision*, Vol. 47, No. 7: 1041-1055.
Hamel, G., Prahalad, C. K. (1989), "Strategy intent", *Harvard Business Review*, Vol. 67, No. 3: 63-76.
Hansen, E. G., Grosse-Dunker, F., Reichwald, R., (2009) "Sustainability innovation cube—a framework to evaluate sustainability-oriented innovations", *International Journal of Innovation Management*, Vol. 13, No. 4: 683-713.

Hansen E. G., Schaltegger, S. (2016), "The sustainability balanced scorecard: A systematic review of architectures", *Journal of Business Ethics*, Vol. 133, No. 2: 193-221.
Harris, L. C., Crane, A. (2002), "The greening of organizational culture: Management views on the depth, degree and diffusion of change", *Journal of organizational change management*, Vol. 15, No. 3: 214-234.
Hart, S. (1997), "Beyond greening: strategies for a sustainable world", *Harvard Business Review,* Vol. 75, No. 1: 66-76.
Hart, S.L. (1995), "A natural-resource-based view of the firm", *Academy of Management Review,* Vol. 20, No. 4: 986-1014.
Hart, S.L., Milstein, M.B. (2003), "Creating sustainable value", *Academy of Management Perspectives,* Vol. 17, No. 2: 56-67.
Hens L., Block C., Cabello-Eras J. J., Sagastume-Gutierez A., Garcia-Lorenzo D., Chamorro C., Herrera Mendoza K., Haeseldonckx D., Vandecasteele C., (2018), "On the evolution of "Cleaner Production" as a concept and a practice", *Journal of cleaner production*, Vol. 172: 3323-3333.
Hofer, C.W., Schendel, D. (1978), *Strategy Formulation: Analytical Concepts,* St Paul, MN: West Publishing Company.
Husted, B. W., Allen, D. B. (2007), "Corporate social strategy in multinational enterprises: Antecedents and value creation", *Journal of Business Ethics*, Vol. 74, No.4: 345-361.
Hutchinsons, C. (1996), "Integrating environmental policy with business strategy", *Long Range Planning*, Vol. 29 No. 1: 1-10.
Ilinitch, A.Y., Soderstrom, N.S., Thomas, T.E. (1998), "Measuring corporate environmental performance", J*ournal of Accounting & Public Policy*, Vol. 17, No. 4/5: 383-408.
Kim, N., Moon, J. J., Yin, H. (2016), "Environmental pressure and the performance of foreign firms in an emerging economy", *Journal of business ethics*, Vol. 137, No. 3: 475-490.
Kortmann, S., Gelhard, C., Zimmermann, C., Piller, F.T. (2014), "Linking strategic flexibility and operational efficiency: The mediating role of ambidextrous operational capabilities", *Journal of Operations Management*, Vol. 32 No. 7-8: 475-490.
Liu, Y., Liang, L. (2015), "Evaluating and developing resource-based operations strategy for competitive advantage: an exploratory study of Finnish high-tech manufacturing industries", *International Journal of Production Research,* Vol. 53 No. 4: 1019-1037.
Kurland, N.B., Zell, D. (2011), "Green management: principles and examples", *Organizational Dynamics*, Vol. 40, No. 1: 49-56.
Lamberg, J. A., Tikkanen, H., Nokelainen, T., Suur-Inkeroinen, H. (2009), "Competitive dynamics, strategic consistency, and organizational survival", Strategic Management Journal, Vol. 30, No.1: 45-60.
Lamboglia, R., Fiorentino, R., Mancini, D., Garzella, S. (2018), "From a garbage crisis to sustainability strategies: The case study of Naples' waste collection firm", *Journal of Cleaner Production*, Vol. 186: 726-735.
Lamond, D. (2009), "Why and how green management matters", *Management Decision*, Vol. 47, No. 7.

Leach, M., Rockström, J., Raskin, P., Scoones, I. C., Stirling, A. C., Smith, A. and Folke, C., (2012) "Transforming innovation for sustainability", Ecology and Society, Vol. 17, No. 2, p. 11.
Lee, S.Y., Rhee, S.K. (2007), "The change in corporate environmental strategies: a longitudinal empirical study", *Management Decision*, Vol. 45, No. 2: 196-216.
Longoni, A., Cagliano, R. (2015), "Environmental and social sustainability priorities", *International Journal of Operations & Production Management*.
Lucas, M.T. (2010), "Understanding environmental management practices: integrating views from strategic management and ecological economics", *Business Strategy and the Environment*, Vol. 19, No. 8: 543-556.
Mintzberg, H.T. (1979), *The structuring of organizations*, Englewood Cliffs, NJ: Prentice-Hall.
McWilliams, A., Siegel, D. (2001), "Corporate social responsibility: a theory of the firm perspective", *Academy of Management Review*, Vol. 26, No. 1: 117-127.
Marchi, V. D., Maria, E. D., Micelli, S. (2013), "Environmental strategies, upgrading and competitive advantage in global value chains", *Business strategy and the environment*, Vol. 22, No. 1: 62-72.
Marcus, A.A., Fremeth, A.R. (2009), "Green management matters regardless", *Academy of Management Perspectives*, Vol. 23, No. 3: 17-26.
Markides, C. C. (1997), "To diversify or not to diversify", *Harvard Business Review,* Vol. 75, No. 6: 93-186.
Margaretha, M., Saragih, S. R. (2012), Developing new corporate culture through green human resource practice: 908-917.
Margolis, J. D., Walsh, J. P. (2003), "Misery loves companies: Rethinking social initiatives by business", *Administrative science quarterly*, Vol. 48, No. 2: 268-305.
Martin, P. R., Moser, D. V. (2016), "Managers' green investment disclosures and investors' reaction", *Journal of Accounting and Economics*, Vol 61, No. 1: 239-254.
Metcalf, K.R., Willianms, P.L., Minter, J.R., Hobson, C.M. (1995), "An assessment of corporate environmental programs and their performance measurement systems", *Journal of Environmental Health,* Vol. 58: 9-17.
Miles, M., Covin, J. (2000), "Environmental marketing: a source of reputational, competitive and financial advantage", *Journal of Business Ethics*, Vol. 23, No. 3: 299-311.
Mintzberg, H., Ghoshal, S., Lampel, J., Quinn, J. B. (2003), *The strategy process: concepts, contexts, cases.* New York: Pearson education.
Molina Azorin, J.F., Claver-Cortes, E., Lopez-Gamero, M.D., Tari, J.J. (2009), "Green management and financial performance: a literature review", *Management Decision*, Vol. 47, No. 7: 1060-1100.
Mustapha, M.A., Manan, Z.A., Alwi, S.R.W. (2017), "Sustainable Green Management System (SGMS)–An integrated approach towards organisational sustainability", *Journal of Cleaner Production*, Vol. 146: 158-172.
Nelson, R.R., Winter, S.G. (1982), "The Schumpeterian tradeoff revisited", *The American Economic Review*, Vol. 72, No. 1: 114-132.

Oh, W. Y., Chang, Y. K., Martynov, A. (2011), "The effect of ownership structure on corporate social responsibility: Empirical evidence from Korea", *Journal of business ethics*, Vol. 104, No. 2: 283-297.
Olson, E. G. (2008), "Creating an enterprise-level "green" strategy", *Journal of business strategy*, Vol. 29, No. 2: 22-30.
Osterwalder, A., Pigneur, Y. (2010), Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers, Hoboken/ NJ: Johan Wiley & Sons.
Pane Haden, S.S., Oyler, J.D., Humphreys, J.H. (2009), "Historical, practical, and theoretical perspectives on green management: an exploratory analysis", *Management Decision*, Vol. 47, No. 7: 1041-1055.
Peattie K., Belz F. (2010), "Sustainability marketing - An innovative conception of marketing", *Marketing Review St. Gallen*, Vol. 1: 5-15.
Perego, P., Hartmann, F. (2009), "Aligning performance measurement systems with strategy: the case of environmental strategy", *Abacus*, Vol. 45, No. 4: 395-428.
Perrault, E., Clark, C. (2016), "Environmental shareholder activism: Considering status and reputation in firm responsiveness", *Organization & Environment*, Vol. *29, No.* 2: 194-211.
Porter, M. E. (2008), *Competitive strategy: Techniques for analyzing industries and competitors,* Simon and Schuster.
Porter, M.E., Kramer, M.R. (2006), "The link between competitive advantage and corporate social responsibility", *Harvard business review*, Vol. 84, No. 12: 78-92.
Porter, M.E. (1980), *Competitive Strategy,* New York: The Free Press.
Porter, M.E. (1985), *Competitive Advantage. Creating and Sustaining Superior Performance*, New York: The Free Press.
Porter, M.E. (1987), "From competitive advantage to corporate strategy", *Harvard Business Review*, Vol. 65: 43-59.
Porter, M.E., Van der Linde, C. (1995), "Green and competitive", *Harvard Business Review,* Vol. 73 No. 5: 120-134.
Primc K., Čater, T. (2016), "Environmental strategies in different stages of organisational evolution: theoretical foundations", *Australasian Journal of Environmental Management*, Vol. 23, No. 1: 100-117.
Ritter, T., Wilkinson, I.F., Johnston W.J. (2004), "Managing in complex business networks", Industrial Marketing Management, Vol. 33, No. 3: 175-183.
Rivera, J. (2019), "An integral model for the implementation of environmental policy strategy", *Business Strategy and the Environment,* Vol. 28, No. 5: 909-920.
Roy, M., Boiral, O., Paille´, P. (2013), "Pursuing quality and environmental performance: initiatives and supporting processes", *Business Process Management Journal,* Vol. 19, No. 1: 30-53.
Russo, M.V., Fouts, P.A. (1997), "A resource-based perspective on corporate environmental performance and profitability", *The Academy of Management Journal*, Vol. 40, No. 3: 534-559.
Sadiq, R., Khan, F.I. (2006), "An integrated approach for risk-based life cycle assessment and multi-criteria decision-making: selection, design and evaluation of cleaner and greener processes", *Business Process Management Journal*, Vol. 12, No. 6: 770-792.

Sarkis, J. (2012), "A boundaries and flows perspective of green supply chain management", *Supply chain management: an international journal*, Vol. *17, No.* 2: 202-216.
Schiederig, T., Tietze, F., Herstatt, C. (2012), "Green innovation in technology and innovation management – an exploratory literature review", *R&D Management*, Vol. 42, No. 2: 180-192.
Schmenner, R. W. (2009), "Manufacturing, service, and their integration: some history and theory", *International Journal of Operations & Production Management,* Vol. 29, No. 5: 431-443.
Sharma, S., Enriques, I. (2005), "Stakeholder influences on sustainability practices in the Canadian forest products industry", *Strategic Management Industry*, Vol. 26, No. 2: 159-180.
Siegel, D.S. (2009), "Green management matters only if it yields more green: an economic/strategic perspective", *Academy of Management Perspectives*, Vol. 23, No. 3: 5-16.
Song, W., Yu, H. (2018), "Green innovation strategy and green innovation: The roles of green creativity and green organizational identity", *Corporate Social Responsibility and Environmental Management*, Vol. 25, No. 2: 135-150.
Sprengel, D.C., Busch, T. (2011), "Stakeholder engagement and environmental strategy – the case of climate change", *Business Strategy and the Environment*, Vol. 20, No. 6: 351-364.
Stenberg, A.C., (2007), "Green ideas travelling across organizational boundaries", *Building Research & Information*, Vol. 35, No.5: 501-513
Swink, M., Narasimhan, R., Wang, C. (2007), "Managing beyond the factory walls: effects of four types of strategic integration on manufacturing plant performance", *Journal of Operations Management*, Vol. 25 No. 1: 148-164.
Taylor, J., Vithayathil, J., Yim, D. (2018), "Are corporate social responsibility (CSR) initiatives such as sustainable development and environmental policies value enhancing or window dressing?", *Corporate social responsibility and environmental management*, Vol. 25, No. 5: 971-980.
Teece, D. J. (2007), "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", *Strategic management journal*, Vol. *28, No.* 13: 1319-1350.
Thompson, A., Peteraf, M., Gamble, J., Strickland III, A. J., Jain, A. K. (2013), *Crafting & executing strategy 19/e: The quest for competitive advantage: Concepts and cases*, McGraw-Hill Education.
Tikkanen, H., Lamberg, J.-A., Parvinen, P., Kallunki, J. (2005), "Managerial cognition, action and the business model of the firm", *Management Decision*,
Wang, B.A. (2003), "Learning and knowledge transfer in partnering: an empirical case study", *Journal of Knowledge Management*, Vol. 7 No. 2: 97-113.
Wood, D.J. (2010), "Measuring corporate social performance: A review", *International Journaal of Managemnt Review*, Vol. 12, No,1: 50-84.
Xie, S., Hayase, K. (2007), "Corporate environmental performance evaluation: a measurement model and a new concept", Business Strategy and the Environment, Vol. 16, No. 2: 148-168.

Xin-gang, Z., Ling-zhi, R., Yu-zhuo, Z., Guan, W. (2018), "Evolutionary game analysis on the behavior strategies of power producers in renewable portfolio standard", *Energy*, Vol. 162: 505-516.
Yang, H.Z., Lin, Y. (2010), "A multilevel framework of firm boundaries: firm characteristics, dyadic differences, and network attributes", *Strategic Management Journal*, Vol. 31 No. 3: 237-261.
Zhang, L., Wu, J., Liu, H. (2018), "Turning green into gold: A review on the economics of green buildings", *Journal of cleaner production*, Vol. 172: 2234-2245.

8. CLIMATE RELATED ISSUES: THE INFLUENCE ON CORPORATE STRATEGY, GOVERNANCE, AND DISCLOSURE. INSIGHTS FROM THE EUROPEAN UNION CONTEXT

by *Mauro Romano*[*], *Antonio Corvino*[*], *Christian Favino*[*], *Antonio Netti*[*]

Introduction

Over recent years, there is a growing debate over the global climate change and the consequences it can produce on companies and on the ways in which they operate. Climate-related issues can increase company costs, such as water, energy, sources, products, services but also cause changes on supply chains, technology, consumer and investor behaviors as well as affecting financial performance.

In this perspective, climate information became relevant for investors and shareholder to understand the risks and the opportunities related to climate change and to make more informed decisions concerning capital allocation and to evaluate the equity risk premium.

This implies the need to understand ever more profoundly the consequences coming from climate changes, and identify, assess and manage the risks and the opportunities that arise from them, by enhancing the level of company non-financial disclosure.

The improvement of quality disclosure entails the reduction of information asymmetries and the increase of transparency in financial statements (Meek *et al*., 1995; Lajili and Zéghal, 2005; Marshall and Weetman, 2007; Dobler, 2008; Campbell *et al*., 2014; Elshandidy & Shrives, 2016), by ameliorating the functioning of markets, by favoring a better allocation of resources and reducing the agency conflict and cost of capital (Akerlof, 1970; Jensen and Meckling, 1976; Botosan, 1997; Sengupta, 1998; Solomon et al., 2000; Healy and Palepu, 2001; Magnan and Markarlan, 2011; Malafronte *et al.*, 2016).

* University of Foggia, Italy. Department of Economics. E-mail: mauro.romano@unifg.it, antonio.corvino@unifg.it, christian.favino@unifg.it, antonio.netti@unifg.it.

 ISBN 9788835103752

During the last years, governments, regulators and financial institutions have developed new recommendations and regulatory frameworks with the aim to improve the quality, quantity and comparability of information disclosed by companies and to provide investors a better knowledge of the consequences deriving from climate change to which companies are exposed.

One of the most important initiatives regards the institution of the Task Force on Climate-related Financial Disclosures (TCFD)[1], set up in 2015 by the Financial Stability Board (FSB)[2]. The TCFD have to draw up recommendations on the reporting of the risks and opportunities related to climate change, in order to improve company disclosure and align the information disclosed with the expectations and needs of investors[3].

On June 2017, TCFD published its final recommendations report[4] and provided a list of specific requirements companies should disclose in their annual report. The main four pillars are reported below:

- governance ("the organization's governance around climate-related risks and opportunities");
- strategy ("the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning");
- risk management ("the processes used by the organization to identify, assess and manage climate-related risks");
- metrics and targets ("the metrics and targets used to assess and manage relevant climate-related risks and opportunities").

For each of the prior pillars, the specific recommendations are detailed in the following table:

[1] The TCFD is one of the most important initiatives meant to examine climate change in the context of financial stability and was set up after a review carried out by the G20's Financial Stability Board on how the financial sector could best take account of climate-related issues.
[2] The FSB is an international body that monitors and makes recommendations over the global financial system. In particular, FSB was established with the aim to promote: 1) the stability of the international financial system; 2) the improvement of the functioning of financial markets; 3) and the reduction of systemic risk, through the exchange of information and international cooperation among the Supervisory Authority, the central banks and the main supranational authorities.
[3] The TCFD Recommendations drew from the work of other important reporting frameworks on non-financial disclosure including: Carbon Disclosure Project (CDP), Climate Disclosure Standards Board (CDSB), Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), Principles for Responsible Investment (PRI), International Integrated Reporting Council (IIRC).
[4] FSB-TCFD (2017) "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures". https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf.

Fig. 1 – Core Elements of Recommended Climate-Related Financial Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	**Recommended Disclosures**	**Recommended Disclosures**	**Recommended Disclosures**
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Source: TCFD, 2017

The TCFD identified the risks and opportunities related to climate changes and focused on the financial impact they can exert on a firm. Moreover, one of the innovative TCFD recommendations is the "Scenario analysis", namely a forward-looking assessment that allows a company to consider a range of potential effects on future performance, by evaluating medium and long-term risk exposure.

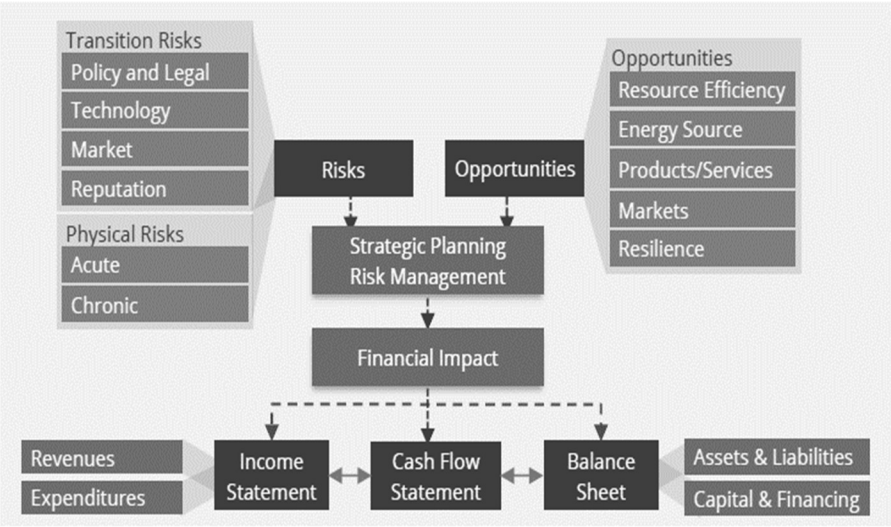
In particular, the TCFD set out the following two main categories of climate-related risks:

- "Transition risks", deriving from the transition to the low-carbon economy and include policy as well as legal, technology, market and reputational risks;
- "Physical risks", «resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns».

With reference to the opportunities, they can stem from resource efficiency, energy source, product/services, market and resilience. Risks and opportunities can produce implications on strategic planning and risk mana-

gement. They can also have a financial impact reported in the balance sheet as well as in the income and cash flow statement.

Fig. 2 – Climate Risks, Opportunities and Financial Impact



Source: TCFD, 2017

From this point of view, the aim of the TCFD model is to understand the effects on financial system coming from climate change. In other words, the TCFD focused on the consequences of climate change on companies and investors, by fostering reporting practices meant to ease the understanding of these events and the related financial impacts.

Similarly, on February 2018, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and the World Business Council for Sustainable Development (WBCSD) released a guidance with the aim of applying enterprise risk management to ESG-related risks. Another purpose pertains the provision of specific recommendations on both integrating ESG-related risks into strategy and ERM and on supporting their identification, assessment and mitigation.

Such integration has significant effects on all the levels of organizations, as a consequence of the involvement of operating structures and processes. In addition, it also affects the corporate strategy, the business objectives and the communication path.

In more detail, the foregoing guidance suggests company to pursue the following goals, namely:

- to strengthen «[…] resilience. An entity's medium and long-term viability and resilience will depend on the ability to anticipate and respond to a complex and interconnected array of risks that threaten the strategy and objectives»;
- to develop and use «[…] a common language for articulating ESG-related risks: ERM identifies and assesses risks for potential impact to the strategy and business objectives. Articulating ESG-related risks in these terms brings ESG issues into mainstream processes and evaluations»;
- to refine «[…] resource deployment: Obtaining robust information on ESG-related risks enables management to assess overall resource needs and helps optimize resource allocation.
- to reinforce the «[…] pursuit of ESG-related opportunities: By considering both positive and negative aspects of ESG-related risks, management can identify ESG trends that lead to new opportunities»;
- to achieve «[…] efficiencies of scale: Managing ESG-related risks centrally and alongside other entity-level risks helps to eliminate redundancies and better allocate resources to address the entity's top risks»;
- to enrich «[…] disclosure: Improving management's understanding of ESG-related risks can provide the transparency and disclosure investors expect and achieve compliance with jurisdictional reporting requirements»[5].

Paying close attention to the last bullet point, this guidance emphasized the need to enhance the quality of risk disclosure policy, in order to create more value and attain long-term firm success for both the board of directors, operational management and employees, and for investors, suppliers, customers, non-governmental organizations and community at large. Furthermore, to support external ESG-related risk disclosure, there are several references to the current and well-known frameworks, such as the Global Reporting Initiative (GRI), the Integrate Reporting <IR> Framework, Sustainable Development Goals (SDGs) and the recommendations provided by the TCFD.

Along this line of reasoning, it should be mentioned that, on June 2019, EC published the non-binding guidelines on corporate-related climate information reporting[6], as part of the Action Plan for Financing Sustainable

[5] COSO-WBCSD (2018) "Applying Enterprise Risk Management to environmental, social and governance-related risks" (p. 7). https://www.coso.org/Documents/COSO-WBCSD-ESGERM-Guidance-Full.pdf.

[6] European Commission (2019), "Guidelines on non-financial reporting: Supplement on reporting climate-related information". https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf

Growth[7] designed to support companies in complying with Non-Financial Reporting Directive 2014/95/EU (NFRD).

The new guidelines are inspired by recent proposals of the Technical Expert Group on sustainable finance (TEG)[8] and integrate reporting recommendations prepared by TCFD, with the aim to encourage companies to disclose not only the impact of climate-related on their business but also the effects of their activities on climate.

Consistently with the guidance, a better disclosure of climate-related information can generate the following benefits for company reporting:

- an «increased awareness and understanding of climate-related risks and opportunities better risk management, and more informed decision-making and strategic planning;
- a larger investor base and a potentially lower cost of capital, resulting for example from inclusion in actively managed investment portfolios and in sustainability-focused indices, and from improved credit ratings for bond issuance and better credit worthiness assessments for bank loans;
- a more constructive dialogue with stakeholders, in particular investors and shareholders;
- a better corporate reputation and maintenance of social license to operate».

In the new guidelines, one of the key points is the "double materiality" perspective in the climate change analysis. In other words, climate information should be reported not only to understand the financial impacts affecting the company's value – namely the "financial materiality" that is typically in investor or shareholder perspective – but also to set out the impacts of company's behaviors on climate – namely the "environmental and social

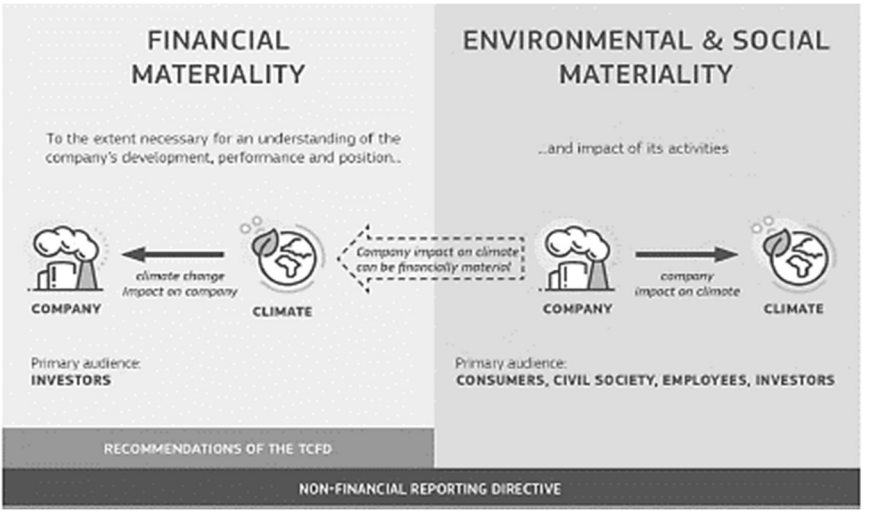
[7] The Action Plan on Sustainable Finance pursues the aim «to connect finance with the specific needs of the European and global economy for the benefit of the planet and our society». In particular, it provides three main objectives: 1) reorient capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth; 2) manage financial risks stemming from climate change, environmental degradation and social issues; 3) foster transparency and long-termism in financial and economic activity.

[8] The Technical Expert Group on Sustainable Finance (TEG) consists of 35 experts on sustainable finance, set up by the European Commission. Its function is to support the Commission in implementing the Action Plan approved in May 2018, through studies concerning: SRI taxonomy, a classification of economic activities that can be defined as "sustainable" (in particular, about mitigation and adaptation to climate change); criteria for the construction of low-carbon and positive-carbon impact benchmarks, that is, reliable reference parameters to reduce the risk of greenwashing and increase market transparency; Green Bond Standard, a European quality certification for green bonds; improvement of the guidelines on the reporting of activities related to climate change by banks, insurance companies and other large companies.

materiality" concerning citizens, consumers, employees, business partners, communities and civil society organization standpoints.

In this way, the guidelines emphasize a concept already depicted by NFRD for which also the external impacts stemming from the company activities are relevant in the assessment of corporate reporting and investment decisions. Therefore, this is a different view compared to that suggested by TCFD. In particular, the focus is on the mitigation and assessment of the impacts that "transition risks" and "physical risks" might exert on financial system.

Fig. 3 – The double materiality perspective of the Non-Financial Reporting Directive in the context of reporting climate-related information



Source: EC Communication, 2019

Moreover, the guidance introduced a list of key performance indicators ("KPIs"), namely detailed metrics providing specific indications upon the disclosure of greenhouse gas emissions (GHGs), the definition of emission reduction targets and the exposure to climate physical risks. Specific indicators, regarding banks and insurance companies, are also recommended with the aim to generate relevant information for users.

Building on the earlier considerations, the next Sections 1 and 2 respectively place emphasis on corporate strategy and governance pattern as well as on metrics, targets and indicators suggested by the EC guidelines. At last, Section 3 highlights the concluding remarks and outlines the future research avenues.

1. Corporate strategy and governance pattern

Company should disclose – "how" and "to what extent" – climate change affects both its corporate strategy and governance pattern. It is interesting to point out not only one "direction" of that relationship but also the other, namely "how" firm's activities are able to condition climate change. A long run perspective is pivotal for communicating such kind of information. The time horizon is chiefly longer than that normally used against financial disclosure.

Crucial pillars in climate related information are the core business, the geographical outreach and the positioning with respect to the conversion to lower GHGs and to a more resilient economy. From a merely competitive standpoint, climate change might represent a fruitful opportunity firm should grab, in order to renew the business model, the value proposition and consequently to improve financial performance. Such outside factor might stimulate a strategic change with the aim to meet and satisfy new requirements and expectations emerging from customers. Along this line of reasoning, some key drivers of the strategic renovation might be: a) the human capital, given the increasing needs of new and specialized expertise; b) the corporate governance pattern, as a consequence of the relevant role played by climate change in firm's organizational mechanisms; c) the planning and management accounting systems, as the adoption of scenario analysis could help top management team (TMT) to effectively cover and mitigate the related risks.

In other words, the EC provided an insightful interpretation of climate change by emphasizing firm's resilience propensity. Differently from prior studies, reports and guidelines, EC pays close attention over opportunities rather than exclusively over threats. In this "two-way" interactive process, firm copes with climate change but it is able to, negatively or positively, influence environment. Therefore, corporate reporting should be inspired to value chain path, in order to depict the environmental implications stemming from supply chain, production pattern and final market. Climate change was addressed in a strategic management view, so that TMT should inform stakeholders over financial planning, risk assessment, regulatory compliance policies as well as competitive strategies.

Similarly, TCFD recommendations stressed on the reformulation of business strategy due to the changes in product system to offer, in investment in research and development (R&D) to make, and in operations to put in place. A holistic picture should be described, in order to surface the links among the main pillars featuring firm's value creation path.

TCFD recommendations specify that the foregoing reformulation and the related voluntary information respectively should be made and disclosed as

long as the requirement of materiality was fulfilled. As said earlier, in corporate reporting, such recommendations propose another "threshold of relevance", in addition to the well-known financial materiality. If the climate-related information is material, thereafter TMT should disclose in firm's reports (i.e. integrated, sustainability, annual, consolidated and so on) its influence over corporate strategy and performance.

The virtuous mechanism, pertinent to a second or better a double "threshold of relevance", therefore might consist of the following steps:

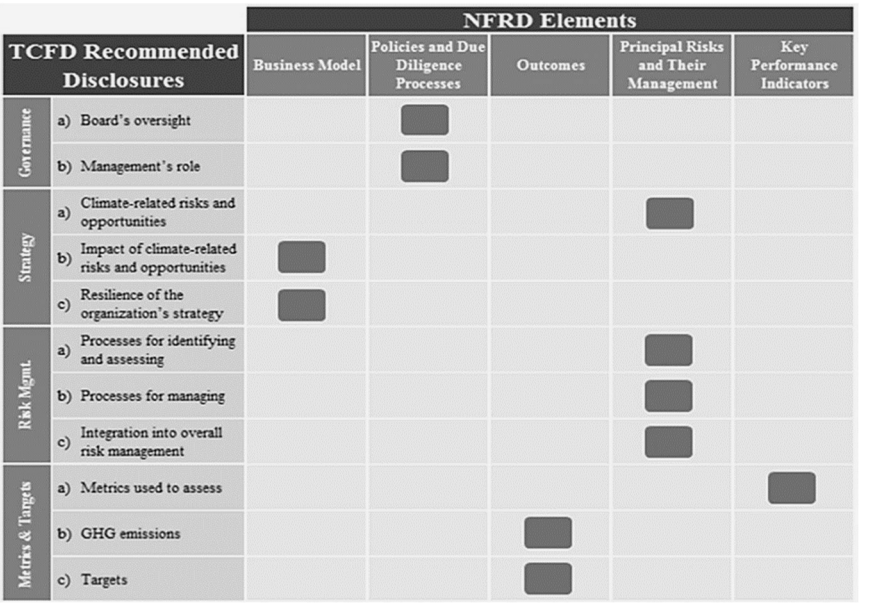
- analysis of climate-related information materiality;
- if so, examination of the interdependencies over corporate strategy and governance;
- depiction of such connections in corporate reports.

With reference to the foregoing bullet point n. 3, in a voluntary disclosure view, preparers might opt for manifold frameworks, such as IIRC, GRI and so on. Still, they might combine the strengths and salient traits of each framework above mentioned, to improve either the effectiveness or the explanatory power of corporate reporting. Conversely, in a mandatory disclosure view, preparers might mesh the requisites indicated by the NFRD (Doni *et al*., 2019a) with one or more voluntary frameworks. In this regard, it is worthwhile highlighting the cross-reference table (Fig. 4) between the NFRD and the TCFD recommendations set out below and suggested by EC. The latter, *inter alia*, spurs preparers to explore other routes with the aim to provide an overall portrayal regarding economic, social and governance (ESG) performance.

Climate related issues unavoidably involve corporate governance pattern. In such a perspective, the focus might be centered on Board of Directors (BoDs) and, in particular, on its characteristics and activism with respect to this kind of issues and ESG performance. In firm reporting policy, it is insightful to underline the possible set up of a corporate social responsibility (CSR) committee or the appointment of a CSR manager. For each of the foregoing options, the level of ESG expertise should be emphasized, in order to underscore BoDs involvement towards climate related issues. A positive signal of an increasing awareness resides in direct investments and/or in specific partnerships meant to enhance ESG competence of human capital. For instance, the main goals pertain the exploration of new technologies green oriented as well as the definition of the best solution for integrating the firm value chain with suppliers and customers by preventing and reducing, at the same time, the environmental impact of its core activities. In other words, climate related issues significantly affect the BoDs decision making process at different levels, from that strategic to operational one. In addition, TCFD

recommendations stress the need to disclose the influence over financial planning and, in particular, in relation to the capital allocation, expenditures, access, investments or divestments as well as operating costs and revenues.

Fig. 4 – The cross-reference table between NFRD requirements and TCFD recommendations



Source: EC Communication, 2019

Along this line of reasoning, the metrics selected for measuring ESG targets should be disclosed in corporate reports. Drawing upon such a management accounting and performance system, with reference to the characteristics, the BoDs might envisage a human capital remuneration policy closely linked to the accomplishment of ESG targets.

Paying attention on BoDs activism, the actions put in place to mitigate and assess the risks pertinent to climate related issues should play a key role in corporate reports. Apart from providing a detailed picture of the foregoing actions, it is purposeful to outline how and to what extent the latter are harmonized into the overall firm risk assessment policy. The categorization of capitals suggested by the IIRC (Bianchi Martini *et al.*, 2016; Doni *et al*., 2019b; Doni *et al*., 2019c) allows to better underline the onward dependence on natural resources. Therefore, firm should be able to address circumstances arising from physical climate related risks. In this regard, the BoDs should outline a resilient corporate strategy path, in order to respectively cope and

reap the threats and opportunities stemming from those kind of uncertainties. By so doing, the key tenets of firm reporting should disclose the oversight activities carried out by the BoDs, or in its behalf by the Audit Committee, in terms of compliance with both the risk management policy and the overall strategic blueprint.

2. Metrics, targets and indicators

As referred above, the Guidelines on Reporting Climate-Related Information (2019) provide a set of recommended indicators (Key Performance Indicators – KPIs) companies have to deem, in order to comply with materiality assessment and to promote comparability of non-financial information disclosure.

The document represents a supplement of the general guidelines on non-financial reporting adopted by the EC in 2017 (Communication from the EC – 2017/C 4234/F1). While the guidelines issued in 2017 are generally referred on all the principal topics of non-financial reporting (social issues, human rights, bribery and corruption, environment), the following ensuing document, published in June 2019, specifically pertains to climate-related information.

It is also useful to remember that the guidelines are not mandatory and, therefore, the related suggestions (i.e. metrics and targets) have not to be considered as an unbreakable and unbending framework.

On the contrary, each company have to carry out a deepen analysis of its own risk profile, along with climate changes, to define the set of indicators useful to comply with the purpose of the guidelines.

The document recommends the disclosure of five different categories regarding the climate-related information:

- greenhouse gas emissions (GHGs);
- energy consumption and production;
- physical risks;
- sustainability-oriented products/services;
- green finance.

The information, metrics and targets companies should disclose are listed in several tables containing the KPIs description, the unit of measure suggested, the example of disclosure and its rationale, the alignment with other reporting framework as well as the EU policy reference.

Hereafter, we proposed a synthetic description of the KPIs recommended by the 2019 Guidelines.

With regard to the first category of indicators (related to GHG), the company should provide information on the following scopes:

1.a) direct GHGs;
1.b) indirect GHGs pertinent to the production of acquired or consumed energy (i.e. electricity, steam, heat or cooling);
1.c) all other GHGs pertinent to company's value chain;
1.d) GHG absolute emissions target.

To ensure the comparability and reliability of the information, companies are encouraged to calculate their emissions, according to internationally recognized methodologies, such as the GHGs Protocol, ISO 14064-1:2018, or the Commission Recommendation 2013/179/EU. For the same reason, it is required to indicate the reliability status of third parties whose emissions fall within the scope of the data disclosed by the company.

With reference to direct GHGs (1.a), given that the goal of a perfect measurement, regarding the total amount, is not always achievable, companies are invited to specify the percentage of both the emissions reliably calculated and the estimated residuals. It is also recommended to clarify the reasons for which it was not possible to collect reliable data and the method used to calculate the percentage of estimated emissions.

Regarding to GHGs indirectly produced (1.b), it is useful to indicate the sources for which it has not been possible to measure or estimate the emissions and the reasons for this lack.

The information, related to the company value chain (1.c), refers to the emissions originated by the activities placed "downstream" or "upstream" from the company's own production. In order to correctly identify "upstream" or "downstream" activities, companies have to consider the GHG Protocol Corporate Value Chain Accounting and Reporting Standard and Annex H of ISO 14064-1:2018; they should also provide explanations when disclosure pertinent to this kind of emissions is excluded.

Finally, with regard to GHG absolute emission target (1.d), the Guidelines suggest to:

- indicate how the disclosed targets relate (in whole or partially) to the aforementioned categories (i.e. direct, indirect and value chain-related emissions);
- describe emissions trends in relation to the targets set;
- set out their own targets for 2025 and 2030 and review them on a five-year basis or even set out a 2050 target to align their programs with the Paris Agreement timeframe;

- disclose (in absolute or percentage terms) the intensity of emissions compared to one or more business parameters (e.g. tons of emissions per employee) or the emission reduction targets compared to a reference year (probably the financial year 2018).

Where appropriate, companies should also consider the usefulness of additional information over GHGs distribution (i.e. direct, indirect and absolute target), according to country, region, business activity and/or subsidiary controlled.

The second category of indicators provided by the guidelines refers to the company energy production and/or consumption within business activity. In particular, companies are required to disclose information concerning:

2.a) the consumption and/or production of energy, by specifying its different origin from renewable and non-renewable sources;
2.b) the energy efficiency target pursued;
2.c) the renewable energy consumption and/or production target.

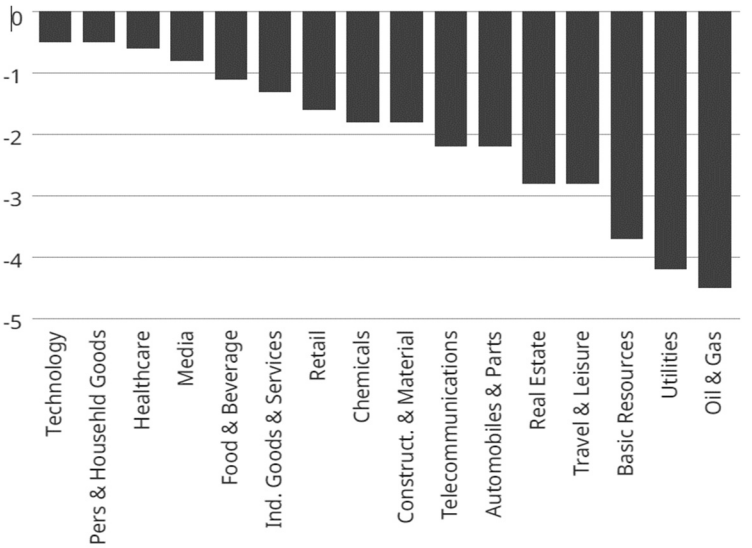
With regard to the information on the consumption and/or production of energy from renewable and non-renewable sources, the guidelines state that fuels consumed as a raw material in the production process (and not used for energy purposes) should not be accounted in the indicator. Companies must provide a breakdown of the different sources of renewable energy associated to its own production and/or consumption, by taking into account the definition contained in CDP Climate Change Reporting Guidance (2018). With reference to non-renewable sources, it is recommended to distinguish low-carbon sources from other non-renewable categories.

The additional targets of energy efficiency and the increased percentage of energy from renewable sources should be disclosed by giving evidence of progress made with respect to the targets set (i.e., lower energy consumption per product released against the date of a given reference year; increased consumption and/or production of renewable energy compared to a given reference year).

A further category of information indicated in the guidelines pertains the physical risks for damages caused to business activity by climate change. It is interesting to highlight that physical risks can be classified as “acute”, when damages are caused by extreme weather events, or “chronic” when they arise from gradual changes, such as upward temperatures (and connected rising of sea level), changes in rainfall trends, etc.; in other terms, climate changes could have socioeconomic impacts on livability and workability, food systems, physical assets, infrastructure services as well as natural capital (McKinsey Global Institute, 2020).

Companies should indicate, in percentage terms, the amount of assets engaged in geographical areas exposed to acute or chronic physical risks arising from the climate, by also specifying the criterion/methodology used to identify the most vulnerable regions. The information is also particularly relevant for assessing business value. Indeed, it is well-known that the existence of uncertainties and risks related to climate changes and extreme weather events could significantly affect company value. In this sense, an interesting article by Schroders Investment Management (2018) highlights the relevant adjustments of company value engendered by industry, as a result of physical climate risks.

Fig. 5 – Enterprise value adjustment for physical climate risks (%)



Source: Schroders Investment Management, 2018

The disclosure provided on physical risks should be jointly reported with an exhaustive description of company's adaptation strategies and policies. Company's strategic involvement to climate change unanimously represents a relevant factor to preserve business value; therefore, it should be properly considered to assess the impacts of climate change on company's value. To this end, it is likewise useful to ponder, at first, the negative effects associated with physical risks: a) the reduction in revenues or the increase in costs rising from a supply chain outage or a limited production capacity, or still an impact on the workforce; b) the upward spending to protect (or repair) business activities from events caused by climate change; c) the mark up in cost of

capital or insurance costs in high-risk regions; d) the write-off (or the early retirement) of the company's assets (Deloitte, 2019).

In predicting adjustments on revenues, charges, investments as well as the related cost of capital[9], it is necessary to consider, for instance, the different types of disruption, as consequence of climate changes, to which industry sectors are exposed.

Fig. 6 – Sectors exposition to different types of disruption resulting from physical events

Energy	▸ Damage to infrastructure (rigs, pipelines, tankers, refineries, nuclear plants etc.) from storms, sea surges, sea level rise ▸ Thermal power generation inability to operate because of water scarcity or warmer water.
Metals & Mining	▸ Supply chain disruption to input materials and water and energy availability ▸ Flooding to mines and plants
Chemicals	▸ Disruption, for instance lack of access to feedstock supplies such as fossil fuels ▸ Damage to plants from sea level rise and storm surges ▸ Water intensive processes face scarcity
Utilities	▸ Power infrastructure, grids and cooling technology disrupted by extreme events ▸ Higher generation demand due to extremes of temperature reduces maintenance time
Consumer Goods	▸ Supply chain disruption, damage to manufacturing facilities and retail stores ▸ Commodity production – cotton, wool, leather – affected by floods, droughts and heat
Industrial Goods	▸ Power, energy supply and materials supply chain interruption
Financials	▸ Project cost escalations due to increasing risks of climatic events ▸ Elevated levels of payout events for re-insurance businesses ▸ Higher cost of business continuity ▸ Credit write down risk from cash flow disruption to companies
Transportation	▸ Service disruption due to infrastructure damage (bridges, canals, ports, rail lines). ▸ Delays to services because of extreme storms
Information Technology	▸ Physical damage to buildings and equipment, including servers, broadcasting towers, transmission and power supply ▸ Increased saline corrosion of coastal infrastructure
Real Estate	▸ Coastal, river basins and inland areas face flooding from sea level rise, storms and hurricanes ▸ Damage to old buildings from extreme temperature and altered water table levels ▸ Water services to buildings disrupted by scarcity ▸ Energy supplies interrupted because of grid infrastructure disruption

Source: HSBC

Source: HSBC, 2017

The increasing uncertainty of business arena leads also to replace traditional valuation models (i.e. DCF) with more complex approaches (i.e. real options analysis) most suited to estimate potential impacts of climate changes. In this sense, the application of real options model should allow to properly estimate the effect associated to:

- «*Options to switch* from carbon emission intensive technologies and products to cleaner fuels, processes and outputs as emission taxes and regulations become increasingly expensive.

[9] In a recent research report, HSBC (2017) suggests estimating future cash flows by taking climate change into account; from this point of view, cash flows could vary from business-as-usual incorporating transition and physical risks as well as potential benefits. The adjusted cash flows have to be discounted by adopting a properly cost of capital which also incorporates climate strategy (*climate adjusted wacc*).

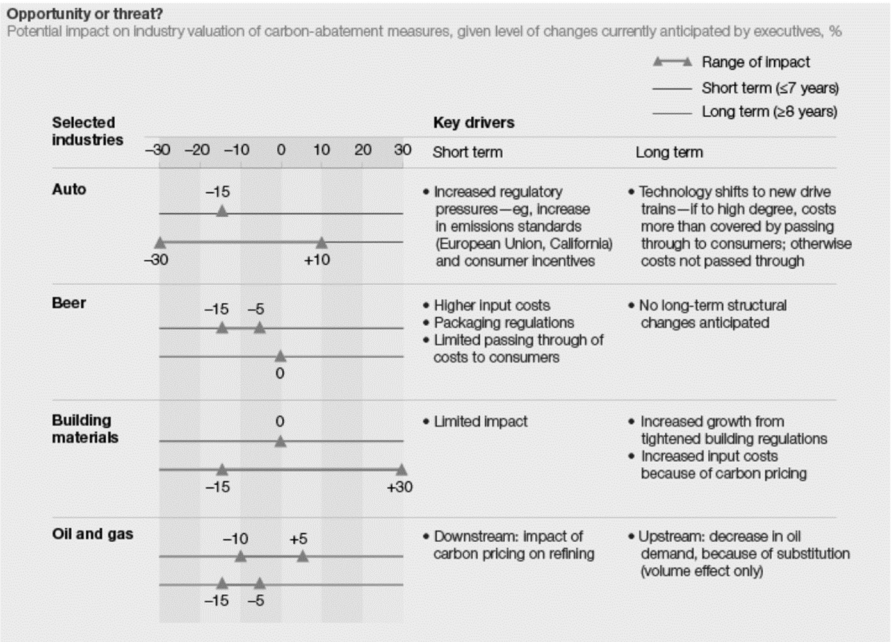
- *Options to 'scope up'* (Mauboussin, 1999) by moving into related industries with a lower climate change exposure as opportunities in these areas open up in response to climate change policies and consumer preference.
- *Options to contract* by reducing the size of high emitting operations as these become unfeasible due to high carbon taxes or emission trading prices.
- *Options to abandon* high emission operations altogether in the longer term.
- *Options to delay* investment in a clean technology until market forces have proven its value or to delay projects until prices for carbon credits or the extent of the physical climate change impacts justify investment, or even to delay investment in a high emitting asset until imminent climate change related regulations are known» (Tyler and Chivaka, 2011: p. 60).

Anyway, it should be reiterated that the overall effect of climate change on firm value can significantly depend on the length of the time horizon; in other words, in the short term, what can currently be considered just a risk factor, it could represent a significant growth opportunity in the long term horizon, because of climate changes' mitigation strategies adopted by the company. The following figure gives a concise evidence of the impact associated to climate changes in different industry sectors, comparing also short term and long-term effects (McKinsey & Company, 2008).

The last category of guidelines' disclosure recommendations is based on revenues, expenses and/or investments originated or pertinent to products, services and activities able to meet the sustainability criteria and support climate-change mitigation or the related adaptation process. For instance, companies should disclose the percentage of revenues from sustainable products or services and/or the percentage of investments and/or expenses for activities or processes complying with sustainability criteria.

Finally, from a financial point of view, the guidelines suggest to explicit the outstanding percentage of green bonds, at the end of the year, against the total amount (calculated as a five-year moving average). In the same way, it is necessary to provide information on the incidence of green debt instruments at the end of the year compared to the total outstanding debts (calculated as a five-year moving average). In essence, this kind of information gives evidence of specific financing programs supporting company's climate improvement projects. To this end, it is recommended to highlight the possible presence of company unlisted green bonds and to disclose future goals regarding subsequent green financing plans and activities.

Fig. 7 – Example of potential impact on industry valuation of carbon-abatement measures



Source: McKinsey & Company, 2008

In addition to the indicators above described, which should apply to general companies, the guidelines also suggest to consider the following regulatory sources:

- the indicators, referring to specific industries (e.g. energy, agriculture, real estate, transport, materials and construction) included in the Task-Force on Climate-related Financial Disclosures (TCFD) Supplemental Guidelines, as well as in other standards issued with the same purposes[10];
- the indicators on environmental issues related to business activity for entities heavily dependent on natural capital and/or having negative effects on climate (e.g. deforestation or forest degradation)[11];

[10] TCFD (2017). *Implementing the Recommendations of the Task-Force on Climate-related Financial Disclosures* (www.fsb-tcfd.org/wp-content/uploads/2017/06/final-tcfd-Annex-062817.pdf). Other standards containing key performance indicators on climate issues are the CDP questionnaires on climate change, water security and forests (*CDP Climate Change, Water Security and Forests Questionnaires*), the GRI 305 (*Emissions 2016*) and GRI 302 (*Energy 2016*) standards, or sector standards issued by Sustainability Accounting Standard Board (SASB).

[11] *Natural Capital Protocol Toolkit* (www.naturalcapitalcoalition.org/protocol-toolkit) and the *European Commission Recommendation 2013/179/EU* on the use of common metho-

- the indicators concerning human capital and social issues;
- the indicators related to the opportunities arising from the transition to a low-carbon economy and other climate change mitigation and/or adaptation activities (e.g. revenues from low carbon products or R&D investments in circular economy production)[12].

The guidelines, in the last part, also provide a specific guidance (Annex 1) for banking and insurance industries containing explanations and recommendations on:

- business model;
- policies and due diligence processes;
- outcomes;
- risks and risk management;
- specific KPIs.

In this perspective, the EC therefore recommended further disclosure propositions for banks and insurance companies, in view of the particular perspective characterizing their core business. In other words, they should communicate specific information concerning, for instance, an investment, lending and insurance underwriting portfolio able to contribute to climate change mitigation and adaptation, as well as any other corporate behavior, in relation to this topic.

3. Concluding remarks

On June 2019, the EC released non-binding guidelines on corporate reporting climate-related information, which provide recommendations to improve quality, relevance and comparability of non-financial disclosure.

In particular, such new guidelines allow to give a better information regarding the effects of climate change on companies as well as how their activities could either affect the climate or increase awareness and understanding of climate-related risks and opportunities and their impact on governance, strategy and business model.

dologies to measure GHG performance, on the basis of life cycle approach (organization and products environmental footprint).

[12] With reference to this topic, companies should consider, for instance, EU regulatory sources, such as the Circular Economy Package, the Energy Efficiency Directive, the Renewable Energy Directive, the EU Emission Trading Scheme or the Clean Transport Package (www.ec.europa.eu/clima/policies/strategies/2050_en).

Along this line of reasoning, we proposed an overview on the critical aspects pertinent to the EC guidelines, in particular, with respect to how the new recommendations can facilitate the analysis of risk exposure and opportunities, their linkage with business strategies and if they can efficiently direct capital to sustainable investments, generate more relevant information for data users and increase market transparency.

In essence, some distinguished studies address the topic of climate change reporting, especially after the issue of the foregoing guidelines, in June 2019. To this end, an interesting work conducted by Financial Reporting Council (2019) provides examples of current practices adopted by major companies, representing useful (financial and non-financial) climate related disclosures mainly compliant with TCFD recommendations. Thanks to an example, the research highlighted companies:

- display relevant metrics for business model, by describing the KPIs as well as the related targets and progress (Diageo Plc.);
- provide forward-looking indicators and the quantification of a "climate-value-at-risk" metric (Axa Group);
- describe how they assess carbon-footprint of their investments, and how they use this information (Aviva Plc.);
- exhibit performance classified across different areas, with metrics compared on a five year time frame (Fresnillo Plc.);
- show performance in a user-friendly manner, by exposing clear information, comparing performance across time and describing metrics measurement methods and target-setting (UBS Group AG, DS Smith Plc., National Grid Plc.);
- provide four years GHGs data, by also disclosing information over assurance process conducted by third-party (Go-Ahead Group Plc.).

In sum, our overview on climate-related information, recommended by such Guidelines, allows to highlight the following crucial issues:

- the usefulness of a complex set of indicators devoted to the generality of companies is partially constrained given that, with reference to the issue of climate change risks, any entity has distinctive features, in terms of both the activity carried out and the geographical context into which it operates. From this point of view, the EU decision to consider the guidelines non-mandatory is certainly appreciable, leaving the sensitivity of each company to opt for the nature and the extent of their own disclosure on climate-related information;
- the presence of several different laws and regulatory sources on climate change reporting could create confusion and uncertainty for

companies and other economic players. Similarly, we observe an effective risk of overlapping/duplicating information required by different regulatory sources. It would be highly desirable to issue a unique complex document, internationally recognized, containing an introductory section devoted to the generality of companies and a detailed section with specific disclosure requirements for companies exposed to climate change risks;

- non-financial information related to climate change mostly imply a different time horizon compared to the financial disclosure. Therefore, we consider needful to deepen this critical issue to foster the value relevance and the coordination of climate-related information within the framework of mandatory reports composing the financial statements;
- future efforts have to be focused on the practical challenge to define endorsed methodologies able to translate, in a monetary view, the effects of companies' climate-related behaviors and actions (Brunelli & Delvaille, 2020).

At last, as suggested by the EC, some of the previous issues may be arguably overcome by the adoption of the foregoing Guidelines to the reports focused on fiscal year 2019. The remarks collected in the current year therefore might stimulate the embracing of original and hitherto unseen routes.

References

Adams C., Hill W.Y. and Roberts C.B. (1998), *Corporate social reporting practices in Western Europe: legitimating corporate behaviour*, British Accounting Review, Vol. 30, pp. 1-21.

Adams C.A. (2015), *The International Integrated Reporting Council: A call to action*, Critical Perspectives in Accounting, Vol. 27, pp. 23-28.

Adams C.A. and Frost G.R. (2008), *Integrating sustainability reporting into management practices*, Accounting Forum, Vol. 32, No. 4, pp. 288-302.

Adams M. (2015), *Intangibles and Sustainability: Holistic Approaches to Measuring and Managing Value Creation*, Journal of Applied Corporate Finance, Vol. 27, No. 2, pp. 87-94.

Ahmed K., and Courtis J. (1999), *Associations between corporate characteristics and disclosure levels in annual reports: a meta-analysis*, British Accounting Review, Vol. 31, No. 1, pp. 35-61.

Akerlof G. (1970), *The market for "Lemons": Quality uncertainty and the market mechanism*, Quarterly Journal of Economics, August 1970, Vol. 89, pp. 488-500.

Bianchi Martini S., Corvino A., Doni F., Rigolini A. (2016), *Relational capital disclosure, corporate reporting and company performance. Evidence from Europe*, Journal of Intellectual Capital, Vol. 17, No. 2, pp. 186-217.
Botosan C.A. (1997), *Disclosure level and the cost of equity capital*, The Accounting Review, Vol. 72, No. 3, pp. 323-349.
Brand F. (2009), *Critical natural capital revisited: Ecological resilience and sustainable development*, Ecological Economics, Vol. 68, pp. 605-612.
Brunelli S. and Delvaille P. (2020), *Corporations' Eco-Consciousness in the New Deal of Non-financial Information Disclosure System: Preliminary Evidence from Italian and French Practices*. In: Brunelli S., Di Carlo E. (eds), *Accountability, Ethics and Sustainability of Organizations. Accounting, Finance, Sustainability, Governance & Fraud: Theory and Application*, Springer, Cham.
Campbell J. L., Chen H., Dhaliwal D. S., Lu H.M. and Steele L.B. (2014), *The information content of mandatory risk factor disclosures in corporate filings*, Review of Accounting Studies, Vol. 19, No. 1, pp. 396-455.
Carroll, A.B. (1999), *Corporate social responsibility: Evolution of a definitional construct*, Business & Society, Vol. 38, No. 3, pp. 268-295.
Churet C. and Eccles R.G. (2014), *Integrated reporting, quality of management, and financial performance*, Journal of Applied Corporate Finance, Vol. 26, No. 1, pp. 56-64.
Committee of Sponsoring Organizations of the Treadway Commission (COSO); World Business Council for Sustainable Development (WBCSD) (2018), Applying Enterprise Risk Management to environmental, social and governance-related risks. https://www.coso.org/Documents/COSO-WBCSD-ESGERM-Guidance-Full.pdf.
Corvino A. (2008), *La comunicazione della strategia nel governo dell'azienda*, Cacucci, Bari.
Corvino A. (2012), *Informativa di sostenibilità e performance. Profili teorici ed evidenze empiriche nella comunicazione d'azienda "dovuta"*, RIREA, Roma.
Coulson A.B., Adams C.A., Nugent M.N. and Haynes K. (2015), *Exploring metaphors of capitals and the framing of multiple capitals. Challenges and opportunities for <IR>*, Sustainability Accounting, Management and Policy Journal, Vol. 6, No. 3, pp. 290-314.
De Groot R., Van der Perk J., Chiesura A. and van Vliet A. (2003), *Importance and threat as determining factors for criticality of natural capital*, Ecological Economics, Vol. 22, Nos 2/3, pp. 187-204.
de Villiers C., Rinaldi L. and Unerman J. (2014), *Integrated Reporting: Insights, gaps and an agenda for future research*, Accounting Auditing and Accountability Journal, Vol. 27, No. 7, pp. 1042-1067.
Deegan C. (2002), *Introduction: The legitimising effect of social and environmental disclosures–a theoretical foundation*, Accounting, Auditing & Accountability Journal, Vol. 15, No. 3, pp. 282-311.
Deloitte (2019), *A closer look. Climate change*, available at: www.deloitte.co.uk/climatechange
Dobler M. (2008), *Incentives for risk reporting - A discretionary disclosure and cheap talk approach*, The International Journal of Accounting, Vol. 43, pp. 184-206.

Doni F., Bianchi Martini S., Corvino A. and Mazzoni M. (2019a), *Voluntary versus mandatory non-financial disclosure: EU Directive 95/2014 and sustainability reporting practices based on empirical evidence from Italy*, Meditari Accountancy Research, DOI: 10.1108/MEDAR-12-2018-0423.

Doni F., Larsen M., Bianchi Martini S. and Corvino A. (2019b), *Exploring integrated reporting in the banking industry. The multiple capital approach*, Journal of Intellectual Capital, Vol. 20, No. 1, pp. 165-188.

Doni F., Bianchi Martini S. and Corvino A. (2019c), *Integrated reporting through the lens of institutionalism and organizational change: the DBS group case*, Italian Accounting Review, Special Issue *Integrated Thinking and Reporting in practice: challenges, opportunities, and future directions of research*, pp. 21-49.

Dumay J., Bernardi C., Guthrie J. and Demartini P. (2016), *Integrated reporting: A structured literature review*, Accounting Forum, Vol. 40, No. 3, pp. 166-185.

Eccles R.G., Krzus M.P. and Ribot S. (2015), *Models of Best Practices in Integrated Reporting 2015*, Journal of Applied Corporate Finance, Vol. 27, No. 2, pp. 103-115.

Eccles R.G., Krzus M.P., Rogers J. and Serafeim G. (2012), *The need for sector-specific materiality and sustainability reporting standards*, Journal of Applied Corporate Finance, Vol. 24, No. 2, pp. 65-71.

Edwards P. and Smith R.A. (1996), *Competitive disadvantage and voluntary disclosures: the case of segmental reporting*, British Accounting Review, Vol. 28, No. 2, pp. 155-172.

Elshandidy T. and Shrives P.J. (2016), *Environmental incentives for and usefulness of textual risk reporting: Evidence from Germany*, The International Journal of Accounting, Vol. 51, No. 4, pp. 464-486.

Elshandidy T., Fraser I. and Hussainey K. (2015), *What drives mandatory and voluntary risk reporting variations across Germany, UK, and US?* The British Accounting Review, Vol. 47, No. 4, pp. 376-394.

Eng L.L. and Mak Y.T. (2003), *Corporate Governance and voluntary disclosure*, Journal of Accounting and Public Policy, Vol. 22, No. 4, pp. 325-345.

European Commission Communication (2017), *Guidelines on non-financial reporting (methodology for reporting non-financial information) (2017/C 215/01)*, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017XC0705(01)&from=EN.

European Commission Communication (2019), *Guidelines on non-financial reporting: Supplement on reporting climate-related information (2019/C 209/01),* available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52019XC0620(01)&from=EN.

European Commission Recommendation (2013), *On the use of common methods to measure and communicate the life cycle environmental performance of products and organisations (2013/179/EU),* available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013H0179&from=IT.

Financial Reporting Council (2019), *Climate-related corporate reporting. Where to next?* available at: www.frc.org.uk.

FSB-TCFD (2017) *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, available at: https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf.

Global Reporting Initiative (GRI) Global Sustainability Standards Board (GSSB) (2017), *Linking the GRI Standards and the European Directive on non-financial and diversity disclosure*, available at: https://www.globalreporting.org/standards/resource-download-center/linking-gri-standards-and-european-directive-on-non-financial-and-diversity-disclosure.

Healy P. and Palepu K. (2001), *Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature*, Journal of Accounting and Economics, Vol. 31, Nos. 1/3, pp. 405-440.

Hossain M., Tan L.M. and Adams M. (1994), *Voluntary disclosure in an emerging capital market: some empirical evidence from companies listed on the Kuala Lampur Stock Exchange*, International Journal of Accounting, Vol. 29, No. 4, pp. 334-351.

HSBC (2017), *Keeping it Cool. Do you DCF? Discount Climate Facts*, available at: https://www.research.hsbc.com.

Huang X.B. and Watson L. (2015), *Corporate Social Responsibility research in accounting*, Journal of Accounting Literature, Vol. 34, pp. 1-16.

International Integrated Reporting Council - IIRC (2013), *The International Integrated Reporting Framework*, available at: https://integratedreporting.org/wp-content/uploads/2013/12/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf.

Jensen M.C. and Meckling W.H. (1976), *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, Journal of Financial Economics, Vol. 3, No. 4, pp. 305-360.

Kolk A. (2010), *Trajectories of sustainability reporting by MNCs*, Journal of World Business, Vol. 45, No. 4, pp. 367-374.

Lajili K. and Zéghal D. (2005), *A content analysis of risk management disclosures in Canadian annual reports*, Canadian Journal of Administrative Sciences, Vol. 22, No. 2, pp. 125-142.

Magnan M. and Markarian G. (2011), *Accounting, governance and the crisis: Is risk the missing link?* European Accounting Review, Vol. 20, No. 2, pp. 215-231.

Malafronte I., Porzio C. and Starita M.G. (2016), *The nature and determinants of disclosure practices in the insurance industry: Evidence from European insurers*, International Review of Financial Analysis, Vol. 45, pp. 367-382.

Marshall A. and Weetman P. (2007), *Modelling transparency in disclosure: The case of foreign exchange risk management*, Journal of Business Finance & Accounting, Vol. 34, Nos. 5/6, pp. 705-738.

Matten D. and Moon J. (2008), *"Implicit" and "Explicit" CSR: A Conceptual Framework for a Comparative Understanding of Corporate Social Responsibility*, Academy of Management Review, Vol. 33, No. 2, pp. 404-424.

McKinsey & Company (2008), *How climate change could affect corporate valuations*, available at: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-climate-change-could-affect-corporate-valuations

McKinsey Global Institute (2020), *Climate risk and response: Physical hazards and socioeconomic impacts*, available at: https://www.mckinsey.com/business-functions/sustainability/our-insights/climate-risk-and-response-physical-hazards-and-socio economic-impacts.

Meek G.K., Roberts C.B. and Gray S.J. (1995), *Factors influencing voluntary annual reports disclosures by US, UK and Continental European multinational corporations*, Journal of International Business Studies, Vol. 36, No. 3, pp. 555-572.

Mio C., Fasan M. and Pauluzzo R. (2016), *Internal application of IR principles: Generali's Internal Integrated Reporting,* Journal of Cleaner Production, Vol. 139, pp. 204-218.

Onesti T. (1995), *Fattori ambientali e comportamenti contabili. Analisi comparata dei sistemi contabili di alcuni paesi industrializzati*, Giappichelli, Torino.

Onesti T., Romano M. and Taliento M. (2016), *Il bilancio di esercizio nelle imprese. Dal quadro concettuale di riferimento alle nuove regole contabili nazionali e internazionali*, Giappichelli, Torino.

Romano M., Taliento M., Favino C. and Netti A. (2019), *Firm characteristics and forward-looking risk disclosure: Evidence from the Italian context.* Corporate Ownership & Control, Vol. 16, No. 4, pp. 56-65.

Schroders Investment Management (2018), *Climate change: the forgotten physical risks*, available at: https://www.schroders.com/en/sysglobalassets/digital/insights/2018/thought-leadership/climate-change---the-forgotten-physical-risks_final.pdf/.

Sengupta P. (1998), *Corporate Disclosure Quality and the Cost of Debt*, The Accounting Review, Vol. 73, pp. 459-474.

Solomon J. and Maroun W. (2012), *Integrated Reporting: the Influence of King III on Social, Ethical and Environmental Reporting*, The Association and Chartered Certified Accountants, London, UK.

Solomon J.F., Solomon A., Norton S.D. and Joseph N.L. (2000), *A conceptual framework for corporate risk disclosure emerging from the agenda for corporate governance reform*, The British Accounting Review, Vol. 32, No. 4, pp. 447-478.

Stubbs W. and Higgins C. (2014), *Integrated Reporting and internal mechanisms of change,* Accounting, Auditing & Accountability Journal, Vol. 27, No. 7, pp. 1068-1089.

Taliento M., Favino C. and Netti A. (2019), *Impact of Environmental, Social, and Governance Information on Economic Performance: Evidence of a Corporate 'Sustainability Advantage' from Europe*. Sustainability, Vol. 11, No. 6, 1738.

Tyler E. and Chivaka R. (2011), *The use of real options valuation methodology in enhancing the understanding of the impact of climate change on companies*, Business Strategy and the Environment, Vol. 20, No. 1, pp. 55-70.

Vesty G., Ren C. and Ji S. (2018), *Integrated reporting as a test of worth*, Accounting, Auditing & Accountability Journal, Vol. 31, No. 5, pp. 1406-1434.

9. HOW TO BOOST ENVIRONMENTAL ACCOUNTING PRACTICES: EVIDENCE FROM TWO ITALIAN CASE STUDIES

by *Luca Del Bene*[*], *Aurelio Tommasetti*[**], *Giulia Leoni*[*], *Gennaro Maione*[**]

Introduction

Since 1992, with the Rio Earth Summit, the environmental issue is moving toward the concept of sustainability development, highlighting the fact that environmental, social and economic elements are actually indissoluble, and sustain the necessity to integrate those elements into the decision-making process.

Local Governments (LGs) around the world are tasked with Local Agenda 21 (LA21), which summarizes the necessary actions to be taken, the stakeholders to be involved and the instruments to be used to strive for global sustainable development. Environmental Accounting (EA) practices may allow decision makers to take into consideration the environment and to improve sustainability policies, however, they seem not to be completely integrated in political practice even today. Research on Social and Environmental Accounting (SEA) in Public Sector Organizations (PSOs) is minimal (Ball and Grubnic, 2007; Gray, Adams and Owen, 2014; Grubnic, Thomson and Georgakopoulos, 2015), has been mainly normative (Farneti, 2011), and the link with strategic plans is considered marginal (Bebbington, 2007; Mazzara, Sangiorgi and Siboni, 2010).

Therefore, considering the high relevance of the topic, on one hand, and the still peripheral effort of researchers interested in themes like SEA on the

[*] Marche Polytechnic University, Italy. Department of Management.
E-mail: l.delbene@univpm.it. g.leoni@pm.univpm.it.
[**] University of Salerno, Italy. Department of Business Science – Management & Innovation Systems. E-mail: rettore@unisa.it, gmaione@unisa.it.

other, in this article, through a comparative case study, the aim is to answer to the following Research Question (RQ):

RQ: *What are the CSR drivers/inhibitors of EA practices in municipalities?*

More specifically, the research goal is to identify the critical factors of EA practices, allowing for the exploration of the reasons why some public local administration choose to elaborate Environmental Report (ER) fostering the understanding of the logic underlying their policies.

The paper is structured as follows: section 1 provides an insight into the meaning of EA, with a subsection devoted to the ER in the Italian context. Section 2 discusses the research method applied and describes the case studies that have been studied. Section 3 shows and describes the results of the analysis. Section 4 is devoted to implications while section 6 deals with conclusions, outlining the limitations of the study and the insights for future research.

1. Theoretical background

1.1. Environmental accounting

In recent years, the commitment to Corporate Social Responsibility (CSR) has been gaining momentum worldwide (Visser, 2008; Jamali and Karam, 2018; Crane, Matten and Spence, 2019). In the last decades, additional evidence is being requested to LGs on their sustainability and development (Alcaraz-Quiles, Navarro-Galera and Ortiz-Rodriguez, 2015; Rodriguez Bolivar *et al*., 2016). Within the scope of CSR, one of the most debated key domains, dating back to the 1970s, is the environmental one when business managers interest increased and therefore realized that the association with the EA may have been effective in improving the efficiency of the entity's management by: identifying and reducing costs, prioritizing environmental actions (Bracci and Tallaki, 2013), directing the process of establishing prices for products, increasing the client's value, making investment decisions with consequences in the long term and assessing the eco-efficiency and/or sustainability of the entity's activities (Bennet and James, 1997).

The term EA has many meanings and uses and to date there is no generally accepted definition describing the concept of EA (Bennett and James, 2017; Deegan, 2017; Schaltegger and Burritt, 2017).

Steele and Powell (2002) define EA as the identification, allocation and analysis of material flows and of environmental cash-flows, in order to provide insight into environmental impacts and into the associated financial consequences.

In Ienciu's opinion (2009), EA records, analyzes and reports the financial impacts caused by the environment, as well as the environmental impacts/issues of an economic system, in order to provide users with a clear and complete picture of the environmental performance of that economic system (Stanciu, Joldos and Stanciu, 2011).

Gray, Bebbington and Walters (1993) define environmental accounting as a management tool addressing all areas of accounting that may be affected by the response of business organizations to environmental issues, including the new area of eco-accounting. Environmental accounting identifies measures that promote sustainable environmental management (Sendroiu and Roman, 2007).

Accordingly, this paper considers the concept of environmental accounting as a set of tools for identifying and measuring environmental costs and benefits in order to ensure an adequate environmental performance information use (Evangelinos, Nikolaou and Leal Filho, 2015; Garcia-Torea, Larrinaga and Luque-Vìlchez, 2019; Patten and Shin 2019). To this end, the related information should be used not just for controlling and self-checking purposes, but also for supporting the organization decision-making (Arafat, Warrokka and Dewi, 2012). However, political use of performance data is multifaceted (Behn, 2003; Van Dooren, Bouckaert and Halligan, 2010), affected by political ideology and negative bias ratcheting greater attention to conditions when performance falls below some aspirational benchmarks (Moynihan, 2016; Del Baldo and Aureli, 2017).

So, each environmental accounting tool differs according to the underlying environmental political vision and the contextual circumstances (Giovanelli, Coizet and Di Bella, 2005).

In this regard, it is possible to categorize environmental accounting tools in terms of: political purpose, policy orientation and environmental perspective (see table 1).

This classification follows what Giovanelli, Coizet and Di Bella have defined with the name of "three generations of environmental policies", defining these groups, in order, one as the evolution of the previous (both in terms of timing but especially in terms of concept).

In other words, the "Participation and Reporting Group" (also called "third generation") embraces the *sustainability concept* at 360° (environment, economy and society) by going beyond the concept of sectorial

policies (Group 1, "Indicator Group" and 2, "Management Resource Group"), and moving toward a complete integration of the environment into politics. Specifically, the first group considers the environment as a close system that needs to be protected by legislative intervention and it refers to specific indicators (e.g. European Common Indicators, Ecological Footprint and Urban Ecosystem). The second considers the relationship between the environment and the economic development, employing also voluntary intervention tools which function as "Plan-Do-Check-Act" (e.g. ISO 14001, EMAS II and Green Purchases). The third, which is the focus of the paper, can be referred to social and environmental reports, which generally contain an assessment of LGs (financial and non-financial) performance in terms of both internal management and external impacts of their activities and policies. Social Report (SR) mainly seeks to 'legitimize' its activities and to meet society's expectation. While ER should represent a document to communicate environmental performance to external stakeholders but especially to provide useful insights for the decision-making process.

Tab. 1 – Tools for environmental policies

Group	Political purpose	Policy orientation	Environmental perspective
Indicator Group	Descriptive documents for command and control purposes.	Environmental sector	Natural resources
Management Resource Group	Managerial and analytical documents for command, control and self-check purposes.	Multisector	Interaction between natural resources and human activities.
Participation and Reporting Group	Managerial, analytical and strategic documents.	Full integration of environment into politics	Set of all available resources

However, this route is rather complex, and the most feasible action is the bottom-up approach, because LGs, through their territorial policies, can play the role of "laboratory" producing innovative and concrete experience (Coizet, 2005 p. 31).

1.1.1. Environmental reporting in Italy

Environmental reporting is the process by which private or PSOs elaborate a document, known as environmental report (ER), with the purpose to show and describe its environmental commitment (Welford, 2016). Through this document, the organization not only publicly describes its environmental

engagement, but also assesses and analyzes their actual and potential environmental performance, policies, practices and future direction (Azzone *et al*., 1997; Schaltegger, Burritt and Petersen, 2017).

Summing up, organizations use ER to pursue a twofold objective (Wheeler and Elkington, 2001): on one hand, it communicates and reports internal and external transparency and, on the other, it considers the environment as a cross-sectorial and strategic issue of the whole planning process (Capurro, 2019). Thus, the ER is a voluntary information document, which describes all the main relationships between organization and environment (Buhr, 2002). Like Social Report, the ER is aimed not only at key decision makers – which in a public sector are managers and politicians – but also at companies and their associations, citizens and organizations (charities, environmental associations, etc.) (Plumlee *et al*., 2015; Braam *et al*., 2016) – but unlike the former, it deals with a specific part of the organization's activity, completely focused on the environmental sphere (Rega and Baldizzone, 2015; Epstein, 2018).

With regard to LGs, following the European legislation, Italy has given a great contribution to the development of ER, both from the scientific and the political points of view.

In 1997, the first Decree on EA for municipalities, provinces, regions and state has been presented in Parliament, without precedents in Europe, undersigned by all parliamentary groups and approved by the Senate only, in 1999. Even if the Decree has never been approved, it enlivened the debate and the experimentation on ER at every government level, especially at the local one (municipality, province and region). Thus, the impulse coming from the international and national context has turned into a movement coming from LGs. The fundamental steps of this bottom-up movement have fostered the creation of the national LA21, five years after the creation of the European LA21(1994), which objectives and strategic guidelines are to promote national LA21 and to facilitate cooperation.

As aforementioned, at the end of the '90s LGs started to include the ER as well as the traditional budgetary accounting system, as established by the "Giovanelli Decree".

In 2003, the Clear-Life manual, acronym of "City and Local Environmental Accounting and Reporting", developed by 18 authorities with the collaboration of Les Eco Maires, was published to be a model for LGs to build ER. It is an internal instrument that offers support for the activities of sustainable environmental management (Bratti A., 2003) and it is characterized by: its inter-sectorial nature; its structure made of material flows and of environmental cash-flows and its political rather than administrative nature (Giovanelli, Coizet and Di Bella, 2005).

2. The analysis

According to what is stated in the previous section, this analysis seeks to highlight whether and how a specific innovation, as the Clear-Life method, has fostered the ER adoption.

In order to reach the research goal, a multiple case study approach was followed, since it allows for analyzing complex phenomena and situations (Fiorentino *et al.*, 2016; Lamboglia *et al.*, 2018), offering the opportunity to identify possible differences and similarities among the cases taken into account (Lambert and Sponem, 2012), therefore reducing the risk of making considerations based on results affected by uncontrollable factors (e.g. casualty, coincidences, etc.). In other words, the choice to resort to a multiple case study is due to the need to attribute scientific rigor by ensuring higher reliability to the discussion (Stake, 1995; Corcoran *et al.*, 2004). Over time, many other authors employed that research method to reach their own research goals and, to date, in the accounting literature it is possible to trace a large number of scientific contributions that recommend its use (Becker, 2014; Del Bene and Ceccarelli, 2016; Doni *et al.*, 2019).

To this end, the first activity carried out was aimed at selecting a method used by more than one municipality to draft their ER. In this regard, among all available alternatives (as reported in table 1), the attention was paid to Clear-Life since it takes shape as a complete and structured methodology (Bartocci and Picciaia, 2013) that involves many actors for its preparation – such as the Executive Committee, the Council and even the Mayor –, which copes with sustainability and development in a wider perspective, taking into account transparency, citizens' awareness, accountability and LG commitment (Borriello, 2013). In doing that, the decision-making process underlying the implementation of the Clear-Life method is rather complex, since it implies a series of integrated actions according to a bottom-up approach. Clear-Life emerged as a largely tested method, used for about 16 years by various Italian public administrations, from North to South (Di Palma, Falcitelli and Femia, 2005). In particular, it was introduced thanks to the commitment of a working group of 18 Partners (municipal and provincial administrations), coordinated by the joint action of the Emilia-Romagna region and the international association Les Eco Maires – which includes about 600 municipalities adopting sustainable policies –, as part of an European project co-funded by Life Environment (Dalmazzone and La Notte, 2009).

Tab. 2 shows the municipal and provincial administrations – reported in alphabetical order – originally involved in the process of drawing up the ER,

according to the scheme of the Clear-Life method. Currently, some of those administrations no longer elaborate the ER.

In order to achieve the research objective and, therefore, to provide empirical evidence of the reasons that lead public local administrations to draw up the ER, it was decided to give relevance to two municipalities, selecting both a fulfilling and a defective administration.

The choice fell on the municipalities of Reggio Emilia (fulfilling) and Grosseto (defective), also due to the actual feasibility of the analysis, considering that it was not possible to establish a direct contact with the accounting department managers of all the local public administrations previously identified.

Tab. 2 – Local public administrations originally involved in the Life Environment project

Local Public Administrations	
Municipality of Bergeggi	Municipality of Rovigo
Municipality of Castelnovo ne' Monti	Municipality of Salsomaggiore
Municipality of Cavriago	Municipality of Varese Ligure
Municipality of Ferrara	Province of Bologna
Municipality of Grosseto	Province of Ferrara
Municipality of Modena	Province of Modena
Municipality of Pavia	Province of Napoli
Municipality of Ravenna	Province of Reggio Emilia
Municipality of Reggio Emilia	Province of Torino

Tab. 3 shows some data relating to the sample under investigation:

Tab. 3 – The municipalities investigated

Data	Municipality	
	Reggio Emilia	Grosseto
Location	North-East Italy	Central Italy
Region	Emilia Romagna	Tuscany
Area	230.66 km^2	473.55 km^2
Citizens	171,999	82,353
Population density	745.68 cit./km^2	173.91 cit./km^2

The analysis was performed by administering semi-structured interviews, designed by taking into account the motives characterizing the choice of

continuity made by the two municipalities which, after a long time, are continuing (Reggio Emilia) or have stopped (Grosseto) drawing up the environmental report according to the Clear methodology. The use of semi-structured interviews, rather than open, is justified by the consideration that, although there is a fixed trace, the development of the interview may vary according to the interviewees' answers (Horton, Macve and Struyven, 2004). In fact, administering semi-structured interviews, the interviewer cannot address issues extraneous to the track but, unlike what happens with structured interviews, he/she can develop some sub-topics that spontaneously arise and that could be useful for understanding the phenomenon investigated.

The interviews were designed by identifying three sections: a) EA and local resources; b) EA and connection with local stakeholders and community; c) EA and reporting issue.

The interviews, administered to the accounting office managers of the two municipalities, lasted differently: 60 minutes for the municipality of Reggio Emilia and 45 minutes for the municipality of Grosseto.

3. Results and discussion

The findings emerged from the survey show that the decision to elaborate the ER is linked to the joint consideration of a series of critical factors that are not always controllable. In this regard, as claimed by the head of the accounting and budget department of the municipality of Reggio Emilia, «[…] The most concrete impulse to the process that over the years led the municipal administration to prepare the ER is represented by the co-financing received from the European Commission», which, with just less than two million euros, covered 50% of the start-up and development costs through funds allocated to implement the Life-Environment program. «Probably, without an economic support, no municipal administration would have begun to draw up the ER, […] especially given the scarcity of human resources available».

The considerable simplicity of the Clear-Life methodology emerged as a further stimulus for the ER. In this regard, «the structure subdivided into ten areas of competence, clearly delineated, made it possible to reduce the resistance to change of those who started working on the ER. Although, to date, there is no binding regulation regarding the ER for municipalities, the application of the Clear-Life method does not involve uncertainties or concerns regarding the analysis of environmental issues. In this perspective, the ER summarizes and systematizes the environmental policies adopted or to be adopted in a single document». Moreover, the underlying logic, which im-

plies the transition from counting to accounting and from accounting to reporting, helps the administration to abandon an approach based exclusively on the quantity of resources to embrace «[…] a reporting-oriented culture, more focused on the accountability towards community, […] in terms of efficiency and effectiveness of the political-administrative action in the field of sustainability».

This statement is in line with what was highlighted by Schaltegger and Burritt (2017), according to whom stakeholder involvement is a fundamental step for the effective achievement of economic, social and environmental objectives. Consistently, Bennett and James (2017) argue that stakeholders are the main players in the network of open relationships that every administration should properly create and preserve over time, in order to adapt environmental policies to the evolution of the needs and expectations of the administered community. In line with this consideration, Russell, Milne and Dey (2017) define ER as a powerful means of communication for public administration able to favor the exchange of ideas and information of an environmental nature, capable of positively impacting the climate of trust that the community places in policymakers (Fogarassy *et al.*, 2018). Thus, «environmental accounting emerges as a means of linking administration and citizens, […] capable of favoring their mutual rapprochement […] as well as the enhancement of territory […] and its resources, not only under an environmental profile».

In addition, the results emerged from the survey allow considering the ER as the viaticum for the continuity of the administrative action: «year after year, through final report and preventive programmatic lines, the governance process is enriched with elements compatible with the ultimate aim of catalyzing the policies, strategies and actions of the local administration towards a concept of wide-ranging and three-dimensional sustainability, […] including aspects related to environment, economy and society. The drafting of the ER, in the sense of satellite report of the financial statements, pursues the political foresight of local administrations».

Although it is not scientifically perfect, the ER leads the administration to deepen environmental issues and evaluate the relative data to generate significant information for municipal council. In doing so, «positive aspects and negative circumstances are dealt with data in hand, offering to the administration the opportunity to understand the resources to be exploited and the corrective actions to be undertaken to solve not only environmental but also economic and social problems […]».This view appears to be consistent with the idea of Othman, Nath and Laswad (2018), who define the activities of identification, classification and use of resources as the most delicate and significant aspects of the entire process of preparation, approval and publi-

cation of environmental report. Likewise, Hein *et al.* (2016) argue that, in order to create a shared value able to bring benefits to all parties involved in public life, environmental sustainability in its triple meaning has to be inspired by the acquisition of greater awareness about the availability of natural resources, often difficult to find and regenerate. In this regard, Sabaté, Harwatt and Soret (2016) argue that through the publication of the ER, local public administrations can improve the process of monitoring and management of resources and, consequently, stimulate the improvement of their accountability in the eyes of citizens.

«[…] Preparing ER means offering a not only a technical contribution but providing a concrete support to the decision-making process of the LG, […] capable of improving the inefficiencies of the implemented policies and correcting the trajectory of future development according to a logic of continuous improvement in the conditions of environmental, economic and social sustainability».

In the experience of the Municipality of Reggio Emilia, therefore, «the ER – prepared according to the Clear-Life method – offers a 360° vision, «[…] allowing to overcome the limits of other very common reporting tools, such as, for example, the SR, drawn up occasionally, without a uniform approach and, above all, traditionally characterized by the attempt to emphasize only the positive aspects, leaving shortages and problems of various kinds». On the contrary, as recognized by the financial office manager of both municipalities – Reggio Emilia and Grosseto –, the ER, while not guaranteeing the identification of always practicable solutions, implies the need to constructively discuss environmental issues, preventing the less positive aspects from being covered up».

Although over the years the guiding principles of environmental accounting have been being characterized by a growing level of effectiveness and efficiency, according to the finance office manager of the municipality of Grosseto «... the drafting of the ER requires, in any case, a long time span – for reporting, identification of problems, the proposal of solutions in the preventive report for the following year, the adoption of improvements or corrective actions, the evaluation of the results generated by the actions carried out, and so forth – , […] incompatible with the 5-year term of legislature».

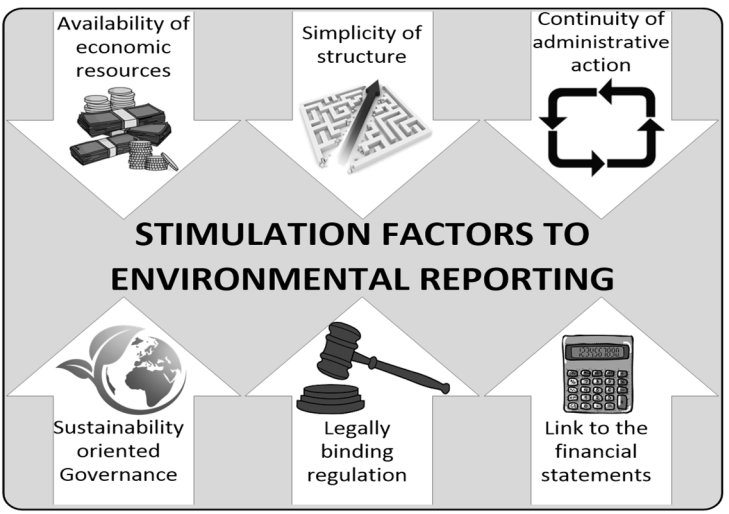
Another decisive deterrent to the adoption of the ER seems to be «[…] the lack of a direct connection with the civil budget, […] which prevents the creation of a useful connection with the final data and with the future planning of the local authority, […] inhibiting the thematic coverage of all the skills and areas of activity». In this regard, the case study focused on the experience of the municipality of Grosseto highlighted that, «while acknowledging the ER

as the main tool for disseminating the culture of accountability and the transparency of environmental policies adopted by local public administrations, it is neither obvious nor easy to provide for its drafting, […] also due to the lack of a codified external evaluation tool of the entire process». The considerations reported so far add to the empirical evidences that underline the difficulties and the issues that local public administrations encounter in drawing up the environmental reports (Schaltegger and Burritt, 2017).

4. Work implications and conclusions

The analysis contributes to the enrichment of CSR literature, with the focus on environmental accounting and environmental reporting, through an analysis that brings to light some of the factors that stimulate or inhibit the municipal administrations to the acquisition of a more mature awareness about the importance of adopting sustainable practices in the implementation of budgetary policies. In this regard, it is worth highlighting how, based on the results arising from the analysis of the responses to the interviews, the paper offers some insights to practitioners through the development of a conceptual model that summarizes the critical factors of incentives/disincentives. LGs decide whether to adopt policies aimed at enhancing the benefits deriving from the elaboration of the ER (see Fig. 1).

Fig. 1 – Theoretical model for stimulating the process conducting to the ER. Source: Authors' elaboration



Based on the theoretical model represented above, the work takes shape as an empirical contribution in the scientific debate dedicated to CSR and, more in detail, to the subject of environmental accounting, identifying some of the most important factors stimulating/ inhibiting municipalities to draw up ER: availability/unavailability of economic resources, simplicity/complexity of structure, continuity/discontinuity of administrative action, sustainable/ unsustainable governance, legally-binding/optional regulation, and presence/absence of link to the financial statements.

The preparation of an ER represents a choice that is not limited to pursuing the protection of environment in a broad sense.

This is a wide-ranging approach that allows the local public administration to concretely address the debate that fuels the decision-making process towards a vision devoted to a more attentive CSR and sustainability in its triple meaning (social, environmental and economic). This consideration suggests that ER - regardless of the methodology used for its preparation - should represent not only a technical tool for environmental information but also - and above all – a political means characterizing the whole decision-making process of local public administrations.

It should give rise to a process that starts with the definition of the institution's policies, with the measurement of the indicators (preferably, both monetary and physical ones), continues with highlighting the results achieved in institutional locations and, finally, integrates the observations to adequately update policies and decline future development trajectories.

Beyond the theoretical and practical implications potentially deriving from the work, it is worth underlining that the analysis presents a limit because it does not offer universally valid answers, i.e. solution applicable in any context. This limit is basically due to the choice of a small sample of analysis, consisting of only two Italian municipalities.

Based on this limitation, further analysis is required as the next step for providing more robust empirical evidence about those factors that encourage environmental account practices. This could stimulate scholars and practitioners toward the acquisition of a complete awareness of the benefits deriving from the implementation of policies oriented to sustainability in its triple form.

References

Alcaraz-Quiles, F. J., Navarro-Galera, A., Ortiz-Rodriguez D. (2015), "Factors determining online sustainability reporting by local governments.", *International Review of Administrative Sciences*, Vol. 81, No. 1: 79-109.

Arafat, M.Y., Warokka, A., Dewi S.R. (2012), "Does environmental performance really matter? A lesson from the debate of environmental disclosure and firm performance.", *Journal of Organizational Management Studies*, Vol. 1: 1-15.

Azzone, G., Brophy, M., Noci, G., Welford, R., Young, W. (1997), "A stakeholders' view of environmental reporting.", *Long range planning*, Vol. 30, No. 5: 699-709.

Ball, A., Grubnic, S. (2007), *Sustainability accounting and accountability in the public sector*, In Unerman J., Bebbington J., O'Dwyer B., eds., *Sustainability Accounting and Accountability*, Routledge, New York.

Bartocci L., Picciaia, F. (2013), *Towards integrated reporting in the public sector*, In Busco C., Frigo M.L., Riccaboni A., Quattrone P., eds., *Integrated Reporting,* Springer, Cham.

Bebbington, J. (2007), *Accounting for Sustainable Development Performance*, Elsevier.

Becker, S.D. (2014), "When organisations deinstitutionalise control practices: A multiple-case study of budget abandonment.", *European Accounting Review*, Vol. 23, No. 4: 593-623.

Behn, R.D. (2003), "Why measure performance? Different purposes require different indicators.", *Public Administration Review*, Vol. 63, No. 5: 586-606.

Bennett, M., James, P. (1997), "Environment-related management accounting: current practice and future trends.", *Greener Management International*: 32-52.

Bennett, M., James, P. (2017), *The Green bottom line: environmental accounting for management: current practice and future trends*, Routledge.

Borriello, F. (2013), "The sustainability of Mediterranean Port areas: environmental management for local regeneration in Valencia.", *Sustainability*, Vol. 5, No. 10: 4288-4311.

Braam, G.J., de Weerd, L.U., Hauck, M., Huijbregts M.A. (2016), "Determinants of corporate environmental reporting: The importance of environmental performance and assurance.", *Journal of cleaner production*, Vol. 129: 724-734.

Bracci, E., Tallaki, M. (2013), "Socio-environmental reporting trends in the Italian local government: Thrive or wither?", *Financial Reporting*, Vol. 2: 27-46.

Bratti, A. (2003), *Politica locale e contabilità ambientale,* in Di Bella I., Fraschini P., a cura di, *Metodo CLEAR - Dalla contabilità alla politica ambientale*, Edizioni Ambiente, Milano. Retrived from http://www.idems.it/index.php?download=manuale_metodo_clear.

Buhr, N. (2002), "A structuration view on the initiation of environmental reports.", *Critical Perspectives on Accounting*, Vol. 13, No. 1: 17-38.

Capurro, R. (2019), "Pianificazione e controllo della strategia ambientale: analisi teoriche e proposte operative.", *Management Control*, 67-97.

Corcoran, P.B., Walker* K.E., Wals A.E. (2004), "Case studies, make-your-case studies, and case stories: a critique of case-study methodology in sustainability in higher education.", *Environmental Education Research*, Vol. 10, No. 1: 7-21.

Crane, A., Matten, D., Spence, L., eds. (2019), *Corporate social responsibility: Readings and cases in a global context*. Routledge.
Dalmazzone S., La Notte, A. (2009), 10. Environmental accounting at different levels of government: the state of the art. In Breton A., Brosio G., Dalmazzone S., Garrone G., eds, *Governing the Environment: Salient Institutional Issues*.
Deegan, C. (2017), "Twenty five years of social and environmental accounting research within Critical Perspectives of Accounting: Hits, misses and ways forward", *Critical Perspectives on Accounting*, Vol. 43: 65-87.
Del Baldo, M., Aureli, S. (2017), "Sistemi di misurazione delle performance nelle reti pubblico-private del settore dei servizi turistici", *Azienda Pubblica*, Vol. 30, No. 2: 119.
Del Bene, L., Ceccarelli, R. (2016), "Il contributo del Sistema Informativo alla gestione logistica dei materiali. Un caso di studio nel settore sanitario", *Management Control*, Vol. 1: 149-172.
Di Palma, M., Falcitelli, F., Femia, A. (2005), "Environmental Accounting as a Tool for Defining and Assessing Public Policies", Società Italiana di Statistica-SIS, *Statistics and Environment – Invited Papers, Atti del Convegno intermedio "Statistics and Environment"*, Università di Messina, 21-23.
Doni, F., Larsen, M., Bianchi Martini, S., Corvino, A. (2019), "Exploring integrated reporting in the banking industry: the multiple capitals approach", *Journal of Intellectual Capital*, Vol. 20, No. 1: 165-188.
Epstein, M.J. (2018), *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*, Routledge.
Evangelinos, K., Nikolaou, I., Leal Filho, W. (2015), "The effects of climate change policy on the business community: a corporate environmental accounting perspective", *Corporate Social Responsibility and Environmental Management*, Vol. 22, No. 5: 257-270.
Farneti, F. (2011), *La rendicontazione di sostenibilità negli enti locali*, Rirea.
Fiorentino, R., Garzella, S., Lamboglia, R., Mancini D. (2016), "Strategie di sostenibilità: dalle motivazioni ai sistemi di misurazione della performance", *Management Control*, Vol. 2: 115-142.
Fogarassy, C., Neubauer, É., Mansur, H., Tangl, A., Oláh, J., Popp, J. (2018), "The main transition management issues and the effects of environmental accounting on financial performance – with focus on cement industry", *Administratie si Management Public*, Vol. 31: 52-66.
Garcia-Torea, N., Larrinaga, C., Luque-Vílchez, M. (2019), "Academic engagement in policy-making and social and environmental reporting.", *Sustainability Accounting, Management and Policy Journal.*
Giovanelli F., Coizet R., Di Bella, I., a cura di (2005), *Ambiente condiviso: politiche territoriali e bilanci ambientali*, Edizioni Ambiente.
Gray, R., Adams, C.A., Owen, D. (2014), *Accountability, Social Responsibility and Sustainability: Accounting for Society and the Environment*, Pearson.
Gray, R., Bebbington, J., Walters, D. (1993), *Accounting for the Environment*, Chapman Publishing.
Grubnic, S., Thomson, I., Georgakopoulos G. (2015), "New development: Managing and accounting for sustainable development across generations in public

services – and call for papers", *Public Money & Management*, Vol. 35, No. 3: 245-250.
Hein, L., Bagstad, K., Edens, B., Obst, C., de Jong, R., Lesschen J.P. (2016), "Defining ecosystem assets for natural capital accounting.", *PloS one*, Vol. 11, No. 11.
Horton, J., Macve, R., Struyven G. (2004), *Qualitative research: experiences in using semi-structured interviews*, In Humphrey C., Bill L., eds., *The real life guide to accounting research*, Elsevier.
Jamali, D., Karam, C. (2018), "Corporate social responsibility in developing countries as an emerging field of study", *International Journal of Management Reviews*, Vol. 20, No. 1: 32-61.
Lambert, C., Sponem, S. (2012), "Roles, authority and involvement of the management accounting function: a multiple case-study perspective", *European Accounting Review*, Vol. 21, No. 3: 565-589.
Lamboglia, R., Fiorentino, R., Mancini, D., Garzella S. (2018), "From a garbage crisis to sustainability strategies: The case study of Naples' waste collection firm", *Journal of Cleaner Production*, Vol. 186: 726-735.
Marcuccio, M., Steccolini I. (2005), "Social and environmental reporting in local authorities: a new Italian fashion?", *Public Management Review*, Vol. 7, No.2: 155-176.
Mazzara, L., Sangiorgi, D., Siboni, B. (2010), "Strategic planning in Italian local governments. A sustainability focus", *Public Management Review*, Vol. 12, No. 4: 493-509.
Moynihan, D.P. (2016), "Political use of performance data", *Public Money & Management*, Vol. 36, No. 7: 479-481.
Othman R., Nath, N., Laswad, F. (2018), "Environmental Reporting and Accounting: Sustainability Hybridisation". In *Handbook of Research on Modernization and Accountability in Public Sector Management*, 130-158, IGI Global.
Patten, D., Shin, H. (2019), "Sustainability Accounting, Management and Policy Journal's Contributions to Sustainability Disclosure Research: A Review and Assessment", *Sustainability Accounting, Management and Policy Journal*, Vol. 10, No. 1: 26-40.
Plumlee, M., Brown, D., Hayes, R.M., Marshall, R.S. (2015), "Voluntary environmental disclosure quality and firm value: Further evidence", *Journal of Accounting and Public Policy*, Vol. 34, No. 4: 336-361.
Rega C., Baldizzone, G. (2015), "Public participation in Strategic Environmental Assessment: A practitioners' perspective", *Environmental Impact Assessment Review*, Vol. 50: 105-115.
Rodriguez Bolivar, M.P., Navarro Galera, A., Alcaide Munoz, L., Lopez Subires M.D. (2016), "Risk factors and drivers of financial sustainability in local government: An empirical study", *Local Government Studies*, Vol. 42, No. 1: 29-51.
Russell, S., Milne, M.J., Dey C. (2017), "Accounts of nature and the nature of accounts: critical reflections on environmental accounting and propositions for ecologically informed accounting", *Accounting, Auditing & Accountability Journal*, Vol. 30, No. 7: 1426-1458.
Sabaté, J., Harwatt, H., Soret, S. (2016), "Environmental nutrition: A new frontier for public health", *American journal of public health*, Vol. 106, No. 5: 815-821.

Schaltegger, S., Burritt R. (2017), *Contemporary environmental accounting: issues, concepts and practice*, Routledge.
Schaltegger, S., Burritt, R., Petersen H. (2017), *An introduction to corporate environmental management: Striving for sustainability*, Routledge.
Sendroiu, C., Roman, A.G. (2007), "The Environmental Accounting: an Instrument for Promoting the Environmental Management", *Theoretical and Applied Economics*, Vol. 8, No. 513: 45-48.
Stake, R.E. (1995), *The art of case study research*, Sage.
Stanciu, C.I., Joldos, A., Stanciu G.F. (2011), "Environmental accounting, an environmental protection instrument used by entities". In *Annals of the University of Petroşani, Economics*, Vol. 11, No. 2: 256-280.
Steele, A.P., Powell J.R. (2002), "Environmental Accounting: Applications for local authorities to quantify internal and external costs of alternative waste management strategies". In *Environmental Management Accounting Network Europe, Fifth Annual Conference*, Gloucestershire Business School.
Van Dooren, W., Bouckaert G., Halligan J. (2010), *Performance management in the public sector*, Routledge.
Visser, W. (2008), *Corporate social responsibility in developing countries*, In Crane A., Matten D., McWilliams A., Moon J. and Siegel D.S., eds., *The Oxford handbook of corporate social responsibility*.
Welford, R. (2016), *Corporate environmental management 1: systems and strategies*, Routledge.
Wheeler D., Elkington J. (2001), "The end of the corporate environmental report? Or the advent of cybernetic sustainability reporting and communication", *Business strategy and the environment*, Vol. 10, No. 1: 1-14.

10. CORPORATE SOCIAL RESPONSIBILITY AND FIRM PERFORMANCE: THE ROLE OF DISCLOSURE STRATEGIES

by *Sara De Masi*[*], *Marcello Sartarelli*[**], *Alessandro Tampieri*[*]

Introduction

In recent decades, an increasing number of companies have voluntarily integrated social and environmental policies into their business models. As a consequence Corporate Social Responsibility (CSR) has received a great deal of attention in the media. If you google social responsibility you obtain about 141 million hits. The media coverage describes firms' investments in CSR management practices, in production processes and also in actions to help the community know about their socially responsible activities. This growing attention to CSR is based on the reasoning that a stronger engagement towards CSR enhances the relationships with stakeholders and, as a consequence, improves firm performance. In the economics and business literature, the concept of CSR and its effect on firm performance has a long tradition. Starting from Friedman (1970), there is a stream of research based on Friedman's statement that argues that the managers' only responsibility is to increase shareholders' wealth (Carter *et al*., 2000; Chand, 2006; Frooman, 1997). Contrary to this view, Freeman (1994) states that managers have a fiduciary responsibility to all stakeholders and not just to shareholders and that the success of an organization depends on the firm ability to manage its relationships with key groups, such as shareholders and debtholders, customers, employees, and even communities or societies (van Beurden and Gossling, 2008). The seminal work of Freeman anticipated later research on the link between corporate social responsibility and financial performance, suggesting a positive correlation between the two. Most of the previous

[*] University of Florence, Italy. Department of Economics and Management. E-mail: sara.demasi@unifi.it, alessandro.tampieri@unifi.it.
[**] Universidad Complutense de Madrid, Spain. Departamento de Análisis Económico y Economía Cuantitativa. E-mail: marcellosartarelli@gmail.com.

empirical studies question such relationship, proving mixed results (for the review on this relationship see Orlitzky *et al*., 2003**;** Marom 2006; van Beurden and Gossling, 2008; Crifo and Forget, 2012; Kong *et al*., 2019: Saha *et al*., 2019). There are some reasons for these inconclusive findings. One of the possible explanations is that this relationship is not linear and there are channels through which CSR affects firm value. In this paper we propose an indirect link. In particular, we built on Bernett's (2007) that argues that the impact of CSR on firm value depends on the ability of CSR to influence stakeholders in the firm. According to Crane *et al*. (2019), CSR activities are viewed as a way of gaining market recognition. This means that a stronger market recognition, which could come from the promotion and communication of CSR activities, contributes to a better corporate image and hence better firm performance (Lee, 2008; Orlitzky, Schmid and Rynes, 2003).

We build on that and we focus on the mediating role CSR firm commitment that may explain the relationship between CSR and firm performance. Specifically, we study the effect of different levels of CSR disclosure on firm performance. Each level is a proxy of different levels of CSR commitment. We argue that a higher level of CSR disclosure activities, which means a stronger firm commitment to CSR, leads to higher firm performance. We use a rich longitudinal dataset on the largest firms in the following European companies: Belgium; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Holland; Portugal; United Kingdom; Spain; Sweden and Switzerland in the years 2003-2010. We estimate the effect by using pooled OLS and fixed effects regressions. To measure the firm commitment to CSR activities, we use the levels of conformity of the CSR reports to the Global Reporting Initiative (GRI) guidelines.

Our results document that the direct effect of making investments in CSR on firm performance is negative and statistically significant. However, when we focus on the mediating role of CSR commitment, we find that a high level of commitment and disclosure has a positive and significant effect on firm performance, whereas a low level of commitment and disclosure has a negative and significant effect. These results suggest that shareholders benefit from a higher disclosure and stronger firm commitment towards CSR activities.

This paper contributes both to the theory and to the practice. Firstly, this research provides more nuanced insights on why CSR investments do not always lead to higher firm performance. We extend the literature, emphasizing the mediating role of CSR commitment and disclosure in understanding CSR-firm performance relationship. Second, this paper proposes as a measure of CSR, the levels of GRI disclose requirements. This approach favors

comparability between companies and between years, parameters that determine the relevance and useless of the CSR information (Garcia-Sanchez *et al*., 2014).

The rest of the paper is structured as follows: the next section describes the literature review and develops the hypothesis. Then the econometric strategy and the data are described in the section 2. The results of the empirical analysis are discussed in section 3 and section 4 concludes.

1. Literature Review

The link between CSR and business performance has been developed in several studies, and there are numerous surveys dedicated to this literature, including Gri and Mahon (1997), Margolis and Walsh (2003), Orlitzky *et al*. (2003), (2008), Portney Scholtens (2008), Van Beurden and Gossling (2008), Margolis *et al*. (2009), Crifo and Forget (2012, Marom (2006;) van Beurden and Gossling, (2008); Kong *et al*., (2019); Saha *et al*., (2019). Theoretical literature suggests arguments for and against a positive relationship between corporate social responsibility and corporate performance. Specifically, a socially responsible firm might have worse results than a traditional company because it supports a higher labor costs (given the many benefits that reserve to employees), or prepares investments to reduce their environmental impact, or does not pursue profitable business opportunities when they do not conform to the corporate social policy. In other words, socially responsible companies have more stringent constraints in their choices. On the other hand, socially responsible companies could obtain better results because they are able to attract better human capital, most workers involved in the mission of the enterprise, thus increasing their productivity (Becchetti *et al*. 2004), to establish a more robust supply chain, avoid disputes with local communities, and engage in more innovation precisely because of the major constraints in behaviour. Manufacturers are also aware of the existence of consumers who do not choose their products only on the basis of price and quality, but also on the basis of social and environmental value embedded in the product itself (Becchetti and Rosati, 2007), and indirectly are prompting companies to consider social responsibility in its objectives (Adriani and Becchetti, 2004). The empirical debate to determine whether the link between CSR and firm performance really exists is still ingoing. Problems that have been highlighted in previous analyses are omitted variables among those that determine profits (McWilliams and Siegel, 2000), incorrect specification of the model and endogeneity (Garcia-Castro *et al*., 2010), limited data (Horvathova, 2010),

invalidity of cross section analysis in the presence of a significant heterogeneity between companies (Easterbrook and Paton, 2005), linearity hypothesis (Barnett and Salomon, 2006) and a wide diversity of measures to determine business performance (Margolis and Walsh, 2003). More recent studies have tried to overcome some of these problems. For example, Iwata and Okada (2011) consider the effects of two different environmental effects (waste and emissions of harmful gases) on corporate performance using panel data on Japanese manufacturing companies for the years 2004 to 2008. They show that the effects on corporate performance are different depending on the impact on the environment. In relation to different measures of corporate performance, Delmas and Nairn-Birch (2010) show that environmental performance data from pollutant emissions, has a positive effect on corporate performance when accounting profitability measures (such as those used in this study) are used, but has a negative effect on the profitability of market measures (such as Tobin's Q). Mar Miralles *et al*. (2019) study environmental, social, and governance (ESG) performance of commercial listed banks, showing different results of the three ESG pillars.

Beside this rich empirical literature, little attention has been paid toward exploring the channels through which CSR impact firm performance with a few exceptions (Anser, Zhang, and Kanwal, 2018; Harjoto and Laksmana; 2018; Hasan, Kobeissi, Liu, and Wang, 2018; Naseem *et al* 2019). Previous studies suggested some mediating variables such as productivity (Hasan *et al*., 2018), consumers' awareness (Servaes and Tamayo, 2013; Wagner, 2011), corporate risk-taking (Harioto *et al*., 2018) and enterprise risk management (Naasem *et al*., 2019).

In this study we try to overcome some of the difficulties, using the mediating role of CSR commitment and disclosure for a large panel data sample. Companies have different approaches to CSR which are reflected in how they manage their responsibilities towards stakeholders (Johnson *et al*., 2011). Each approach relates to how the company communicates with its shareholders. The communication is driven by the degree of disclosure and transparency of CSR activities (Harte and Owen, 1992). Wartick (1992) documents that the view that people have about a company is related to its visibility, which affects its reputation and corporate value. In this sense, CSR commitment and the disclosure of CSR activities may impact firm performance. In an interesting research, Egginton *et al*. (2018) investigate the impact of corporate social responsibility disclosure strategies on equity market liquidity. They find that firms with more transparent CSR disclosure strategies have narrower spreads and exhibit improvements in common measures of equity market liquidity. The positive market reaction of higher CSR

disclosure suggests that shareholders positively value CSR activities. Del Mar Miralles-Quiros *et al*. (2017) study whether the sustainability disclosure influences the corporate value for investors. Using a sample of European listed firms, they find that the European market value positively companies that are seen as socially responsible. We go further and we test different levels of CSR disclosure that are proxies of different firm commitments toward CSR. We posit that a high level of CSR disclosure increases the stakeholders' awareness, such as consumers' willingness to pay (Servaes and Tamayo 2013), more robust supply chain and a higher productivity (Hasan 2018). These companies thus exhibit higher corporate performance. On the contrary, at low level of CSR disclosure firms have lower visibility and they do not exploit all the benefits associated to a high socially responsible behavior.

On the basis of the above discussion, we develop the following hypothesis:

Hypothesis 1: A high level of CSR disclosure leads to higher firm performance

Hypothesis 2: A low level of CSR disclosure leads to lower firm performance

2. Research Methodology

In this section we firstly describe the data collection and the sample that we use in the empirical analysis. Then, we discuss the econometric strategy that we adopt to obtain clean estimates of the CSR-firm performance relationship.

2.1. Data collection and Sample

In this study we employ two types of relevant information: 1) social responsibility data based on the companies sustainability reports and 2) accounting data based on the financial annual reports. Accounting data originate from the database AMADEUS. Amadeus collects financial data of 11 million public and private firms in 41 European countries. It also contains financial indexes and details about the sector of activity and ownership. Data about firm investments in CSR are collected by the GRI (Global Reporting Initiative, 2013). GRI was created to help organizations to provide information about their CSR activities, as well as to assist stakeholders to interpreting it (del Mar Miralles-Quiros *et al*., 2017). GRI is a non-profit organization that promotes economic sustainability and has developed over

the last decade sustainability reporting guidelines and standards. These guidelines are used by more than 4000 organizations in 60 countries both in the public and private sectors (GRI, 2013). The number of companies that decides to adopt such criteria has increased over time, mostly among Europe. This is also due to the European Union recommendations as well as the national legislations (see Green Paper 2001; 2002; 2008; 2012) that have been recently introduced. We select data on Western European companies of the following countries: Belgium; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Holland; Portugal; United Kingdom; Spain; Sweden and Switzerland. We focus on the years 2003-2010. We stop at 2010 since recent studies highlight the effect of financial crisis on the CSR investments that may influence CSR and corporate performance relationship (del Mar Miralles-Quiros *et al*., 2017; Kong *et al*., 2019). In our sample we restrict our attention to the largest firms whose sales were greater than 1 million euros in the years 2003-2010. Our final sample has 590 firms which are observed over eight years and only about 5% of them are observed for less than three years in the panel.

2.2. Variables

To analyze the relationship between CSR and firm performance we use as dependent variable ROE (Return on Equity) and ROA (Return on Assets). ROE is the ratio between earnings and shareholders' equity. It is a proxy of firm performance and measure how much shareholders gain from their investments in the firm. ROA is calculated as earnings before interest, taxes, depreciation and amortization (Ebitda) over all assets and measure how efficient a company is using its assets to generate earnings. In order to calculate firms' investments in CSR previous research has used the list of socially responsible companies provided by GRI (del Mar Miralles-Quiros *et al*., 2014; Naasem *et al*., 2019).

Our approach improves on previous proxies of CSR activities by including the requirements to disclose a minimum number of indicators, in accordance with the application levels of GRI. Specifically, we use two sets of indicators. The first is a dummy that is equal to one if a firm invested in CSR in a year and 0 otherwise. The second measure consists of three different levels of CSR investments that proxy three different levels of commitment and disclosure towards CSR activities. Achieving GRI level C consists in achieving minimum standards which include the disclosure of 10 performance indicators from a large list of indicators measuring economic,

environmental and social performances. It means that the firm commitment to CSR is just visible. Achieving level B requires achieving level C, disclosing 10 additional performance indicators and also adding details about the approach which the management adopted in each indicator category. This means that the CSR commitment has increased and the management has a CSR approach when it takes corporate decisions. Finally, achieving level A requires achieving levels C and B and, in addition, providing more detailed information on each indicator which is reported in level B along with reasons for not reporting on certain indicators. This level shows a high commitment to CSR: all decisions and behaviors are guided by CSR principles. In the empirical analysis we capture the effect of achieving each level by using three dummies, minimum CSR commitment and disclosure if a firm achieves GRI level C, mid CSR commitment and disclosure if it achieves level B and high CSR commitment and disclosure if it achieves level A. We control for financial variables that may influence the shareholders' returns. Specifically, we include loans, current and non-current liabilities and shareholders' equity. These variables give the opportunity to measure the internal dimension of a company (Kong *et al.*, 2019). We also include, as control variables, country, industries and year dummies.

Table 1 shows the descriptive statistics of the variables.

2.3. Econometric strategy

We study the direct relationship between CSR and firm performance, estimating the following model:

$$(1)\ \text{FirmPerformance}_{,t} = \beta_0 + \beta_1 \text{CSR}_{jt} + \beta_2 \text{CONTROL\_VARIABLES}_{jt} + \varepsilon_{jt},$$

We go further and we study the effect of the level of CSR commitment and disclosure (measured as GRI dummy) on firm performance, analyzing the following model:

$$(2)\ \text{FirmPerformace}_{,t} = \beta_0 + \beta_1 \text{GRI}_{jt} + \beta_2 \text{CONTROL\_VARIABLES}_{jt} + \varepsilon_{jt},$$

We firstly estimate pooled OLS regressions by assuming that the error term ε_{it} is uncorrelated with the regressors, i.e. that unobserved information about firms is uncorrelated with the information contained in the regressors since it is the sum of a constant and an i.i.d. error term ϵ_{it}.

Table 1 – Descriptive statistic

	Mean	Std. dev.	Min	Max	Obs.
ROA	5.555	6.326	-64.650	62.200	3,674
Between		5.644	-19.840	55.870	616
Within		4.146	-40.469	54.300	5.964
ROE	17.217	42.199	-343.060	988.370	3,674
Between		50.731	-199.560	940.400	616
Within		28.351	-319.155	726.005	5.964
CSR	0.181	0.385	0.000	1.000	3,674
Between		0.296	0.000	1.000	616
Within		0.235	-0.694	1.056	5.964
Low GRI	0.014	0.118	0.000	1.000	3,674
Between		0.071	0.000	0.667	616
Within		0.100	-0.653	0.889	5.964
Mid GRI	0.032	0.177	0.000	1.000	3,674
Between		0.115	0.000	1.000	616
Within		0.142	-0.768	0.907	5.964
High GRI	0.047	0.212	0.000	1.000	3,674
Between		0.133	0.000	1.000	616
Within		0.162	-0.786	0.922	5.964
Sharehoders equity	4,155,216.500	10,165,501	3,590	172,470,288	3,674
Between		8,918,061	3,590	116,357,400	616
Within		2,638,175.500	-20,850,908	60,268,100	5.964
Long-term debt	2,692,588.250	6,291,252	1.000	58,814,000	3,674
Between		5,292,549	1.000	41,544,124	616
Within		2,314,349.500	-22,047,458	45,744,564	5.964
Loans	840,995.813	2,700,528	3.000	44,773,000	3,674
Between		2,240,120.250	3.000	27,185,376	616
Within		931,011	-9,576,504	22,367,246	5.964
Current liabilities	3,906,233.500	10,487,117	4,526	241,398,000	3,674
Between		8,609,791	4,526	127,430,752	616
Within		4,182,405.250	-111,161,520	117,873,480	5.964
Non-current liabilities	4,650,652.500	11,600,100	397	159,591,008	3,674
Between		9,949,246	678	120,243,376	616
Within		3,523,786.500	-28,097,472	84,512,984	5.964
No. employees	34,774.148	63,058.746	34	536,350	3,674
Between		56,357.324	68	455,996.563	616
Within		10,191.205	-57,405.602	182,312	5.964

We then relax this assumption by letting the error term contain a firm-specific and time-invariant term which may be correlated with observed

information and which we purge by estimating fixed effects regressions. In the empirical analysis we also estimate random effects models which assume that firm-specific term is also i.i.d, and perform the Hausman test to assess whether this assumption holds empirically (Hausman, 1978).

In all regressions we absorb year effects by adding year dummies and we also add country and sector dummies to purge these time-invariant effects in pooled OLS regressions. We increase the precision in the estimation of the standard errors by estimating robust ones in the pooled OLS regressions and by clustering them at the country and sector level to account for within country and within sector heterogeneity in fixed effects regressions.

3. Results

Table 2 shows estimates of the effect of investing in CSR on firm performance.

Table 2 – Effect of CSR investments on firm performance

	ROE				ROA			
	Pooled OLS		Fixed effect		Pooled OLS		Fixed effect	
CSR	0.000		-0.060**		0.003		-0.007***	
	(0.012)		(0.024)		(0.002)		(0.003)	
ln (shareh. equity)					0.016***	0.016***	0.016***	0.016***
					(0.002)	(0.002)	(0.005)	(0.005)
ln (non-curr. liab.)	-0.015**	-0.015**	0.005	0.005	-0.016***	-0.016***	-0.020***	-0.020***
	(0.007)	(0.007)	(0.021)	(0.021)	(0.001)	(0.001)	(0.003)	(0.003)
ln (curr. liab.)	0.023***	0.023***	-0.004	-0.002				
	(0.008)	(0.008)	(0.035)	(0.035)				
ln(loans)	-0.006	-0.006	0.004	0.004	-0.004***	-0.004***	-0.005***	-0.005***
	(0.006)	(0.006)	(0.009)	(0.009)	(0.001)	(0.001)	(0.001)	(0.001)
ln (no. employees)	0.000	0.000	-0.069**	-0.072**	0.005***	0.005***	0.007	0.007
	(0.009)	(0.009)	(0.035)	(0.035)	(0.001)	(0.001)	(0.006)	(0.006)
Constant	0.051	0.051	0.710	0.704	0.031**	0.034**	0.077	0.077
	(0.069)	(0.072)	(0.481)	(0.478)	(0.015)	(0.015)	(0.095)	(0.094)
Mean dep. var. No CSR			0.175				0.056	
Obs.s	3,674	3,674	3,506	3,506	3,674	3,674	3,506	3,506

Note: The table shows estimates on the returns on equity (ROE), on assets (ROA). CSR is a dummy equal to 1 if a firm made any investment in CSR and 0 otherwise (Global Reporting Initiative, 2013). Results are controlled for country and sectors. Standard errors are in parentheses. The significance levels are as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

We obtained them by using pooled OLS and fixed effect panel regressions after running the Hausman test and rejecting the null that the error terms are uncorrelated with the regressors. We find that the effect on ROE and ROA are negative and significant using fixed effect method. According to our hypothesis, this result may be driven by the levels of commitment and disclosure of CSR activities.

Table 3 shows that a low level of CSR disclosure has still a negative and significant effect on ROE and ROA. However, the results reverse when we look at the high level of CSR disclosure. We find that a high commitment in CSR has a positive and significant although only in pooled OLS regressions.

Table 3 – Effect of different levels of CSR disclosure activities on firm performance

	ROE		ROA	
	Pooled OLS	**Fixed effect**	**Pooled OLS**	**Fixed effect**
Low disclosure (GRI C)	0.018	-0.109**	-0.009	-0.013*
	(0.042)	(0.048)	(0.007)	(0.007)
Mid disclosure (GRI B)	-0.016	-0.026	0.001	0.004
	(0.015)	(0.023)	(0.005)	(0.006)
High disclosure (GRI A)	0.028*	-0.030	0.015***	-0.001
	(0.017)	(0.029)	(0.004)	(0.005)
ln (shareh. equity)			0.016***	0.019***
			(0.002)	(0.006)
ln (non-curr. liab.)	-0.013*	0.030	-0.016***	-0.021***
	(0.008)	(0.028)	(0.002)	(0.005)
ln (curr. liab.)	0.017**	-0.013		
	(0.009)	(0.039)		
ln(loans)	-0.009	0.003	-0.004***	-0.005***
	(0.006)	(0.013)	(0.001)	(0.001)
ln (no. employees)	0.003	-0.070	0.006***	0.012
	(0.010)	(0.045)	(0.001)	(0.008)
Obs.s	2,799	2,668	2,799	2,668

Note: The table shows estimates on the returns on equity (ROE), on assets (ROA). Low disclosure (GRI C), mid (GRI B) and high (GRI A) are defined using the GRI definition (Global Reporting Initiative, 2013). The omitted category is no CSR investment. Results are controlled for country and sectors. Standard errors are in parentheses. The significance levels are as follows: $* p < 0.10$, $** p < 0.05$, $*** p < 0.01$.

Our estimates offer empirical evidence to answer the question that we set out. Overall, companies that invest in CSR experience lower firm performance

compared to company that do not invest in CSR. However, the evidence on the different levels of commitment and disclosure of CSR offers additional information to learn which investment level drives the overall results.

4. Conclusions

In this paper we studied the effect of CSR on shareholders' returns by using rich longitudinal data on CSR investments and financial data and of the largest Western European companies. Specifically, we examine empirically whether different approaches to CSR and its disclosure influence firm performance. We found that companies that invest in CSR experience lower firm performance compared to companies that do not invest.

We go further and we include the mediated effect of commitment and disclosure towards CSR. Our results show that the effect of a low commitment and disclosure has a negative and significant effect on ROE and ROA.In this study, we contribute to the growing literature proving the link between CSR and firm performance by examining the management commitment and the informational value of CSR disclosure for stakeholders.

These findings have implications for managers when considering their attitude towards CSR activities and the related disclosure decisions; for shareholders and potential investors when making their investment decisions; for policymakers when implementing new regulations about sustainability disclosure and CSR incentives.

Extra future work can extend the paper in a number of directions. We plan to include stock market measures to evaluate the shareholders' reactions to different commitments of CSR. This will help to obtain more precise estimates about the relative effect of the CSR on shareholders' wealth.

References

Anser M. K., Zhang Z., and Kanwal L. (2018), "Moderating effect of innovation on corporate social responsibility and firm performance in realm of sustainable development", *Corporate Social Responsibility and Environmental Management*, Vol. 25, No. 5: 799-806.

Aghion P., Howitt P., Brant-Collett M., Garcıa-Penalosa C. (1998), *Endogenous Growth Theory*, Endogenous Growth Theory, MIT Press.

Amadeus (2013), http://www.bvdinfo.com/en-gb/products/company-information/international/amadeus.

Barnett M. L. (2007), "Stakeholder influence capacity and the variability of financial returns to corporate social responsibility", *Acadademy of Management Review*, Vol. 32: 794-816.
Becchetti L. Ciciretti R. (2009), "Corporate social responsibility and stock market performance", *Applied Financial Economics*, Vol. 19, No. 16: 1283-1293.
Carter C. R., Kale R., Grimm C. M. (2000), "Environmental Purchasing and Firm Performance: An Empirical Investigation", *Transportation Research,* Vol. 36: 219-228.
Chand M. (2006), "The Relationship Between Corporate Social Performance and Corporate Financial Performance: Industry Type as a Boundary Condition", *The Business Review* Vol. 5, No. 1: 240-245.
Crane A., Matten D., Spence L. (2019), *Corporate social responsibility: Readings and cases in a global context*, Routledge, Oxford.
Crifo P., Forget V. (2012), "The Economics of Corporate Social Responsibility: A Survey". Working Papers hal-00720640, HAL.
Eccles R. G., Ioannou I. Serafeim G. (2012), "The Impact of Corporate Sustainability on Organizational Processes and Performance", NBER Working Papers 17950, National Bureau of Economic Research, Inc.
Fiori G., Di Donato F., Izzo F. (2007), "Corporate Social Responsibility and Firms Performance - An Analysis on Italian Listed Companies", http://ssrn.com/abstract=1032851
Fishman R., Heal G., Vinay N. (2005), Corporate Social Responsibility: Doing Well by Doing Good?, Columbia University mimeo.
Freeman R. E. (1994), "The Politics of Stakeholder Theory: Some Future Directions", *Business Ethics Quarterly*, Vol. 4, No. 4: 409-421.
Friedman M. (1970), "The Social Responsibility of Business is to Increase Its Profits", *New York Times*, 13 September 1970: 122-126.
Frooman J. (1997), "Socially Irresponsible and Illegal Behavior and Shareholder Wealth", *Business and Society*, Vol. 36, No. 3: 221-249.
Garcia-Sanchez I., Cuadrado-Ballesteros B., Sepulveda C. (2014), "Does media pressure moderate CSR disclosure by external directors?" *Management Decision,* Vol. 52, No. 6: 1014-1045.
Global Reporting Initiative (2013), https://www.globalreporting.org.
Harjoto M., Laksmana I., Lee R. (2015), "Board diversity and corporate social responsibility", *Journal of Business Ethics,* Vol. 132, No. 4: 641-660.
Harte G., Owen D. (1992), "*Current trends in the reporting of green issues in the annual reports of United Kingdom companies"*, In Owen, D. (Ed.), *Green Reporting: Accountancy and the Challenge of the Nineties*, Chapman and Hall, New York: 166-200.
Hasan I., Kobeissi N., Liu L., Wang H. (2018), "Corporate social responsibility and firm financial performance: The mediating role of productivity", *Journal of Business Ethics*, Vol. 149, No. 3: 671-688.
Hausman J. A. (1978), "Specification tests in econometrics", Econometrica, Vol. 46, No. 6: 1251-71.
Jo H., Harjoto M. A. (2011), "Corporate governance and firm value: The impact of corporate social responsibility", *Journal of Business Ethics,* Vol. 103, No. 3: 351-383.

Johnson G., Whittington R., Scholes K., (2011), *Exploring Strategy*, Financial Times Prentice Hall.
Kong Y., Antwi-Adjei A., Bawuah. J. (2019), "A systematic review of the business case for corporate social responsibility and firm performance", *Corporate Social Responsibility Environmental Management*: 1-11.
Lee M. D. P. (2008), "A review of the theories of corporate social responsibility: Its evolutionary path and the road ahead", *International Journal of Management Reviews,* Vol. 10, No. 1: 53-73.
Marom I. Y. (2006), "Toward a Unified Theory of he CSP–CFP Link", *Journal of Business Ethics*, Vol. 67: 191-200.
Mar Miralles M., Miralles-Quirós J., Redondo-Hernández J. (2019), "The impact of environmental, social, and governance performance on stock prices: Evidence from the banking industry", *Corporate Social Responsibility and Environmental Management*: 1-11.
Margolis, J. D., Elfenbein H. A., Walsh J. P. (2009), "Does it Pay to Be Good...And Does it Matter? A Meta-Analysis of the Relationship between Corporate Social and Financial Performance", http://dx.doi.org/10.2139/ssrn.1866371.
Naseem T., Shahzad F., Asim G. A., Rehman U. I., Nawza F., (2019), "Corporate social responsibility in Asia Pacific: the role of enterprise risk", *Corporate Social Responsibility and Environmental Management:* 1-11.
Orlitzky M., Schmidt F., Rynes S. (2003), "Corporate social and Financial performance: A meta-analysis", *Organization Studies*, Vol. 24, No. 3: 403-441.
Reverte C. (2012), "The impact of better corporate social responsibility disclosure on the cost of equity capital", *Corporate Social Responsibility and Environmental Management,* Vol. 19: 253-272.
Saha R., Shashi, Cerchione R., Singh R., Dahiya R. (2019), "Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review", *Corporate Social Responsibility and Environmental Management*: 1-21.
Servaes H., Tamayo A. (2013), "The impact of corporate social responsibility on firm value: The role of customer awareness", *Management Science*, Vol. 59, No. 5: 1045-1061.
Social Investment Forum (2006), *Report on Socially Responsible Investing Trends in the United States: 10-Year Review,* Social Investment Forum, Washington, D.C.
Van Beurden P., Gossling T. (2008), "The Worth of Values – A Literature Review on the Relation Between Corporate Social and Financial Performance", *Journal of Business Ethics*, Vol. 82: 407-424.
Wagner M. (2011), "Corporate performance implications of extended stakeholder management: New insights on mediation and moderation effects", *Ecological Economics,* Vol. 70, No. 5: 942-950.
Wartick S. L. (1992), "The relationship between intense media exposure and change in corporate reputation" *Business and Society*, Vol. 31, No. 1: 33-49.

11. ECONOMIC AND CAPITAL STRUCTURE OF ITALIAN SOCIAL ENTERPRISES: RESULTS OF A MULTIZONAL QUANTITATIVE STUDY ON FINANCIAL STATEMENTS

by *Guido Migliaccio*[*], *Pietro Pavone*[*]

Introduction and Purpose: Structure of the Essay

The economy, despite its multi-faceted perspectives, is universally considered a social science. This is because the decisions of public and private companies have a direct impact on people and relationships between people. Even companies traditionally considered for profit, cannot exempt themselves from a responsible relationship with the external environment, which must also take priority over the legitimate aim of maximizing profit. Among the several national productive bodies, some of them have a particular attention to sociality, to face the different precariousness and vulnerability of the weakest people. They are part of the so-called "third sector" and have both the typical characteristics of public service companies and those of lucrative companies (Civitillo, 2016; Fici, 2018a and 2018b; Rivetti, 2017; Loffredo, 2018). The social enterprise is among these.

The bibliography can, not without difficulty, distinguish between approaches that highlight the social aspect (Borzaga *et al*., 2016; Borzaga *et al*., 2010; Pirni and Raffini, 2016; Scarlato, 2012; Gonzales, 2010), others focused on managerial problems (Yang *et al*., 2010; Sanchis-Palacio *et al*., 2013; Meadows and Pike, 2010; Linzalone and Lerro, 2014; Bridgstock *et al*., 2010), or organizational (Hsieh *et al*., 2018; Nicolás-Martínez and Rubio-Bañón, 2015; Sardi *et al*., 2019; Granados *et al*., 2017; Zamora, 2012; Smith *et al*., 2010) or, finally, capital and financial aspects.

Obviously, the 2008-2009 crisis also had a significant impact on these companies, which faced increased levels of economic and social hardship,

[*] University of Sannio, Benevento, Italy. Department of Law, Economics, Management and Quantitative Methods. E-mail: guido.migliaccio@unisannio.it, pietro.pavone@unisannio.it.

often with less public funding due to the lack of state financial resources in times of crisis.

This paper investigates profitability evolution and capital and financial structure of Italian social enterprises through the analysis of financial statements, evaluating the ten-year trend of six indicators (Roe – Return on equity (%), Roi – Return on investments (%), Ros – Return on sales (%), financial independence index, current ratio and fixed assets coverage index (5)), on a national basis and compared to the three macro areas of the country: North, Central and Southern Italy.

The main purpose is to verify the profitability evolution and the respect of the typical canons of balance-sheet equilibrium that absolutely must not be subordinated to the prevailing social objectives.

The starting hypothesis (H1) is that the social enterprise must reach adequate income results and, moreover, (H2) this enterprise must maintain an optimal relationship between assets and liabilities, despite its social intent, in order to pursue durability and autonomy.

Consequently, the research questions are:

RQ1: how did the profitability of Italian social enterprises evolve over the period considered (10 consecutive years: 2009-2018)?

RQ2: what is the situation of capital and financial balance in the period?

RQ3: are there substantial and significant differences in the capital and financial structure between Italian macro-areas?

The study, after international literature review, shows some data on social enterprises in Italy.

Subsequently, we describe the methodology of empirical research that makes use of the balance sheets of Italian social enterprises, distinguished by geographical area, regardless of the sector to which they belong. Then the trends of the three mentioned ratios are illustrated.

Finally, the conclusions and possible future developments of the research are presented.

1. Literature Review

The "social enterprise" model is obviously affected by the legislation of a country. In fact, the civil and tax regulation has a significant impact on the management dynamics and consequently on the patrimonial, financial and economic income balances.

All the considerations of non-Italian authors, therefore, should be analyzed considering spatial and temporal characteristics of their research.

The bibliography can be classified with regard to the prevailing aspect, considering that the social enterprise, due to its intrinsic nature, is easily subject to multidisciplinary evaluations.

With reference to the Italian situation, the social benefits are highlighted by Borzaga *et al.* (2016) that show the advantages of collective participation for social enterprise emergence and growth. The contribution is on the same track as the previous study by Borzaga *et al*. (2010) testing the distributive effects of social enterprises.

The social enterprise was also considered as an opportunity to face the problems of the international economic crisis, considering that it could be the protagonist of a sustainable development. In this sense Pirni and Raffini (2016): the hypothesis is that the social enterprise represents a proactive tool for generating responses to the crisis, promoting economic and social trajectories of innovation and contributing to a sustainable development model. The authors specify, however, that the innovative character of the social enterprise does not merely arise from the externalization of social services from the public to the third sector, in order to reduce public expenditure. It is characterized by a novel integration between solidarity and economic action, in entrepreneurial practices serving a social purpose.

In Italy social enterprise can be the main instrument of new social assistance policies (Scarlato, 2012). The author shows the importance of the social economy in the Italian regions regarding the welfare system and development policies. Then, he indicates both the institutional dynamics that could strengthen social enterprise in Italy and the potential contribution of these enterprises to the economic and human development of the poorer southern regions.

The typical values of the Italian social enterprise can logically approach those more ancient of the mutuality that for years have inspired the activity of the cooperative enterprise. This profile is analyzed by Gonzales (2010). He argues that this productive institution could face the two typical problems of the Italian reality: parochialism and clientelism.

Particularly valuable are the observations of Thomas (2004), on the rise of social solidarity cooperatives in Italy, and of Mancino and Thomas (2005) who have outlined an Italian pattern of social enterprise, with specific reference to social cooperatives.

Alongside these general studies, other suggestions can be drawn from analyzes of social enterprises present in particular areas, such as health (Savio and Righetti, 1993; Millar, 2012; Fioritti *et al*., 2014).

Among the managerial writings surely the contribution of Yang *et al*. (2010) is fundamental. The author faces the delicate balance between the

economic needs and the social aims of this type of enterprise. The study, in fact, focuses the management strategies and revenue management of social enterprises to clarify how social enterprises can create critical social value on one hand while increasing their market value on the other hand.

However, it must be considered that the problems of mediation between social and managerial needs focus almost all the analyzes proposed by the best doctrine. It also characterizes the study by Sanchis-Palacio *et al.* (2013) which focuses the influence of the use of strategic tools in business performance. It starts from the consideration that social enterprises are to be competitive in the marketplace, they must use Strategic Management tools to improve efficiency, while maintaining their effectiveness levels. it is shown the existence of a statistically significant relationship between the application of Strategic Management tools, more commonly found in for-profit organizations, and effectiveness and efficiency of social enterprise.

The same principles inspire the paper by Meadows and Pike (2010) focused on performance management for social enterprises. The traditional economic and financial parameters proposed for profit enterprises, in fact, are obviously insufficient. Più utile potrebbe essere il Balanced Scorecard model. The peculiar aspects of the cooperative enterprise with a social approach, in Italy, are underlined by Linzalone and Lerro (2014).

Bridgstock *et al.* (2010) propose the social enterprise as a privileged model for the application of the diversity management logic which is a philosophy, alternative to the corporate organization, which aims to enhance the differences that characterize the employees of each institution. The social enterprise accentuates its organizational problems, deepened by other authors. Among these, Hsieh *et al.* (2018) which proposes an attraction-selection-socialization model, suggesting that, to foster identification, social enterprises need to manage their hybrid organizational identities and embed the new common identity into members' daily work through attraction, selection, and socialization processes. This recent focus follows a previous track by Nicolás-Martínez and Rubio-Bañón (2015) that focus on human resource management in social enterprise. It highlighted the need for workers to share the company's social mission. Attention to the skills of employees of social enterprises is also the subject of the recent study by Sardi *et al.* (2019) which also highlights the need for a democratic and participatory approach in performance management.

All business organization scholars underline the importance of motivated employees who must work in fertile environment to develop satisfied and productive human capital. Granados *et al.* (2017) have developed a study on knowledge management in social enterprises. Zamora (2012) has also shown

that a learning climate also favors the assimilation of specialist accounting problems. Smith *et al.* (2010) built their research on social enterprises and the timing of conception, focusing on organizational identity tension, management and marketing.

There are several contributions related to managerial sciences dedicated to the strategic and organizational peculiarities of social enterprises. Few, instead, those dedicated to financial problems, above all of accounting and financial statement derivation. Among them we cite the contribution of Fedele and Miniaci (2010) which, with reference to the case of social residential services in Italy, tried to answer the question "Do social enterprises finance their investments differently from for-profit firms?".

The international literature, therefore, is substantially without quantitative studies based on the balance sheet analysis. This paper aims to be an example of an empirical survey on the patrimonial structure of social enterprises through data taken from the balance-sheets.

An indication must be given to the Italian production, considering the territorial origin of this research. In Italy, the legislation has considerably changed in recent years, also to reorganize the different figures that characterize the third sector.

Therefore, it is not surprising that there is a wide production of interpretative and critical scientific contributions of the new legislation (Castaldi, 2018; Angeli and Cinque, 2018; Fici, 2018; Felicetti, 2018; Giustolisi, 2018; Briganti, 2018; Mosco, 2018; Grumo, 2017; Di Stasio and Pasquini, 2017; Fazzi, 2017; Rondinone, 2017).

In them, however, useful reflections can also be found on the effects of the regulations on business management, considering that the law influences the organization of internal controls, reporting and the balance-sheet, the tax rate, etc.

Also in the Italian bibliography some contributions highlight the political and social role of these companies (Bernardoni, 2017; Zandonai and Venturi, 2017; Grieco, 2013) and others, instead, emphasize the reflection on management and governance (Tortia and Poledrini, 2018; Meo, 2017; Zandonai and Puccio, 2015; Ricci, 2015; Scagnelli and Corazza, 2014; Delledonne, 2014; Benevolo and Gasparre, 2013).

However, the studies that question the profile of the social enterprise and its persistence in the national productive panorama are prevalent (Marocchi, 2016; Vecci, 2016; Bancone, 2016; Fontana, 2015; Manes, 2015; Fazzi, 2014; Zandonai, 2014; Stringa, 2013; Mazzullo, 2013; Randazzo and Taffari, 2013; Cannata, 2013; Scalvini, 2013).

Even in Italy, however, empirical research on capital and financial balances drawn from the financial statements is not identified. Obviously this derives

from the predominantly social caliber that emerges above all from the social balance sheet (Grumo, 2017) and not from the classic financial reporting statements. Further quantitative analyzes, like the one proposed here, integrate the knowledge of internal dynamics favoring the identification of possible problems that could hinder the durability of companies in the long term.

2. Research

2.1. Data collection and sample characteristics

The study uses data downloaded from the AIDA database - Computerized Business Analysis (update 272, software version 103.00) of the company Bureau Van Dijk. The 558 companies of the sample, operating with different social assistance functions in Italy, are characterized by the expression "social enterprise" reported in their company name, as well as to have a turnover exceeding € 800,000.

The empirical research covers the period 2009-2018. The subsequent elaborations refer to the national datum and to the three macro-areas that characterize Italy: North, Central and South.

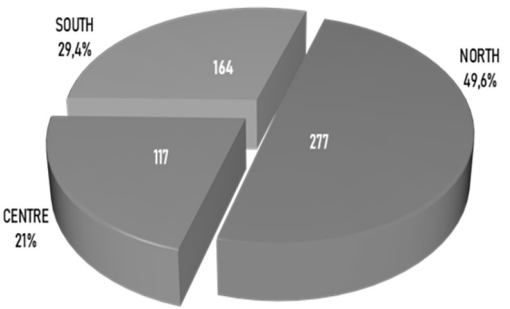
North includes the following regions: Valle d'Aosta, Piemonte, Liguria, Emilia-Romagna, Lombardia, Trentino-Alto Adige, Veneto and Friuli-Venezia Giulia.

Central Italy includes: Toscana, Umbria, Abruzzo, Marche and Lazio.

The southern regions are: Campania, Molise, Puglia, Basilica, Sicilia and Sardegna.

There are (fig. 1) 277 social enterprises located in northern Italy, 117 in Central Italy and 164 in the South.

Fig. 1 – Data distribution by geographical macro-areas



Tab. 1 shows the high concentration of companies in Lombardy (109; 19,5% of the sample).

The region of Central Italy with the greatest presence of social enterprises is Tuscany (43, followed by Lazio with 37) while in the South Campania is highlighted (85 social realities: 15% of the sample).

Tab. 1 – Data distribution by regions

Region	Observations	Percentage (%)
Lombardia	*109*	*19,5%*
Piemonte	64	11,5%
Veneto	41	7,3%
Emilia-Romagna	25	4,5%
Friuli-Venezia Giulia	17	3%
Liguria	11	2%
Trentino-Alto Adige	9	1,6%
Valle d'Aosta	1	0,2%
North	**277**	**49,6%**
Toscana	*43*	*7,7 %*
Lazio	37	6,7%
Marche	17	3%
Umbria	16	2,9%
Abruzzo	4	0,7%
Centre	**117**	**21%**
Campania	*85*	*15,3%*
Sicilia	29	5,2%
Puglia	24	4,3%
Basilicata	7	1,2%
Molise	7	1,2%
Calabria	6	1,1%
Sardegna	6	1,1%
South	**164**	**29,4%**
Total Italy	**558**	**100%**

Size profile could be represented by the average number of employees that is almost constant over time: these are medium-large companies (tab. 2).

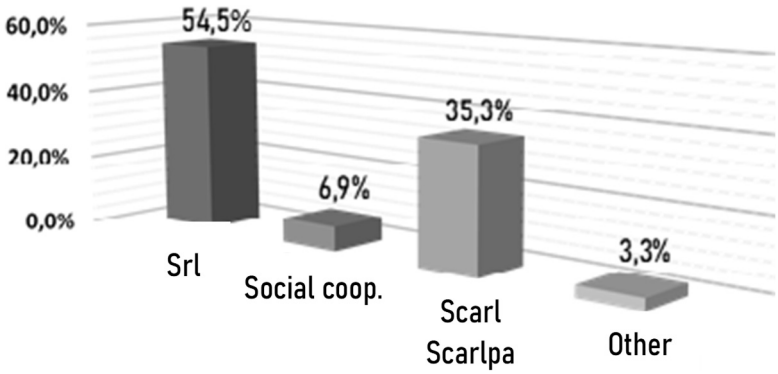
Tab. 2 – Data distribution by number of employees

Size category	N. employees	Percentage (%)
Big	> 50	34,6%
Medium	< 50	38,6%
Small	< 10	26,8%

It is also noted that the sample cooperatives employ a number of people (on average more than 50) greater than the average number of employees (generally less than 50) employed by profit enterprises. This observation is in line with recent literature (Carini and Carpita 2014; Euricse, 2015; Carini and Borzaga, 2015; Costa and Carini, 2016) which highlights the greater employment protection of cooperatives even during the years of the second economic recession that has affected the Italy.

The prevailing legal form (fig. 2) is the S.r.l. (54,5% of the observations), while 35,3% are "S.c.a.r.l." and "S.c.a.r.l.p.a.", about 50% present in the North and ⅓ in the South. If social cooperatives are also considered, the sample is characterized by a substantial balance between cooperatives and profit enterprises. Other legal forms (foundations, associations, consortia, etc.) have only a residual value, therefore they are not the object of attention in the subsequent data processing.

Fig. 2 – Data distribution according to the legal form



2.2. Method

The sample is subjected to statistical processing to understand the patrimonial and financial dynamics in the 2009-2018 period and to identify the differences between the different geographical areas of the country.

Due to useful information not always available, the calculations are related to a lower number of data compared to the total number of companies in the sample. Considering all the data available for each variable ("columnwise" technique), an average of 165 observations are observed for the Roe, 117 for the Roi, 170 for the Ros, 179 for the financial independence index, 176 for the current ratio and 173 in relation to the fixed assets coverage index.

Subsequently, the statistical analysis ANOVA is used to evaluate the variability within groups and between groups, starting from the average values of each index for each year (Strang, 1980; Quirk, 2012; Gu, 2013; Solari *et al*., 2009; Ross and Willson, 2017; Liao and Li, 2018). The ANOVA test can accept the "zero hypothesis", relative to equal means between the groups, or reject it by verifying the existence of at least one average different from the others. In this study, the "one-way ANOVA" technique is used, with the prediction of a single independent variable (the geographical location) and of several dependent variables (the indexes), separately analyzed. The analysis of variance is completed with the Tukey Kramer test (Tukey, 1949; 1953; 1993; Kramer, 1956; Benjamini and Braun, 2002), in order to identify exactly where the statistical differences highlighted by the ANOVA test are located.

Finally, the average data are approximated with polynomials of *n* degree, of which we present the graphical representations that minimize the distances with respect to the average values. The new interpolating curves, derived from the original curves of the values trends, allow to display significant trends, important for useful forecasts on future data.

3. Empirical findings

3.1. Return on equity (%)

Given the statutory purpose of not accumulating profits for the benefit of the priority objective of generating positive externalities for the community, the social enterprise operates with a structure of revenues and / or costs that traditional companies could not support. However, to maintain autonomy and durability without external contributions, every company, even the social type, must pursue and achieve a positive income profile (Borgonovi, 2009).

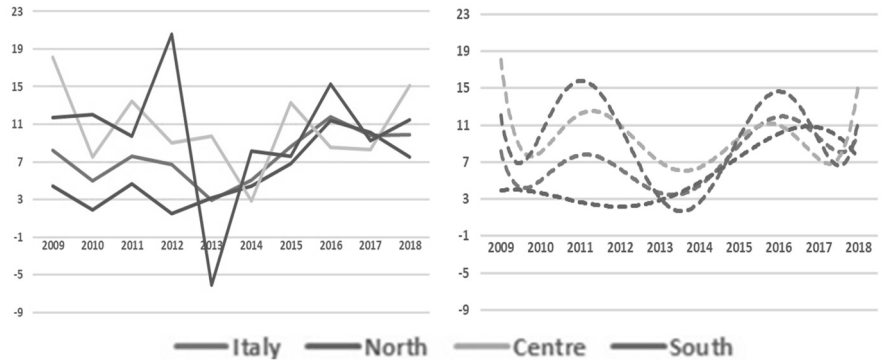
A first picture of the overall profitability of the social enterprises of the observed sample is provided by the return on equity (tab. 3 and fig. 3).

The analysis made it possible to find higher profitability values in the Center (on average 10,6 in the observed period) and in the South (9,9) compared to the North of the Country (5,6), whose average trend follows the trajectory of the national average (7,5). Only in the two-year period 2012-2014 there are losses in the profitability of the shareholders' capital, which were then recovered in the last part of the period.

Tab. 3 – Roe. Statistics

					Italy					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Obs.	128	141	154	160	168	178	188	194	194	146
Mean	8,21	5,00	7,63	6,75	2,92	5,07	8,65	11,81	9,79	9,88
Median	4,81	4,15	3,79	3,75	2,87	3,03	3,81	4,99	5,51	7,60
Std. dev.	25,59	26,84	26,77	29,29	28,12	33,58	33,64	29,75	27,88	25,53
Var.	654,7	720,1	716,4	857,6	790,9	1127	1132	885	777,1	652
Min.	- 100,8	-118	-80,1	-123	-136	-125	-142	-118	-108	-112
Max.	94,83	89,48	92,44	97,46	93,27	105,6	115,4	95,32	115,5	136,5
					North					
Obs.	80	89	96	100	103	107	113	118	118	98
Mean	4,41	1,93	4,67	1,48	3,16	4,42	6,84	11,38	10,12	7,51
Median	4,00	4,00	2,65	3,09	2,08	2,84	3,54	4,40	5,10	6,82
Std. dev.	23,47	25,59	24,68	29,11	28,38	28,31	32,85	28,03	31,42	26,56
Var.	550,7	654,6	609,1	847,1	805,3	801,4	1079,	785,9	987,4	705,2
Min.	-100,8	-118,3	-80,1	-123	-120	-125	-143	-118	-108	-112
Max.	61,07	62,71	92,44	91,92	93,27	98,92	115,4	95,32	115,5	136,5
					Centre					
Obs.	21	26	29	30	32	35	37	38	40	34
Mean	18,16	7,55	13,44	9,06	9,76	2,86	13,27	8,53	8,28	15,12
Median	14,29	5,99	9,38	3,67	5,98	3,89	6,89	5,25	5,81	12,42
Std. dev.	24,06	30,01	27,69	22,79	21,72	37,49	33,87	32,88	24,32	24,75
Var.	579,1	900,7	766,5	519,3	471,8	1405	1147	1081	591,5	612,5
Min.	-19,7	-73,6	-65,2	-63,0	-49,6	-104	-76,4	-101	-66,1	-54,9
Max.	72,77	89,48	88,04	52,48	63,94	81,34	80,23	89,06	54,88	98,26
					South					
Obs.	27	25	28	29	32	35	37	37	35	13
Mean	11,75	12,02	9,72	20,60	-6,11	8,14	7,56	15,28	9,27	11,49
Median	2,94	5,85	3,83	12,64	2,27	4,56	2,80	9,31	5,51	8,61
Std. dev	30,69	6,86	31,62	30,82	31,63	43,44	36,14	31,88	17,94	18,03
Var.	942	721,2	999,9	949,9	1000,	1886,	1305	1016	321,8	325,1
Min.	-56,8	-39,23	-54,1	-29,3	-136	-93,7	-97,8	-56,4	-41,8	-15,8
Max.	94,8	88,1	85,99	97,46	31,33	105,6	95,05	89,97	57,88	51,15

Fig. 3 – Roe trend by geographical macro-areas



The following tab. 4 highlights the interpolation equations of the trend lines. Only the South area function reports a significant interpolation error ($R^2 = 0,38$), considering the anomalous trend of the Roe values in this group, with even negative values in 2013.

Tab. 4 – Roe. Interpolation equations

		R^2
Italy	$y = 0,0079x^6 - 0,2647x^5 + 3,4105x^4 - 21,374x^3 + 67,397x^2 - 99,224x + 58,252$	0,9819
North	$y = -0,0236x^4 + 0,4414x^3 - 2,4236x^2 + 4,2752x + 1,6558$	0,893
Centre	$y = 0,0124x^6 - 0,4126x^5 + 5,369x^4 - 34,46x^3 + 113,03x^2 - 176,43x + 110,97$	0,7364
South	$y = 0,0165x^6 - 0,548x^5 + 7,0045x^4 - 43,327x^3 + 133,18x^2 - 187,49x + 103,23$	0,3892

However, much of the variability is contained in the groups rather than manifesting between them: SQ within (692,9) > SQ between (148,9), as evidenced by the analysis of variance (tab. 5) from which there are no differences considered statistically significant between macro-areas.

Tab. 5 – Roe. Analysis of variance

Source of var	SQ	gdl	MQ	F	Sig.	F crit
Between groups	148,9756	2	74,4878	2,902217	0,072164125	3,354131
Within groups	692,9773	27	25,66583			
Tot.	841,9529	29				
Significant level. 0,05						

3.2. Return on investments (%)

Despite the nature of the entrepreneurial realities investigated, in which the activity that generates profitability can coincide with the social programs of the

organization, being only partially overlapped or, at times, completely separated (Alter, 2006), values of the ROI are observed in line with those on average obtainable on the market.

This circumstance allows us to assume satisfactory values of Social Return on Investment (Perrini and Vurro, 2013; Manetti *et al.*, 2014; Corsini *et al.*, 2015).

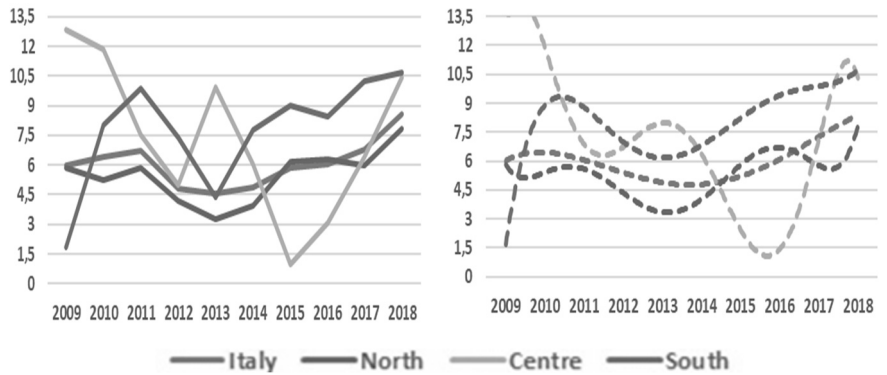
It is possible to find (tab. 6) values slightly above the national average (average value of 6) in the Center and South (on average 7,5), while in the North there is an average value of 5,5.

Tab. 6 – Roi. Statistics

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Italy										
Obs.	87	92	120	121	130	120	128	132	132	112
Mean	5,95	6,43	6,71	4,78	4,56	4,89	5,86	6,03	6,77	8,60
Median	6,4	6,3	6	4,9	4,7	4	3,7	5,4	5	6,7
Std. dev.	12,3	10,9	11,6	11,4	11,2	10,1	9,6	10,7	9,5	8,6
Var.	151,1	118,3	135,3	130,7	126,47	102,17	92,79	114,77	91,13	74,88
Min.	-25,8	-23,8	-27,7	-29,3	-28,37	-21,61	-18,6	-28,57	-23,08	-12,44
Max.	29,5	28,8	29,7	29,8	28,9	29,6	29,7	29,3	29,6	29,7
North										
Obs.	67	67	83	84	83	81	80	82	6	79
Mean	5,86	5,26	5,87	4,20	3,28	3,97	6,19	6,27	5,98	7,81
Median	5,86	5,2	5,3	4,5	3,1	3,6	3,5	5,2	4,7	6,4
Std. dev.	11,7	11	11,3	10,2	8,8	9,5	8,9	8,9	8,9	7,9
Var.	137,5	121,5	127,8	105,5	77,4	91,4	79,8	80,5	80,1	63,34
Min.	-25,8	-23,8	-24,7	-29,3	-22,5	-21,6	-15,5	-16,9	-23,1	-12,4
Max.	29,53	27,58	29,26	27,49	24,82	29,62	29,75	29,36	27,76	27,12
Centre										
Obs.	10	10	20	20	21	22	22	26	24	23
Mean	12,85	11,83	7,55	5,01	9,90	6,06	0,96	3,07	6,40	10,41
Median	14,76	13,93	7,82	5,57	8,42	5,78	2,49	3,35	5,66	8,73
Std. dev.	12,08	8,70	12,73	12,02	11,32	12,29	10,67	13,83	12,22	10,58
Var.	145,	75,62	161,9	144,4	128,24	151,09	113,8	191,23	149,32	111,9
Min.	-11,7	-5,34	-27,7	-20,	-16,66	-21,42	-18,6	-28,57	-20,34	-12,44
Max.	25,13	23,7	29,7	23,9	28,9	28,4	28,6	29,3	29,6	29,7
South										
Obs.	12	15	17	17	26	17	26	24	22	10
Mean	1,87	8,04	9,85	7,40	4,35	7,74	8,98	8,42	10,25	10,70
Median	6,97	7,98	10,20	5,14	9,03	7,15	8,81	7,81	6,27	6,37
Std. dev.	14,51	10,86	12,01	15,88	16,33	9,48	9,60	12,09	8,09	9,06
Var.	210,4	117,8	144,2	252,1	266,63	89,89	92,10	146,10	65,45	82,11
Min.	-18,7	-9,7	-14,1	-26,1	-28,37	-11,80	-12,5	-18,77	0,91	3,43
Max.	20,45	28,85	28,61	29,84	27,19	22,37	25,46	28,10	28,45	26,46

The range (fig. 4) is as follows: from 1,87 in 2009 in the South to 12,85 in the same year at Central Italy.

Fig. 4 – Roi trend by geographical macro-areas



The polynomial approximation is reliable: $0,87 < R^2 < 0,96$ (tab. 7).

Tab. 7 – Roi. Interpolation equations

		R^2
Italy	$y = -0,0063x^4 + 0,1561x^3 - 1,1894x^2 + 2,9919x + 4,08$	0,8701
North	$y = 0,003x^6 - 0,0952x^5 + 1,1613x^4 - 6,8086x^3 + 19,785x^2 - 26,769x + 18,554$	0,9673
Centre	$y = -0,0081x^6 + 0,2654x^5 - 3,3626x^4 + 20,687x^3 - 63,534x^2 + 87,562x - 28,75$	0,9049
South	$y = 0,0075x^5 - 0,2377x^4 + 2,8323x^3 - 15,39x^2 + 36,906x - 22,448$	0,8834

Also, in this case, the analysis of variance carried out by the Anova test (tab. 8) found no significant differences between the macro areas of the country: F (1,89) < F crit (3,35); p value = 0,17.

Tab. 8 – Roi. Analysis of variance

Source of var	SQ	gdl	MQ	F	Sig.	F crit
Between groups	30,39881	2	15,1994	1,891486	0,17030146	3,354131
Within groups	216,9637	27	8,035694			
Tot.	247,3625	29				
Significant level. 0,05						

3.3. Return on sales (%)

The Ros is calculated with the following formula: operating result / revenues + other revenues and income %.

The evaluations of its temporal variations, and the relative spatial comparisons, complete the analysis of profitability.

The analysis of this important ratio is necessary for forms of social entrepreneurship that notoriously generate lesser revenues compared to classic commercial enterprises, such that they cannot always be sufficient to cover costs.

In fact, social entrepreneurs, not having profitability objectives similar to those of business entrepreneurship, normally offer goods or services at sufficiently low prices to enable them to serve needs not considered by commercial entrepreneurship.

The variation field originates from a very low profitability of sales (tab. 9): 0,47 in 2013 at North.

Tab. 9 – Ros. Statistics

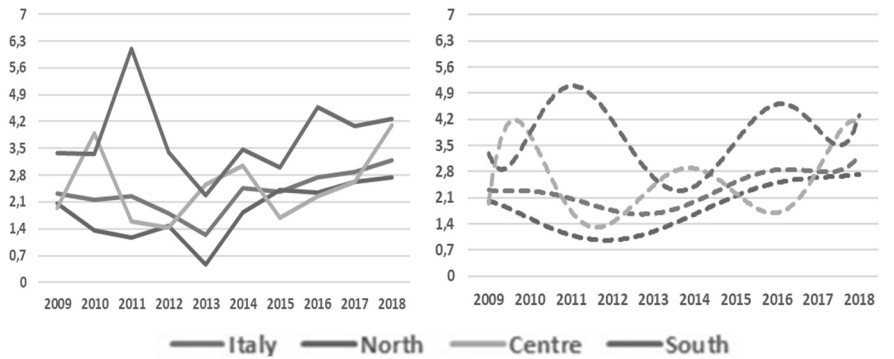
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Italy										
Obs.	130	140	160	169	169	186	192	197	206	154
Mean	2,33	2,16	2,35	1,81	1,24	2,47	2,38	2,74	2,89	3,19
Median	2,41	2,48	2,56	2,12	1,89	2,19	1,71	2,15	1,91	2,17
Std. dev.	7,28	6,91	7,39	8,13	7,59	6,44	7,14	6,59	6,44	4,89
Var.	52,98	47,82	54,54	66,16	57,59	41,53	50,94	43,48	41,52	23,95
Min.	-36,3	-37,7	-29,2	-47,5	-40,6	-20,7	-38,8	-27,2	-34,0	-21,9
Max.	24,72	27,73	29,79	28,28	21,12	26,66	24,45	28,82	25,15	29,51
North										
Obs.	85	90	100	105	09	112	117	119	126	106
Mean	2,07	1,36	1,16	1,47	0,47	1,84	2,42	2,34	2,63	2,75
Median	2,38	2,40	2,37	1,82	1,41	2,17	1,66	2,07	1,91	1,90
Std. dev.	6,68	5,35	6,97	5,60	6,42	5,33	5,73	5,62	6,63	4,93
Var.	44,68	28,60	48,65	31,34	41,17	28,45	32,85	31,58	43,91	24,31
Min.	-36,3	-22,2	-29,2	-30,9	-31,3	-17,9	-23,4	-27,3	-34	-21,9
Max.	24,72	11,57	20,53	19,65	18,79	22,53	24,45	21,32	25,15	29,51
Centre										
Obs.	17	23	29	35	30	36	39	41	43	35
Mean	1,94	3,89	1,59	1,44	2,55	3,04	1,68	2,24	2,62	4,11
Median	2,35	2,01	2,33	1,67	2,32	1,83	1,82	1,95	1,78	2,33
Std. dev.	8,89	6,40	6,00	10,62	8,91	7,88	11,43	8,92	6,86	5,19
Var.	78,95	40,93	35,96	112,7	79,42	62,1	130,7	79,63	47,09	26,93
Min.	-27,5	-4,2	-15,5	-33,5	-36,7	-20,5	-38,8	-20,7	-16,2	-1,65
Max.	19,90	27,73	11,57	26,18	16,50	22,23	21,74	21,28	20,42	19,44
South										
Obs.	28	27	30	28	29	37	36	37	37	13
Mean	3,38	3,35	6,10	3,41	2,28	3,46	3,01	4,57	4,08	4,27
Median	3,19	3,05	4,15	3,81	3,28	3,99	2,66	3,51	2,15	3,31
Std. dev.	8,12	10,81	8,29	11,85	9,73	7,76	5,12	6,36	5,22	3,31
Var.	65,8	116,7	68,6	140,3	94,62	60,20	26,24	40,50	27,24	10,94
Min.	-14,82	-37,7	-6	-47,5	-40,6	-20,7	-14,1	-7,12	-4,50	1,03
Max.	24,23	18,66	29,76	28,28	21,12	26,66	17,89	28,82	21,08	13,27

The maximum value is relative to a peak of 6.1 in 2011 in the South of Italy, but overall values are recorded on average of 2.3 on the whole national territory.

Ros values in Central Italy are like the national average, obviously with some physiological variations.

The biggest difference is between the two extreme areas of the country: 1.8 in the North and 3.79 in the South, with fluctuating and diversified trends in the geographical areas (fig. 5).

Fig. 5 – Ros trend by geographical macro-areas



Tab. 10 shows the equations of the interpolation functions for each group, with R^2 ranging from a minimum of 0,64 to a maximum of 0,9.

Tab. 10 – Ros. Interpolation equations

		R^2
Italy	$y = 0{,}0004x^6 - 0{,}0134x^5 + 0{,}1527x^4 - 0{,}8018x^3 + 1{,}9888x^2 - 2{,}2887x + 3{,}269$	0,8159
North	$y = 0{,}0008x^5 - 0{,}0227x^4 + 0{,}2266x^3 - 0{,}854x^2 + 0{,}8271x + 1{,}8367$	0,8011
Centre	$y = -0{,}0029x^6 + 0{,}0991x^5 - 1{,}3386x^4 + 8{,}8827x^3 - 29{,}822x^2 + 46{,}301x - 22{,}157$	0,9072
South	$y = 0{,}0028x^6 - 0{,}0933x^5 + 1{,}1916x^4 - 7{,}3168x^3 + 22{,}025x^2 - 29{,}479x + 16{,}963$	0,6445

Tab. 11 and tab. 12 confirm the differences between areas already highlighted by the graphical analysis of trends: variability exists and has statistical significance.

Tab. 11 – Ros. Analysis of variance

Source of var	SQ	gdl	MQ	F	Sig.	F crit
Between groups	19,4681	2	9,731403	11,73171	0,000221539	3,354131
Within groups	22,39638	27	0,8229496			
Tot.	41,85919	29				
Significant level. 0,05						

It is mainly due to the differences in the profitability of the sales of the southern social enterprises.

Tab. 12 – Ros. Tukey Kramer test

Comparison	Absolute difference	Critical range	Result
North - Centre	0,659	1,016674319	Not different
North - South	1,94	1,016674319	Different
Centre - South	1,281	1,016674319	Different

3.4. Financial independence index (%)

The use of financing, which is fundamental for social enterprises, is at the same time problematic given above all not constant bank support.

Public funding often compensates for this lack, especially in the cooperative realities (Gagliardi, 2009).

Therefore, the analysis of the financial independence index, as a ratio between net equity and total assets, is particularly useful for judgments on the measure of the balance between the different sources of financing, especially in sub-funded realities.

Tab. 13 shows the statistics relating to this index by geographical area.

The range (fig. 6) is from a minimum of 16,59 for social enterprises in the Center (2017) to a maximum of 26,94 in 2009, again in Central Italy.

The trend is fluctuating.

It is, however, possible to display an overall decreasing trend, with end-of-period values (22,24 in the North; 20,49 in the Center; 18,87 in the South) lower than those of the beginning.

These dynamics follow the national one; moreover, from the macro-area analysis it is noted that the only area with an index value lower by almost

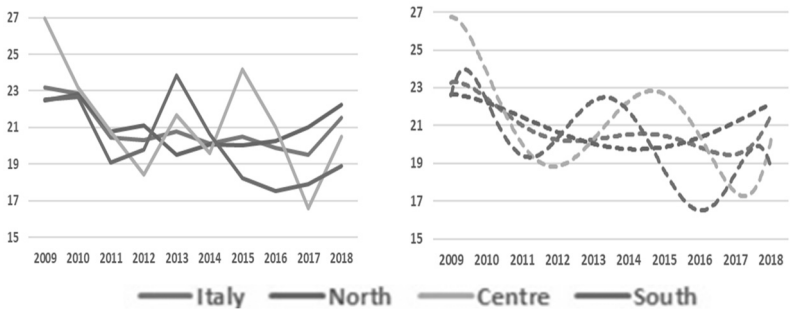
one percentage point compared to the average data of the Country (20,9) is the South.

Overall, an insufficient level of capitalization is shown; indeed, from the highest values of 2009-2010, there is a progressively increasing undercapitalization with the continuation of the business; the minimum values are in fact recorded in each group in the second half of the period.

Tab. 13 – Financial independence index. Statistics

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Italy										
Obs.	141	151	166	174	181	195	203	208	211	155
Mean	23,19	22,84	20,46	20,32	20,76	20,10	20,49	19,87	19,51	21,54
Median	17,89	18,36	15,68	14,26	14,52	14,97	15,12	13,34	14,00	17,58
Std. dev.	21,94	21,19	20,13	22,25	22,54	20,10	20,74	21,34	19,52	18,65
Var.	481,5	448,9	405,34	495,28	508,01	403,82	430,08	455,33	380,98	347,82
Min.	-23,6	-17	-25,08	-47,51	-48,93	-23,67	-41,48	-28,78	-25,03	-14,64
Max.	97,39	100,	100,00	98,92	96,81	99,91	89,54	100,00	86,35	83,61
North										
Obs.	90	95	103	108	112	118	122	124	127	106
Mean	22,48	22,81	20,78	21,10	19,52	20,06	20,04	20,27	21,02	22,24
Median	18,23	18,96	18,18	15,19	15,15	16,91	16,31	16,79	18,79	19,89
Std. dev.	20,65	20,06	19,49	19,80	20,46	18,51	17,12	19,32	17,43	17,47
Var.	426,2	402,5	379,72	391,85	418,42	342,44	293,09	373,15	303,87	305,10
Min.	-23,6	-17	-25,08	-6,53	-48,93	-7,31	-22,87	-24,21	-24,60	-2,87
Max.	87,19	98,61	88,40	97,12	96,81	99,91	72,55	100,00	71,25	75,84
Centre										
Obs.	22	27	31	35	34	37	40	43	45	35
Mean	26,94	23,16	20,80	18,40	21,66	19,61	24,18	21,01	16,59	20,49
Median	13,09	12,32	9,86	9,27	12,45	9,90	11,60	12,24	13,05	13,98
Std. dev.	28,63	24,21	25,36	29,16	27,29	25,33	29,07	25,17	20,30	20,23
Var.	819,5	586,1	643,10	850,39	744,52	641,70	844,86	633,60	412,20	409,34
Min.	0,50	0,49	-17,19	-47,51	-31,65	-23,67	-28,37	-28,78	-25,03	-14,64
Max.	97,39	94,44	100,00	98,92	87,35	88,96	89,54	87,93	65,37	71,86
South										
Obs.	29	29	32	31	35	40	41	41	39	14
Mean	22,52	22,64	19,10	19,78	23,86	20,65	18,24	17,50	17,92	18,87
Median	14,54	21,14	13,18	13,37	13,72	14,47	12,14	10,60	8,88	9,54
Std. dev.	20,61	22,57	16,83	22,09	24,19	19,71	21,03	23,15	24,50	23,89
Var.	424,9	509,5	283,33	488,03	585,08	388,55	442,09	535,96	600,26	570,75
Min.	-2,63	-7,47	0,13	0,23	-2,28	-3,47	-41,48	-23,09	-20,06	-12,96
Max.	68,18	100	63,65	92,13	85,47	80,96	71,35	78,83	86,35	83,61

Fig. 6 – Financial independence index trend by geographical macro-areas



Tab. 14 shows the equations of the interpolation functions, calculated for each group.

The statistical significance of polynomial approximations is reliable: the R^2 coefficient assumes very high values, always above 0,82.

Tab. 14 – Financial independence index. Interpolation equations

		R^2
Italy	$y = 0{,}0044x^5 - 0{,}1133x^4 + 1{,}0609x^3 - 4{,}2279x^2 + 5{,}9947x + 20{,}559$	0,9333
North	$y = -0{,}0031x^4 + 0{,}0797x^3 - 0{,}5634x^2 + 0{,}7366x + 22{,}409$	0,873
Centre	$y = 0{,}0134x^5 - 0{,}3491x^4 + 3{,}2043x^3 - 12{,}156x^2 + 15{,}952x + 20{,}088$	0,8224
South	$y = -0{,}0058x^6 + 0{,}1932x^5 - 2{,}4684x^4 + 15{,}248x^3 - 46{,}746x^2 + 64{,}65x - 8{,}283$	0,8741

Tab. 15 shows the results of the analysis, assuming the geographical area as independent variable.

The results lead to accept the zero hypothesis, with a level of reliability of 95%, indicating the absence of statistically significant differences between the groups: it results that F < F crit.

Tab. 15 – Financial independence index. Analysis of variance

Source of var	SQ	gdl	MQ	F	Sig.	F crit
Between groups	7,66752	2	3,83376	0,77220341	0,47192937	3,354131
Within groups	134,047	27	4,96470			
Tot.	141,714	29				
Significant level. 0,05						

3.5. Current ratio

It is the relationship current assets/short-term debts. It measures a company's ability to pay short-term obligations (within one year). In other words, it tells how a company can maximize the current assets on its balance sheet to satisfy its current debt.

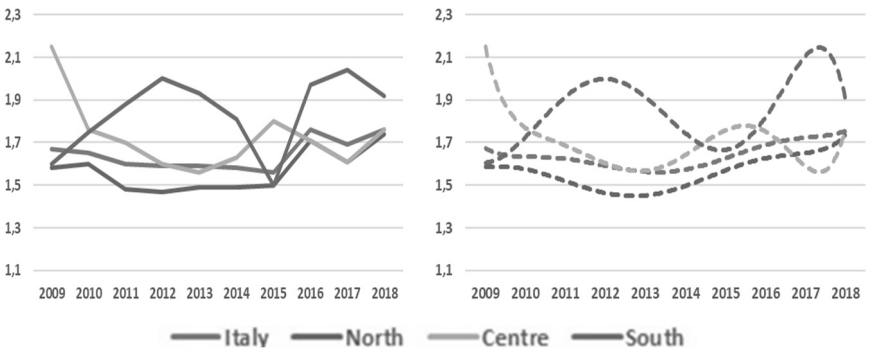
Tab. 16 proposes the statistical data on a national scale and by geographical macro-areas. The range is minimal: the index is between 1,47 (North, 2012) and 2,15 (Center, 2009).

Tab. 16 – Current ratio. Statistics

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Italy										
Obs.	140	147	164	171	179	193	199	205	210	154
Mean	1,67	1,65	1,60	1,59	1,59	1,58	1,56	1,76	1,69	1,76
Median	1,23	1,29	1,29	1,21	1,22	1,22	1,24	1,31	1,30	1,31
Std. dev.	1,51	1,22	1,27	1,15	1,23	1,26	1,11	1,48	1,25	1,50
Var.	2,27	1,50	1,61	1,32	1,52	1,60	1,23	2,19	1,57	2,24
Min.	0,05	0,05	0,05	0,08	0,03	0,05	0,08	0,12	0,12	0,15
Max.	9,95	7,17	9,64	8,72	7,32	7,79	7,87	8,87	8,40	9,47
North										
Obs.	90	94	102	106	111	117	120	122	126	105
Mean	1,58	1,60	1,48	1,47	1,49	1,49	1,50	1,71	1,61	1,74
Median	1,21	1,29	1,23	1,18	1,14	1,19	1,21	1,26	1,26	1,24
Std. dev.	1,38	1,20	1,23	1,11	1,19	1,15	1,08	1,53	1,13	1,45
Var.	1,92	1,43	1,51	1,22	1,41	1,32	1,17	2,34	1,27	2,11
Min.	0,11	0,05	0,05	0,08	0,06	0,07	0,08	0,12	0,18	0,15
Max.	8,92	7,07	9,64	8,72	7,32	7,52	7,87	8,87	6,06	7,77
Centre										
Obs.	21	26	30	35	33	36	38	42	45	35
Mean	2,15	1,76	1,70	1,60	1,56	1,63	1,80	1,71	1,61	1,76
Median	1,39	1,30	1,31	1,21	1,26	1,28	1,46	1,27	1,32	1,44
Std. dev.	2,04	1,09	1,21	1,09	1,16	1,44	1,41	1,36	1,07	1,30
Var.	4,16	1,20	1,48	1,19	1,35	2,07	1,99	1,86	1,14	1,68
Min.	0,26	0,47	0,35	0,17	0,03	0,05	0,17	0,27	0,32	0,29
Max.	9,95	5,48	6,62	5,68	5,07	7,79	6,53	7,90	4,59	7,11
South										
Obs.	29	27	32	30	35	40	41	41	39	14
Mean	1,60	1,75	1,88	2,00	1,93	1,81	1,50	1,97	2,04	1,92
Median	1,17	1,31	1,45	1,59	1,52	1,36	1,41	1,55	1,41	1,38
Std. dev.	1,42	1,45	1,42	1,30	1,41	1,41	0,84	1,46	1,73	2,24
Var.	2,01	2,11	2,02	1,68	1,99	1,99	0,70	2,13	2,99	5,03
Min.	0,05	0,26	0,06	0,53	0,21	0,28	0,20	0,48	0,12	0,49
Max.	7,13	7,17	7,63	5,39	6,34	7,24	5,45	7,42	8,40	9,47

Fig. 7 shows a situation of short-term solvency (current and deferred liquidity, including inventory) that is not optimal: in fact, the index rarely exceeds the value of 2, reflecting a balance between current assets and liabilities that must be object of careful monitoring.

Fig. 7 – Current ratio trend by geographical macro-areas



However, this judgment does not consider the different value of the warehouse in the different sectors of business activity.

The Northern and Italian groups have similar trajectories with values of social enterprises in the North slightly lower than national ones (on average 1,57 in the North and 1,64 for Italy).

In the South the highest values are recorded, ranging between 1.6 and 2.04 (on average 1.85).

In all cases, the trend is generally constant.

Tab. 17 shows the equations of the interpolation functions.

The statistical significance of polynomial approximations is reliable: R^2 between 0,75 to 0,98.

Tab. 17 – Current ratio. Interpolation equations

		R^2
Italy	$y = 5E\text{-}05x^6 - 0{,}0016x^5 + 0{,}0208x^4 - 0{,}1288x^3 + 0{,}3981x^2 - 0{,}5974x + 1{,}9823$	0,7478
North	$y = 4E\text{-}05x^6 - 0{,}001x^5 + 0{,}0103x^4 - 0{,}0411x^3 + 0{,}0472x^2 + 0{,}0113x + 1{,}5583$	0,8004
Centre	$y = 0{,}0003x^6 - 0{,}008x^5 + 0{,}0995x^4 - 0{,}61x^3 + 1{,}9682x^2 - 3{,}2728x + 3{,}971$	0,9824
South	$y = -0{,}0001x^6 + 0{,}0025x^5 - 0{,}0175x^4 + 0{,}0215x^3 + 0{,}1518x^2 - 0{,}2932x + 1{,}7403$	0,7819

Tab. 18 shows statistically significant differences between geographical areas with respect to the values of the current ratio: F (2, 27) = 8,17, p value = 0,0016777, F > F crit (p value < 0,05).

Tab. 18 – Current raio. Analysis of variance

Source of var	SQ	gdl	MQ	F	Sig.	F crit
Between groups	70,376647	2	3,83376	8,17257341	0,0016777	3,354131
Within groups	0,62217	27	0,023043			
Tot.	0,998817	29				
Significant level. 0,05						

However, since ANOVA does not allow to identify the exact source of the statistically significant difference, a second test is performed (tab. 19) to fill this information gap.

Tab. 19 – Current ratio. Tukey Kramer test

Comparison	Absolute difference	Critical range	Result
North - Centre	0,161	0,169451031	Not different
North - South	0,273	0,169451031	Different
Centre - South	0,112	0,169451031	Not different

The genesis of the variability of the current ratio is mainly attributable to the differences between companies in the North and South of Italy.

3.6. Fixed assets coverage index (%)

With the analysis of patrimonial solidity we study "the possibility of maintaining a stable financial balance with reference to not a short time" (Caramiello *et al*., 2003).

Fixed assets coverage index relates tangible assets to equity: therefore, it is here meant as self-coverage index.

The statistical data, by geographical area, are highlighted in tab. 20.

Fig. 8 shows, even with differences between groups, a coverage of fixed assets of structure that is not optimal.

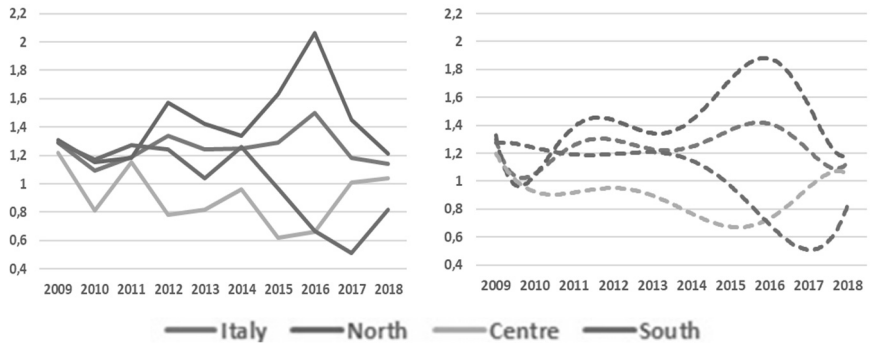
As often occurs in reality characterized by an endemic undercapitalization (Ferrero *et al*., 2003).

The equity does not appear to be sufficient to cover slow recovery investments. It is shown that this index does not consider intangible and financial assets which, if considered, would lead to a worsening of the overall picture.

Tab. 20 – Fixed assets coverage index. Statistics

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Italy										
Obs.	138	146	161	172	178	190	193	204	201	149
Mean	1,29	1,09	1,19	1,34	1,24	1,25	1,29	1,50	1,18	1,14
Median	0,54	0,53	0,52	0,64	0,57	0,52	0,46	0,51	0,46	0,46
Std. dev.	2,30	1,62	2,19	2,36	1,89	2,25	2,42	2,83	2,32	1,77
Var.	5,30	2,61	4,79	5,57	3,58	5,05	5,85	8,00	5,39	3,12
Min.	-5,11	-4,68	-7,77	-9,43	-2,34	-7,80	-1,44	-6,10	-5,88	-1,20
Max.	14,53	9,54	14,94	12,93	10,66	13,75	14,76	14,21	13,46	12,06
North										
Obs.	86	92	100	106	111	114	115	122	121	102
Mean	1,31	1,15	1,18	1,57	1,42	1,34	1,63	2,06	1,45	1,21
Median	0,77	0,82	0,76	0,94	0,70	0,74	0,65	0,83	0,74	0,58
Std. dev.	1,66	1,42	1,83	2,20	1,80	2,25	2,72	3,28	2,22	1,86
Var.	2,75	2,01	3,36	4,82	3,26	5,08	7,37	10,74	4,93	3,46
Min.	-4,95	-4,68	-7,77	-0,51	-0,31	-7,80	-0,49	-1,97	-0,73	0,00
Max.	7,02	5,46	9,87	12,93	8,70	13,75	14,76	14,21	13,46	12,06
Centre										
Obs.	22	25	31	36	34	37	39	41	43	33
Mean	1,22	0,81	1,15	0,78	0,82	0,96	0,62	0,66	1,01	1,04
Median	0,25	0,24	0,35	0,27	0,32	0,39	0,35	0,36	0,36	0,39
Std. dev.	3,10	1,23	2,99	3,02	1,70	1,38	0,94	1,25	2,57	1,56
Var.	9,62	1,51	8,96	9,12	2,90	1,89	0,88	1,57	6,62	2,45
Min.	0	0	-4,44	-9,43	-0,50	-0,50	-1,44	-0,91	-4,14	-1,20
Max.	14,53	4,34	14,94	12,23	9,39	5,10	4,33	7,52	11,58	6,69
South										
Obs.	30	29	30	30	33	39	39	41	37	14
Mean	1,29	1,17	1,27	1,24	1,04	1,26	0,97	0,67	0,51	0,82
Median	0,54	0,40	0,36	0,55	0,15	0,19	0,19	0,19	0,09	0,22
Std. dev.	3,16	2,37	2,39	1,95	2,30	2,85	2,38	2,04	2,25	1,56
Var.	10,01	5,60	5,69	3,82	5,27	8,11	5,66	4,18	5,04	2,43
Min.	-5,11	-1,18	0	0	-2,34	-2,26	-1,34	-6,10	-5,88	-0,35
Max.	14,01	9,54	9,21	7,80	10,66	12,88	13,05	8,84	11,69	5,88

Fig. 8 – Fixed assets coverage index trend by geographical macro-areas



The minimum occurs in 2017 in the South (0,51).

The maximum in 2016 in the North (2,06).

The index is lower in central Italy and in the south but with average values of 0,9 and 1,02 respectively.

Instead it is higher in the North (on average 1,43) even beyond the national average: 1,25.

Tab. 21 shows the equations of the interpolation functions: polynomial approximations report an R^2 coefficient variable between 0,59 and 0,92.

Tab. 21 – Fixed assets coverage index. Interpolation equations

		R^2
Italy	$y = 0{,}0004x^6 - 0{,}0119x^5 + 0{,}1577x^4 - 1{,}0254x^3 + 3{,}4024x^2 - 5{,}2883x + 4{,}062$	0,8049
North	$y = 0{,}0006x^6 - 0{,}0199x^5 + 0{,}2613x^4 - 1{,}6795x^3 + 5{,}4766x^2 - 8{,}3009x + 5{,}592$	0,7913
Centre	$y = -7E\text{-}05x^6 + 0{,}0016x^5 - 0{,}0093x^4 - 0{,}0246x^3 + 0{,}394x^2 - 1{,}1915x + 2{,}0293$	0,5901
South	$y = 0{,}0005x^5 - 0{,}0124x^4 + 0{,}0996x^3 - 0{,}3433x^2 + 0{,}4676x + 1{,}0613$	0,9219

Also with regard to the fixed asset coverage ratio, the Anova test (tab. 22) leads to reject the null hypothesis and to accept the alternative one, highlighting statistically significant differences: F (2, 27) = 11,9, p value = 0,00019623, F > F crit (p value <0,05).

Tab. 22 – Fixed assets coverage index. Analysis of variance

Source of var	SQ	gdl	MQ	F	Sig.	F crit
Between groups	1,51926	2	0,75963	11,9063572	0,00019623	3,354131
Within groups	1,72261	27	0,0638			
Tot.	3,24187	29				
Significant level. 0,05						

With regard to the fixed assets coverage ratio, note that (tab. 23) the rejection of the zero hypothesis of the ANOVA test (tab. 22) is due to the performance of the index in the group of northern social enterprises.

Tab. 23 – Fixed assets coverage index. Tukey Kramer test

Comparison	Absolute Difference	Critica Range	Result
North - Centre	0,525	0,281958405	Different
North - South	0,408	0,281958405	Different
Centre - South	0,117	0,281958405	Not different

4. Conclusion and implication: some limitation and future developments

The difficult mediation between social purpose and economic and financial equilibrium requires quantitative analysis currently lacking in the literature, which is more focused on the managerial and organizational aspects of the social enterprise.

The starting hypothesis is partially confirmed.

The overall profitability of the companies appears to be good, with few significant regional differences. It is the result of an adequate operating profitability of the capital invested in ordinary operations and a decent profitability of sales. Only for this last profitability ratio, there are significant statistical differences between the different areas of the country.

The level of capitalization appears relatively modest which, consequently, means a significant debt that should be analyzed with further studies. The outcome. common to the different geographical areas, is not surprising, considering the typology of companies that certainly cannot be ascribed to traditional capitalist activities.

The short- and medium-term capital structure (immediate and deferred liquidity, stock, short-term debts) records ratios that are lower than an optimal abstract value, with some territorial differences. However, it must be considered that the sample was broken down by geographical area, but not by sector. Therefore, in the future the incidence of the stock should be considered and also the financial dynamics could be strongly conditioned by donations from public authorities.

Equity is generally insufficient to cover fixed assets. However, the possible presence of capital contributions that could be present should be assessed, considering the spirit of these social initiatives. The values, however, are not worrying, even considering that the activities of these companies do not normally require large multi-year investments, more typical of industrial activities. However, the picture could be more worrying considering also the intangible and financial assets that the coverage index, analyzed in this study, does not consider.

Therefore, there is an insufficient but relatively satisfactory picture in which the capital and financial balance is not sacrificed by the corporate purpose. Thus, it is believed that social enterprises can develop and grow over time. Much also depends on the self-financing capabilities that should be studied with similar research on profitability.

The territorial analysis of social enterprises has sometimes allowed to detect significant statistical differences between macro areas. A territorial incidence emerges in the dynamics of two structural indicators, with a variability due to the differences between the North and South of the Country as regards the current ratio and to the higher values in the North of the coverage index, often beyond the national average.

The need for subsequent studies with a similar methodology to deepen the profitability dynamics and the system of financial and asset relations using further indices and margins is again underlined.

However, an exhaustive picture would only be obtained by adding to the quantitative analyzes the results of surveys relating to the achievement of the social aims of this type of enterprise. To achieve this objective, it would be better to study the social reports that best focus on the specific mission of social enterprises. Especially in Italy this is possible considering the particular sensitivity shown, first of all by the best doctrine (Grumo, 2017; Ricci, 2010; Costa and Ramus, 2010; Verde, 2009; Signori and Stiz, 2006; Puddu, 2005).

Further statistical analysis could better favor the comparison between the different areas of the country, searching for the reasons behind the differences highlighted by the ANOVA and post ANOVA tests.

This study implements the existing bibliography which is rarely based on quantitative analysis, favoring company case studies (Yang *et al*., 2010; Meadows and Pike, 2010; Sardi *et al*., 2019; Hsieh *et al*., 2018; Nicolás-Martínez and Rubio-Bañón, 2015; Zamora, 2012; Fedele and Miniaci, 2010) or based on questionnaire results (Bridgstock *et al*., 2010; Linzalone and Lerro, 2014). It is therefore not possible to carry out a comparative study between scientific publications because the methodological settings are different. However, it is certainly useful for assessing the managerial skills of social enterprises. It can provide parameters of reference to those who work with social forms of this type and can contribute to delineating national and regional development policies of these companies.

Even the choice of the most suitable corporate legal form can be confirmed by the analyzes here proposed. It can also be a reference for research with the same methodology. Studies of this type can also be used in higher education courses specifically dedicated to social management.

This research is part of a larger project that aims to analyze the performance of Italian companies before, during and after the global financial crisis of 2008.

The project has already analyzed the Italian cooperative companies (Fusco and Migliaccio, 2015, 2016a, 2016b, 2018 and 2019), in particular social care cooperatives for the elderly (Migliaccio and Losco, 2018). Recently, a similar methodology, mutatis mutandis, has also been extended to corporations belonging to different sectors of the Italian economy: tourism (Iovino and Migliaccio, 2018a and 2018b; Migliaccio, 2018), plastic (Migliaccio and De Blasio, 2017), tanning industry (Migliaccio and Arena, 2018a and 2018b), energy (Iovino and Migliaccio, 2019). Similar research on the profitability of social enterprises (Migliaccio and Molinaro, 2019), the football sports industry (Migliaccio and Corea, 2019), the fuel distribution network (Migliaccio and Ciotta, 2019) is being published.

The main objective of the project is to develop an intersectoral comparison to assess differences and similarities that could lead to focus on the most successful strategies, to be used also in the unfortunate hypothesis of future crises.

References

Angeli, M., Cinque, S. (2018), "Impresa sociale e concorrenza", *Analisi giuridica dell'economia*, Vol. 32, No. 1: 151-174.

Bancone, V. (2016), Il ruolo dell'impresa sociale ai tempi della crisi economica, *Il Foro Napoletano*, Vol. 5, No. 2: 309-323.
Benevolo, C., Gasparre A. (2013), "Imprenditorialità e socialità nell'impresa sociale: alcune proposte per la ricerca", *Studi organizzativi*, Vol. 1: 56-86.
Benjamini Y., Braun, H. (2002), John W. Tukey's Contributions to Multiple Comparisons, *The Annals of Statistics*, Vol. 30, No. 6: 1576-1594, Institute of Mathematical Statistics, Tel Aviv University.
Bernardoni, A. (2017), "Impresa sociale: la sfida dello sviluppo locale dopo la riforma", *AUR&S,* Vol. 12, No. 14: 99-108.
Borgonovi, E. (2009), "Le caratteristiche gestionali delle imprese sociali e le dinamiche finanziarie", *Impresa sociale*, Vol. 78, No. 2: 75-91.
Borzaga, C., Depedri, S., Tortia E. (2010), "Testing the distributive effects of social enterprises: The case of Italy", *Social Capital, Corporate Social Responsibility, Economic Behaviour and Performance*: 282-303.
Borzaga, C., Fazzi, L., Galera G. (2016), "Social enterprise as a bottom-up dynamic: part 1. The reaction of civil society to unmet social needs in Italy, Sweden and Japan", *International Review of Sociology*, Vol. 26, No. 1: 1-18.
Bridgstock, R., Lettice, F., Özbilgin, M.F., Tatli A. (2010), "Diversity management for innovation in social enterprises in the UK", *Entrepreneurship and Regional Development*, Vol. 22, No. 6: 557-574.
Briganti, R. (2018), "La riforma del 'Terzo settore' tra sussidiarietà orizzontale e impresa sociale", *Notariato*, Vol. 5: 511-516.
Cannata, M. (2013), "Il futuro nell'impresa sociale", *L'impresa*, Vol. 11: 15-19.
Caramiello, C., Di Lazzaro, F., Fiori, G. (2003), *Indici di bilancio: strumenti per l'analisi della gestione aziendale*. Giuffrè, Milano.
Carini, C., Borzaga, C. (2015), La cooperazione sociale: dinamica economica ed occupazionale tra il 2008 ed il 2013, terzo rapporto Euricse.
Carini, C., Carpita, M. (2014), The impact of the economic crisis on Italian cooperatives in the industrial sector, *Journal of Co-operative Organization and* Management, Vol. 2: 14-23.
Castaldi, L. (2018), "La disciplina fiscale dell'impresa sociale. Spunti di sistema?", *Analisi giuridica dell'economia*, Vol. 32, No.1: 175-186.
Civitillo, R. (2016), *L'aziendabilità del volontariato. Il non profit nella Provincia di Benevento*, FrancoAngeli, Milano, Italy.
Corsini, E., Mento, F., Montesi, F., eds. (2015), *Italia-Brasile, educare nuovi cittadini globali*, Human Foundation.
Costa E., Ramus T., (2010), "Il bilancio sociale nell'impresa sociale: da vincolo giuridico ad opportunità di accountability globale 235", *Impresa sociale*, Vol. 79, No. 4: 235-262.
Costa E., Carini C. (2016), "Northern and southern Italian social cooperatives during the economic crisis: a multiple factor analysis", *Serv Business*, Vol. 10: 369-392.
Delledonne G. (2014), "Le novità in materia d'impresa sociale: i profili finanziari", *Non profit*, 20,3: 179-184.
Di Stasio G. and Pasquini, F. (2017), "Impresa sociale: riforma del D.Lgs. 112/2017", *Guida alla contabilità & bilancio*, 10, 16-19.
Euricse (2015), *Economia cooperativa. Rilevanza, evoluzione e nuove frontiere della cooperazione italiana*, Terzo Rapporto Euricse, Trento.

Fazzi L. (2014), "Il compito di innovazione dell'impresa sociale", *Animazione sociale*, 44,284: 13-25.
Fazzi L. (2017), "La riforma del terzo settore e dell'impresa sociale. Tra enfasi retoriche, diffusi corporativismi, segnali di innovazione", *Animazione sociale*, 47,312: 25-37.
Fedele A. and Miniaci R. (2010), "Do social enterprises finance their investments differently from for-profit firms? The case of social residential services in Italy", *Journal of Social Entrepreneurship*, 1,2: 174-189.
Felicetti R. (2018), "L'impresa sociale negli altri ordinamenti", *Analisi giuridica dell'economia*, 32,1: 221-254.
Ferrero G., Dezzani F., Pisoni P., Puddu L. (2003), *Le analisi di bilancio. Indici e flussi*, Giuffrè, Milano.
Fici A. (2018a), "L'impresa sociale e le altre imprese del terzo settore", *Analisi giuridica dell'economia*, 32, 1: 19-44.
Fici A., a cura di (2018b), *La riforma del terzo settore e dell'impresa sociale. Una introduzione*, Editoriale Scientifica, Napoli, Italy.
Fioritti A., D'Alema M., Barone R. and Bruschetta S. (2014), "Social enterprises, vocational rehabilitation, supported employment: Working on work in Italy", *Journal of Nervous and Mental Disease*, 202, 6:498-500.
Fontana C. (2015), "L'impresa sociale conquista il mondo", *Valori*, 15, 131: 33-33.
Fusco F. and Migliaccio G. (2015), "Cooperatives and global economic crisis 2008-2013: financial dynamics. Some Considerations From Italian Context", in Vrontis D., Weber Y, and Tsoukatos,E. (Eds), *Conference readings book proceedings, 8th Annual Conference of the EuroMed Academy of Business: Innovation, Entrepreneurship and Sustainable Value Chain in a Dynamic Environment*, Verona, September 16th-18th, 2015, EuroMed Press: Cyprus, 877-890.
Fusco F. and Migliaccio G. (2016a), "Cooperatives and Crisis: Financial Dynamics on the Italian Primary Sector Cooperatives", in Marchi, L., Lombardi, R, Anselmi, L. (Eds.), *Il governo aziendale tra tradizione e innovazione*, FrancoAngeli, Milano, VII, 99-114.
Fusco F. and Migliaccio G. (2016b), "Profitability of Italian cooperatives: the impact of geographical area and business sectors", in Vrontis D., Weber Y., Tsoukatos E. (Eds), *Conference readings book proceedings, 9th Annual Conference of the EuroMed*, Varsavia, September 14th-16th, 2016, EuroMed Press: Cyprus, 757-770.
Fusco F. and Migliaccio G. (2018), "Crisis, Sectoral and Geographical Factors: Financial Dynamics of Italian Cooperatives", *Euromed Journal of Business*, 13,2: 130-148.
Fusco F. and Migliaccio G. (2019), "Cooperatives and Crisis: Economic Dynamics in Italian Context", *International Journal of Business and Globalisation*, 22,4: 638-654.
Gagliardi F. (2009), Financial development and the growth of cooperative firms, *Small Business Economics*, 32,2: 231-231.
Giustolisi C. (2018), "La nuova disciplina dell'impresa sociale", *Ianus*, 17: 69-84.
Gonzales V.A. (2010), "A different kind of social enterprise: Social cooperatives and the development of civic capital in Italy", *Community Development*, 41,1: 50-75.

Granados M.L., Mohamed S. and Hlupic V. (2017), "Knowledge management activities in social enterprises: lessons for small and non-profit firms", *Journal of Knowledge Management*, 21,2: 376-396.
Grieco C. (2013), "Impresa sociale e creazione di valore: una tassonomia dei *modelli di misurazione dell'impatto sociale sul territorio", Sinergie,* 31,91: 61-82.
Grumo M. (2017), Bilancio, bilancio sociale e controlli: le nuove norme introdotte dalla riforma degli Enti del Terzo settore e dell'impresa sociale, *Non profit*, 23,4: 136-145.
Gu C. (2013), *Smoothing Spline ANOVA Models*, II ed., Springer, New York.
HackerJoel, M.J. and Angiolillo-Bent S. (1981), A BASIC package for N-way ANOVA with repeated measures, trend analysis, and user-defined contrasts, *Behavior Research Methods & Instrumentation*, 13,5: 688-688.
Hsieh Y.C., Weng J. and Lin T. (2018), "How social enterprises manage their organizational identification: a theoretical framework of identity management approach through attraction, selection, and socialization", *International Journal of Human Resource Management*, 29,20: 2880-2904.
Iovino F. and Migliaccio G. (2018a), "Profitability dynamics of tourism companies during the crisis period 2007-2015", in Vrontis, D., Weber, Y., Tsoukatos, E. (Eds), *Conference readings book proceedings, 11th Annual Conference of the EuroMed*, Valletta, Malta, September 12th-14th, EuroMed Press: Cyprus, 663-677.
Iovino F. and Migliaccio G. (2018b), "Financial dynamics of tourism companies, travel agencies and tour operators, during the crisis period", in Conference *Proceedings:* 2nd International Scientific Conference on Economics and Management - EMAN 2018, Ljubljana, Slovenia, March 22, Printed by: All in One Print Center, Belgrade, 693-702.
Iovino F. and Migliaccio G. (2019), "Financial Dynamics of Energy Companies During Global Economic Crisis", *International journal of Business and Globalisation*, 22,4: 541-554.
Iovino F. and Migliaccio G. (2019), Financial Dynamics of Energy Companies During Global Economic Crisis. *International journal of Business and Globalisation*, 22,4: 541-554.
Kramer C.Y. (1956), Extension of multiple range tests to group means with unequal numbers of replications. *Biometrics*, 12, 307-310.
Liao Q. and Li J. (2018), *An adaptive reduced basis ANOVA method for high-dimensional Bayesian inverse problems*, arXiv:1811.05151 [math.NA].
Linzalone, R. and Lerro, A. (2014), "Between solidarism and business management: Assessing management factors for social enterprise: A survey in Italy", *Measuring Business Excellence*, 18, 1: 66-77.
Loffredo F. (2018), *Gli enti del Terzo settore*, Giuffrè, Milano.
Mancino A. and Thomas A. (2005), "An Italian Pattern of Social Enterprise: the Social Cooperative", *Nonprofit Management & Leadership*, 15,3: 357-369.
Manes V. (2015), "Il ruolo non marginale dell'impresa sociale in Italia", *Harvard business review*. Edizione italiana, 5.
Manetti G., Bellucci M., Como E. and Bagnoli L. (2014). "Investing in Volunteering: Measuring Social Returns of Volunteer Recruitment, Training and

Management", *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 1-26.
Marocchi G. (2016), "Impresa sociale: sarà rilancio?", *Welfare oggi*, 21,3: 83-85.
Mazzullo A. (2013), "Impresa sociale '3.0'", *Enti non profit*, 13,10: 32-34.
Meadows M. and Pike M. (2010), "Performance management for social enterprises", *Systemic Practice and Action Research*, 23,2: 127-141.
Meo G. (2017), "Impresa sociale e valori d'impresa", *Banca impresa società*, 36,2: 183-200.
Migliaccio G. (2018), The profitability of Italian hotels during and after the 2008 Economic Crisis. *African Journal of Hospitality, Tourism and Leisure*, 7,6:1-21.
Migliaccio G. and Arena M.F. (2018a), "Economic and financial balance of Italian tanning manufacturers during the crisis (2007-2015)", in Vrontis, D., Weber, Y. and Tsoukatos, E. (Eds), *Conference readings book proceedings, 11th Annual Conference of the EuroMed*, Valletta, Malta, September 12th-14th, EuroMed Press: Cyprus, 949-964.
Migliaccio G. and Arena, M.F. (2018b), "La redditività delle industrie conciarie italiane durante la crisi (2007-2015)", in Corbella, S., Marchi, L. and Rossignoli, F. (Eds.), *La comunicazione agli stakeholders tra vincoli normativi e attese informative*, Franco Angeli, Milano, 2018, 1237-1264.
Migliaccio G. and Ciotta C. (2019), "Asset Balance of Italian Fuel Distribution Companies During and after the Crisis", in Vrontis D., Weber Y., Tsoukatos E. (Eds), Conference readings book proceedings, 12th Annual Conference of the EuroMed: *Business Management Theories and Practices in a Dynamic Competitive Environment*, September 18-20, Thessaloniki, Greece, EuroMed Press: Cyprus, 778-794, in press.
Migliaccio G. and Corea M.M, (2019), "Economic-Financial Dimension of Italian Soccer Teams and Sports Results: some Relationships", in Vrontis D., Weber Y., Tsoukatos E. (Eds), Conference readings book proceedings, 12th Annual Conference of the EuroMed: *Business Management Theories and Practices in a Dynamic Competitive Environment*, September 18-20, Thessaloniki, Greece, EuroMed Press: Cyprus, 762-777, in press.
Migliaccio G. and De Blasio V. (2017), V., "Economic and financial balance of italian plastic manufacturers during the crisis (2008-2015)", in Vrontis, D., Weber, Y. and Tsoukatos, E. (Eds), *Conference readings book proceedings, 10th Annual Conference of EuroMed*, Roma, September 13th-15th, EuroMedPress: Cyprus, 1056-1070.
Migliaccio G. and Fusco F. (2018), Gli equilibri finanziari delle cooperative di assistenza sociale e sanitaria durante la crisi, in Corbella S., Marchi L. and Rossignoli F., eds., *La comunicazione agli stakeholders tra vincoli normativi e attese informative*, FrancoAngeli, Milano, 2018, 1265-1293.
Migliaccio G. and Losco F. (2018), "Balance of assets of social welfare home during the crisis period (2007-2015)", in Vrontis, D., Weber, Y. and Tsoukatos, E. (Eds), *Conference readings book proceedings, 11th Annual Conference of the EuroMed*, Valletta, Malta, September 12th-14th, EuroMed Press: Cyprus, 965-979.
Migliaccio G. and Molinaro M.A. (2019), "Social Entreprises' Profitability in Italy: Results of a Study on 161 Financial Statements over the Five-Year-Term", in

Vrontis D., Weber Y., Tsoukatos E. (Eds), Conference readings book proceedings, 12th Annual Conference of the EuroMed: Business Management Theories and Practices in a Dynamic Competitive Environment, September 18-20, Thessaloniki, Greece, EuroMed Press: Cyprus, 746-761, in press.
Millar R. (2012), "Social enterprise in health organisation and management: Hybridity or homogeneity?", *Journal of Health Organization and Management*, 26,2: 143-148.
Mosco G.D. (2018), "Scopo e oggetto nell'impresa sociale e nella società di benefit", *Analisi giuridica dell'economia*, 32,1: 81-94.
Nicolás-Martínez C. and Rubio-Bañón A.M. (2015), "Human resource management in social enterprise", *Universia Business Review*, 47, 82-105.
Perrini F. and Vurro C. (2013), *La valutazione degli impatti sociali. Approcci e strumenti applicativi*, Milano, Egea.
Pirni A. and Raffini L. (2016), "Social enterprise in Spain and Italy during the crisis. A laboratory for economic and social innovation?", *OBETS*, 10,1: 127-158.
Puddu L. (2005), L'impresa sociale, il bilancio sociale, *Impresa commerciale e industriale*, 27,7/8: 1128-1129.
Quirk T.J. (2012), *One-Way Analysis of Variance (ANOVA)*, in Quirk, T. J. (Ed.), Excel 2010 for Social Science Statistics. A Guide to Solving Practical Problems, Springer, New York, 175-193.
Randazzo R. and Taffari G. (2013), "Impresa sociale: che fare?", *Enti non profit*, 13,6: 9-15.
Ricci S. (2010), Il bilancio sociale dell'impresa sociale, *Terzo settore*, 1: 57-59.
Ricci S. (2015), "L'impresa sociale e la cooperativa sociale", *Finanziamenti & credito*, 17,12: 55-60.
Rivetti G. (2017), *Enti senza scopo di lucro. Terzo settore e impresa sociale. Profili di specialità tributaria tra attività no profit o for profit*, Giuffrè, Milano.
Rondinone N. (2017), "Il nuovo modello dell'impresa sociale a lucratività limitata", *Rivista delle società*, 62,4: 851-857.
Ross A. and Willson V.L. (2017), *One-Way Anova*, in Ross, A. and Willson V.L. (Eds.), Basic and Advanced Statistical Tests, SensePublishers, Rotterdam.
Sanchis-Palacio J.R., Campos-Climent V. and Mohedano-Suanes, A. (2013), "Management in social enterprises: The influence of the use of strategic tools in business performance", *International Entrepreneurship and Management Journal*, 9,4: 541-555.
Sardi A., Garengo P. and Bititci U. (2019), "Measurement and management of competences by enterprise social networking", *International Journal of Productivity and Performance Management*, 68,1: 109-126.
Scagnelli S.D. and Corazza L. (2014), "La creazione di valore condiviso: alcuni segnali a livello globale tra profi, no-profit e impresa sociale", *ImpresaProgetto*, 3: 1-9.
Scalvini F. (2013), "Cooperazione e impresa sociale", *Studi Zancan*, 14,3: 86-89.
Scarlato M. (2012), "Social Enterprise and Development Policy: Evidence from Italy", *Journal of Social Entrepreneurship*, 3,1: 24-49.
Signori S. and Stiz, G. (2006), Accountability e bilancio sociale nella nuova normativa sull'impresa sociale, *Enti non profit*, 8,10: 596-601.

Smith B.R., Knapp J., Barr T.F., Stevens C.E. and Cannatelli B.L. (2010), "Social enterprises and the timing of conception: Organizational identity tension, management, and marketing", *Journal of Nonprofit and Public Sector Marketing*, 22,2: 108-134.
Solari A., Salmaso L., Pesarin F. and Basso D. (2009), *Permutation Tests for Stochastic Ordering and ANOVA. Theory and Applications with R*, Springer-Verlag, New York.
Solari A., Salmaso L., Pesarin F. and Basso D. (2009), *Permutation Tests for Stochastic Ordering and ANOVA. Theory and Applications with R*, Springer-Verlag, New York.
Strang H.R. (1980), A BASIC factorial ANOVA program with a repeated-measures option for microprocessors, *Behavior Research Methods & Instrumentation*, 12,4: 477-478.
Stringa P. (2013), "L'impresa 'sociale'", *L'impresa*, 6, 38-42.
Thomas A. (2004), "The Rise of Social Solidarity Cooperatives in Italy", *Voluntas – International Journal of Voluntary and Nonprofit Organisations*, 15,3.
Tortia E. and Poledrini S. (2018), "L'impresa sociale italiana nella prospettiva economico-manageriale", *Analisi giuridica dell'economia*, 32,1: 45-70.
Tukey J.W. (1949), Comparing Individual Means in the Analysis of Variance, *Biometrics*, 5,2: 99-114.
Tukey J.W. (1953), The problem of multiple comparisons. Unpublished manuscript, in *The Collected Works of John W Tukey VIII. Multiple Comparisons*: 1948-1983 1-300. Chapman and Hall, New York.
Tukey J.W. (1993), Where should multiple comparisons go next?, in *Multiple Comparisons, Selection, and Applications in Biometry* (F. M. Hoppe, ed.), 187-207. Dekker, New.
Vecci A. (2016), "Global minds dell'impresa sociale. Rendere circolari finanza e società", *Valori*, 16, 139: 42-43.
Verde M. (2009), Bilancio sociale: un obbligo per l'impresa sociale, *Prospettive sociali e sanitarie*, 39,5: 5-8.
Yang M.H., Ben Wu J.T. Su, C.J., Kao T.Y. and Lin C.-C. (2010), "The study of social enterprise management", *International Journal of Revenue Management*, 4,2: 145-162.
Zamora V.L. (2012), "Using a social enterprise service-learning strategy in an introductory management accounting course", *Issues in Accounting Education*, 27,1: 187-226.
Zandonai F. (2014), "Sbloccare l'innovazione. Le buone pratiche di impresa sociale", *Welfare oggi*, 19,1: 40-43.
Zandonai F. and Puccio A. (2015), "Due chiavi bastano? L'impresa sociale alla prova della sostenibilità", *Harvard business review.* Edizione italiana, 5: 82-0.
Zandonai F. and Venturi P. (2017), "Impresa sociale: i tre impatti della riforma", *Non profit*, 23,2: 223-241.

12. IR COMPLETENESS AND THE ROLE OF THE INSTITUTIONAL FACTORS: WORLDWIDE EVIDENCE

by *Silvia Panfilo*[*], *Chiara Mio*[*]

Introduction

Around the world, some leading companies have started developing integrated reporting (IR), which expresses the interconnections between a firm's strategy, governance, performance and prospects, as well as the contexts within which it operates (Frias-Acetuino *et al*., 2013). The International Integrated Reporting Council (IIRC) released in 2013 a framework about the integration of financial and non-financial information within a unique corporate report. The adoption of such an IR is mandatory just in South Africa for listed companies since 2011, while it is voluntary adopted in all the other countries around the world.

According to the IR framework (2013) an IR includes eight Content Elements even if companies, adopting an IR in compliance to the framework, are let free to disclose which and how much about each of them. The Content Elements are "fundamentally linked to each other and […] not mutually exclusive" (IIRC, 2013, p. 24) and refer to: 1. Organizational overview and external environment, i.e. what the organization does and what are the circumstances under which it operates; 2. Governance, i.e. how the organization's governance structure supports its ability to create value in the short, medium and long term; 3. Business model, i.e. description of the organization's business model; 4. Risks and opportunities, i.e. the specific risks and opportunities that affect the organization's ability to create value over the short, medium and long term, and how the organization deals with them; 5. Strategy and resource allocation, i.e. where the organization wants to go and how it intends to get there; 6. Performance, i.e. to what extent the organization has achieved its strategic

[*] Department of Management. Ca' Foscari University of Venice, Italy.
E-mail: silvia.panfilo@unive.it; mio@unive.it.

objectives for the period and what are its outcomes in terms of effects on the capitals; 7. Outlook, i.e. the challenges and uncertainties the organization is likely to encounter in pursuing its strategy, and the potential implications for its business model and future performance; 8. Basis of presentation, i.e. how the organization determines what matters to include in the integrated report.

Prior literature has already investigated the role of institutional factors – here intended in the forms of legal, political, and economic systems – on financial disclosure (for all La Porta *et al*., 1997; 1998). Most recent studies investigated institutional factors' role dealing about non-financial information (e.g. Jensen and Berg, 2012; De Villier and Marquez, 2016; Coluccia *et al*., 2018). However little research investigated the integration of both financial and non-financial information within IR (Frias-Acetuino *et al*., 2013; Zhou *et al*., 2017). Further these few studies analyzed integrated report before the IR framework development. Thus the current study aims at extending such stream of literature by investigating the influence of institutional factors on IR completeness, here defined as the level of information about the Content Elements provided by a company in its IR.

The paper is structured as follow: the second paragraph describes the institutional theory and prior literature at the base of the hypotheses development, the third paragraph deals with the research design, the fourth and fifth describe the findings of the analyses and the sixth discusses them and provides conclusions.

1. Theoretical framework and hypotheses development

IR is defined as "a concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term" (IIRC, 2013). Thus providing an integrated disclosure about financial and non-financial information. Many studies of the last decade identify there is an increasing demand for holistic information by stakeholders (Frías-Aceituno *et al*., 2013) although these pressures vary depending on the stakeholder-oriented environment in which the company operates (Prado-Lorenzo and García-Sánchez, 2010).

Institutional theory considers companies as economic units that operate in contexts containing institutions that affect their behavior and impose expectations on them (Roe, 1991, 1994; Campbell, 2007). This in turn means that companies operating in countries with institutional similarities tend to to behave in a homogeneous way (La Porta *et al*., 1998). The theory behind

such an idea has been developed by DiMaggio and Powell (1983) through the concept of isomorphism. Isomorphism can be distinguished into three types depending on its trigger: mimetic when companies resemble others considered as model companies; normative when companies act according to what is professionally correct; coercive when the isomorphism is imposed by the compliance with rules by external forces.

Voluntary disclosure of an integrated report is a decision taken by insiders, but firm-level decisions are not sufficient to explain why firms from different countries disclose different levels of integrated information (Dong and Stettler, 2011). In other words, the only mimetic isomorphism is expected to not be sufficient to explain similarities of IR disclosure within a country.

Jensen and Berger (2012) for instance analyze similarities and differences between companies with traditional sustainability reporting and those that publish integrated reports. Based on institutional theory they show that IR companies are different from traditional sustainability reporting companies with regard to several country-level determinants. In particular, investor and employment protection laws, the intensity of market coordination and ownership concentration, the level of economic, environmental and social development, the degree of national corporate responsibility and the value system of the country of origin proved to be relevant. Further, according to De Villier and Marques (2016), firms are more likely to disclose non-financial information in countries with better investor protection, higher levels of democracy, more press freedom and higher quality regulations. They also find market participants consider non-financial disclosures more informative in countries where investors are in a better position to voice their concerns and where there is better regulation and more effective government implementation of regulations.

A more recent study by Coluccia *et al*. (2018) investigate the relationship between corporate social responsibility disclosure and institutional/environmental factors among a sample of European listed companies. They find that institutional factors affect the level of such non-financial disclosure.

Little research instead investigated the influence of institutional factors on the integration of both financial and non-financial information within IR. For all, Frias-Acetuino *et al*. (2013) examined the influence the legal system on the development of integrated reports. They found that companies located in civil law countries, and where indices of law and order are high, are more likely to create and publish a broad range of integrated information. However, the results refer to the period 2008-2010 that is before the IR framework development.

Thus, relying on prior literature about non-financial disclosure and institutional factors the current research extends their investigation about the influence of institutional factors – here considered in terms of legal, political and economic systems – on the completeness of IR information. Following the research question: Is IR's disclosure completeness affected by institutional factors?

1.1. Legal system

Campbell (2006) argues that the companies most likely to act responsibly and to report their behavior are those operating in institutional contexts where there is coercive and normative pressure. Such institutional contexts are considered those where a significant, well-developed legal system exists to protect stakeholders (Frias-Aceituno *et al*., 2013). To achieve an effective protection of stakeholders' interests, the first parameter of the legal system is mandatory adoption (Deffains and Guigou, 2002). Thus it is expected that countries with mandatory regulations about IR adoption, producing a stronger coercive pressure on companies, may influence these latter to publish more complete IR. That is, reports including a greater amount of information about their content elements.

Hyp1: Compulsoriness of IR adoption positively affects IR completeness.

Second, considering institutional contexts with coercive and normative pressure are those contexts not exclusively oriented towards shareholders' interests, following the pillar research by La Porta *et al*. (1997), many studies distinguish the legal system according to common versus code law origin. In particular, companies in common legal system countries are more shareholder-oriented, while companies in code law legal system countries are broadly stakeholder-orientated. Such a different orientation leads many studies to identify companies in common law countries having stronger tradition and development of ownership rights and, consequently, of shareholder protection, giving rise to a greater prevalence of published financial information (Ali and Hwang, 2000; Ball *et al*., 2000; Hung, 2001; Leuz *et al*., 2003; Holthausen, 2009), in comparison to other types of information such as sustainability and integrated reports. Further Frias-Acetuino *et al*. (2013) found that companies located in civil law countries are more likely to create and publish a broad range of integrated reports. However, all these studies relate to the investigation of IR information before the development in 2013 of an IR

framework. This latter, despite integrating financial and non-financial information, is specifically shareholder-oriented given "the primary purpose of an integrated report is to explain to providers of financial capital how an organization creates value over time" while "benefit all stakeholders interested in an organizational' ability to create value over time" (IIRC, 2013 p.5). For such a reason the current study, in contrast with prior literature, hypothesizes that companies located in common law countries – more shareholder-oriented – are those publishing more complete IR.

Hyp2: Common law legal system positively affects IR completeness.

1.2. Political system

Among the various institutional factors studied by literature, political variables are the other most important factors that affect corporate disclosure (Ioannou and Serafeim, 2012; Williams, 1999). The World Bank Governance Indicators stated that Voice and Accountability represents the extent to which country citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. In this sense, voice and accountability are the reflection of the degree of democracy and freedoms (Coluccia *et al*., 2018). Prior literature shows companies operating in a country with a higher level of democracy tend to disclose more information: financial (Goodrich, 1986) and non-financial one (De Villiers and Marques, 2016; Coluccia *et al*., 2018). Following, companies operating in a higher democratic country are expected to publish more in terms of both financial and non-financial disclosure. In other word, higher level of democracy is likely to affect more complete IR.

Hyp3: Higher level of democracy affects positively IR completeness.

A second factor of the political system which is found to affect non-financial disclosure is the social dimension of legal protection (Jensen and Berg, 2012). In countries where social needs are highly considered, strong employment protection is prevalent (Jackson and Apostolakou, 2010). In line with Jensen and Berg (2012) the current study assumes in these countries reporting of social activities is more important, favoring greater disclosure in IR. Considering employment protection is dictated by the ability of government to formulate and implement sound policies and regulations (Coluccia *et al*., 2018) and in line with Ball *et al*. (2000), it is expected that

companies located in countries having a higher Regulation Quality publish more complete IR.

Hyp4: Higher quality of regulation affects positively IR completeness.

1.3. Economic system

Finally, the economic system has been considered as control variable. Many studies already identified various factors of the economic context affect non-financial disclosure such as size, governance quality, industry, leverage (Brammer and Pavelin, 2006; Clarkson *et al*., 2008; Fortanier et al., 2011; Haniffa and Cooke, 2005). Thus, the current study considered two among these factors as a control to our main focus on coercive and normative isomorphism.

First, the level of market competition and development (Doh and Guay, 2006): when competition is weak (e.g., monopoly or low industry differentiation) companies will have fewer incentives to engage in socially irresponsible activities. In other words, companies operating in countries where competition is lower, i.e. highly differentiate, are more likely to disclose financial and non-financial information. Thus, they are expected to publish more complete IR.

Hyp5: Higher industry differentiation affects positively IR completeness.

Second, ownership dispersion – here intended in terms of number of shareholders – is a measure of both firm size and governance quality. In line with Coluccia *et al*. (2018) according to which the dominating owner usually gets the desired information directly from the company not depending on published information, it is expected where companies have a greater number of shareholders they are likely to publish more complete IR.

Hyp6: Higher ownership dispersion affects positively IR completeness.

2. Research design

2.1. Sample

The research focuses on the investigation of those companies adopting an IR according to the framework developed by IIRC (2013). For this reason,

the authors collect the list of companies and respective report directly by the example database provided by the IIRC official website.

The current number of companies (On the date 26.04.2019), complaint to the framework and mentioned in the IIRC website, is equal to 213 for the year 2017. To avoid potential double counting, from the initial selection, the authors excluded those companies: belonging to the same group and which present the same report for both the head of the group and at least one subsidiary; which changed their social status (e.g. because of fusion). This step leads to the exclusion of 44 companies. Therefore, the final sample is composed by 169 companies' whose reports have been downloaded (IR have been collected directly from the IRRC example database where available, from the companies' website otherwise).

Further, political factors data were collected from The Worldwide Governance indicators database (Worldbank, 2019). While, economic data were collected from Orbis database.

Overall, the sample shows companies adopting an IR belong to 31 countries allover the world. As expected the most represented country is South Africa (27.22% of the sample), the only one where the adoption is mandatory. It follows UK (20.12%) and Japan (13.69%). The countries less represented in terms of IR adoption are Austria, Bangladesh, Botswana, Canada, Denmark, India, Jersey, Luxembourg, Singapore, Taiwan. They all have just one company in 2017 releasing an IR presents in the example database of the IIRC (0.59% of the sample). See Table 1.

Tab. 1 – Sample by country

Country	Obs.	Percent	Country	Obs.	Percent
Australia	7	4.14	**Mexico**	2	1.18
Austria	1	0.59	**Namibia**	2	1.18
Bangladesh	1	0.59	**Netherlands**	8	4.73
Botswana	1	0.59	**New Zealand**	2	1.18
Brazil	2	1.18	**Russia**	6	3.55
Canada	1	0.59	**Singapore**	1	0.59
Denmark	1	0.59	**South Africa**	46	**27.22**
France	2	1.18	**South Korea**	2	1.18
Germany	4	2.37	**Spain**	2	1.18
Greece	2	1.18	**Sri Lanka**	5	2.96
India	1	0.59	**Sweden**	2	1.18
Italy	8	4.73	**Switzerland**	2	1.18
Japan	13	**7.69**	**Taiwan**	1	0.59
Jersey	1	0.59	**Turkey**	2	1.18
Luxembourg	1	0.59	**UK**	34	**20.12**
			USA	4	2.37
Total Obs.	**169**				
Total Percent	**100.00**				

Further, the sample presents industry differentiation. The industries with the highest market share are represented by financial service industry (22.49% of the sample), industrials (14.79%), and basic materials (13.61%). See Table 2 for details.

Tab. 2 – Sample by industry

Industry	Obs.	Percent
Basic materials	23	**13.61**
Consumer goods	14	8.28
Consumer services	16	9.47
Financial services	38	**22.49**
Healthcare	9	5.33
Industrials	25	**14.79**
Oil and gas	6	3.55
Professional services	8	4.73
Public sector	1	0.59
Real estate	5	2.96
Technology	6	3.02
Telecommunications	7	4.14
Utilities	11	6.51
Total	**169**	**100**

2.2. Methodology

A quantitative content analysis has been manually applied to each IR collected. Content analysis involves classifying text units into categories once identified the unit of analysis (e.g. word, sentence, theme). Following coding, the form of analysis and interpretation that is undertaken can vary along a continuum from purely qualitative and verbally descriptive methods to primarily quantitative methods that permit statistical analysis (Beattie *et al*., 2004). The use of quantitative methods requires that the units of coding be scored in some way (Boyatzis, 1998). Procedure must be reliable, that is different people code the text in the same way. Thus, the authors first identified the sentence as the unit of analysis. Second, they update the model developed by Zhou *et al*. (2017) to code the text. In line with their study, the authors identified the Content Elements and their sub-elements. However, Zhou *et al*. (2017) just distinguished between the absence of information about each sub-content element versus its presence. For this reason, the current paper aiming at verifying more in depth the completeness of IR, coded each sentence of the IR verifying per each sub-content element identified by the IR

framework if the text provides information on it or not. More in detail the authors verified if there is no information, if the single sub-content element is just mention in the sentence or if the sentence provides a deep description of it. According to the coding procedure if there is no information regarding a sub-content element a value of 0 is attributed to the sentence, if there is just a mention to it a value of 0.5 is attributed, finally if the sentence provide greater information about the sub-content element a value of 1 is attributed. Then a score is attributed to each Content Element suggested by the IR framework. It is computed as the sum of the values attributed at its sub-content elements. This means, Content Element score may range between 3 and 7 according to how many sub-content elements they are composed by. Content Elements variables are named: Org_overview, Governance, Risks_Opp, Strategy, BM, Performance, Outlook, Other (for details, see the Appendix). Finally, IR completeness variable, named IR_Score, computed as the overall sum of each Content Elements and may range between 0 and 31. For reliability and validity reason, a pilot coding process have been applied to ten IR. Once coded the first reports, the authors discussed the results and agree on the coding process to adopt for all the documents. Texts have been separately coded by the two authors. Once all IR have been coded, the authors compared the results and discuss the few differences to arrive at a uniform dataset.

The dataset has then been integrated including information on the legal system in which each company operates. First, a dummy variable - named Mandatory - equals to 1 if the company belongs to South Africa context - where IR adoption is mandatory – 0 otherwise. Second, the variable Commonlaw is a dummy equal to 1 if the company is established in a common law country, 0 otherwise (according to prior literature countries are distinguished by legal system as in Table 3).

Tab. 3 – Common versus Civil law countries

Common law	Australia, Canada; Jersey; India; Ireland; New Zealand; Singapore; South Africa; Sri Lanka; UK; USA.
Civil law	Austria; Bangladesh; Belgium; Brazil; Botswana; Denmark; France; Germany; Greece; Japan; Indonesia; Italy; Luxembourg; Mexico; Namibia; Netherland; Portugal; Russia; South Korea; Spain; Sweden; Switzerland; Taiwan; Turkey.

In terms of political system, different factors affecting the financial and non-financial disclosure have been collected by Worldwide Governance Indicators database (Worldbank, 2019). Voice_Acc variable represents the degree of democracy of a country. Regul_quality represents the quality of a country regulation. Both political system's variables assume a value ranging between 0 and 100. Finally, as control variables the authors check for

economic system's characteristics such as industry (i.e. categorical random variable which distinguish companies according to the industry they belong) and ownership dispersion (i.e. number of shareholders).

Once content analysis has been done, descriptive statistics and correlation analysis have been developed on the overall IR_score and its Content Elements components. To test the hypotheses, ordinal probit regression models have been run on the dependent variable IR_Score to investigate whether and which institutional factor may affect the IR completeness of disclosure:

$$IR\_Score = \beta_0 + \beta_1 Mandatory + \beta_2 Commonlaw + \beta_3 Voice\_Acc + \beta_4 Regul\_quality + \beta_5 industry + \beta_6 own\_dispersion \quad [1]$$

Finally, as additional analysis, the authors run eight ordinal probit regressions adopting as dependent variable each Content Element variable composing IR Score to verify specificity with respect to the main model 1:

$$\left.\begin{array}{l} Org\_overview \\ Governance \\ Risks\_Opp \\ Strategy \\ BM \\ Performance \\ Outlook \\ Other \end{array}\right\} = \beta_0 + \beta_1 Mandatory + \beta_2 Commonlaw + \beta_3 Voice\_Acc + \beta_4 Regul\_quality + \beta_5 industry + \beta_6 own\_dispersion \quad [2]$$

3. Findings

3.1. Descriptive statistics

First descriptive statistics on IR completeness variable have been analyzed. IR completeness is investigated both in terms of the overall score – IR_Score – and of each Content element composing it. While companies provide a minimum disclosure of 15 and a maximum of 28 out of 31 elements, the overall IR_Score mean of the sample is 22.18 out 31. This means companies provide a quite extensive disclosure on the content elements within IR. Looking in detail at the mean of each content element, Table 4 exhibits the most disclosed content elements are those related to the Organizational Overview (3.725 out of 5 sub-content elements) and to the

Governance (3.64 out of 4). Further it has to be highlighted how all companies of the sample provide the maximum level of information with reference to Risk and Opportunities content element. This suggests companies adopting an IR are prone to mention and describe information on risks and opportunities potentially affecting their creation of value.

Tab. 4 – Descriptive statistics on IR completeness overall score (IR_Score) and its content elements

IR completeness variables	Obs	Mean	Std. Dev	Min	Max
IR_Score	169	22.175	2.736	15	28.5
Org_overview	169	3.728	0.861	2	5
Governance	169	3.6450	0.495	2	4
Risks_Opp	169	2	0	2	2
Strategy	169	3.215	0.692	1.5	4
BM	169	2.172	0.532	0.5	3
Performance	169	3.071	1.071	0.5	6
Outlook	169	2.314	0.672	0.5	3
Other	169	2.030	0.574	1	3

A further descriptive statistic investigation aims at verifying the mean IR_score according to the IR compulsoriness context. In particular, Table 5a shows the mean IR_Score by legal system – common law versus code law – in which the company operates.

Tab. 5a – Mean IR_Score by legal system and IR compulsoriness context

		Legal system		
		Code law	*Common law*	*Total*
IR Compulsoriness	Voluntary (n obs)	21.23 (67)	22.38 (56)	123
	Mandatory (n obs)	- (0)	23.29 (46)	46
	Total obs	67	102	169

Table 5b shows the mean IR_Score by industry – financial versus non-financial – of the company. The former table shows the mean IR_Score is higher in the mandatory context than in code law countries which present all a voluntary IR adoption. The latter table shows financial services companies present a higher mean IR_Score than non-financial companies independently by the IR compulsoriness. The highest score is obtained by financial companies in the mandatory IR context.

Tab. 5b – Mean IR_Score by industry and IR compulsoriness context

		Industry		
		Financial	*Non-financial*	*Total*
IR Compulsoriness	**Voluntary (n obs)**	22.33 (29)	22.12 (94)	123
	Mandatory (n obs)	22.65 (9)	22.17 (37)	46
	Total obs	38	131	169

Second, a pairwise correlation analysis has been run on IR completeness variables – IR_Score and all its Content elements – and the institutional factors variables identified. A positive significant correlation (p-value at 0.01) is found between the overall IR completeness and all of its content elements[1]. A positive significant correlation is also identified between IR_Score and legal system independent variables: Mandatory and Commonlaw. Further many significant correlations can be identified between IR Content elements and independent institutional factors variables. This suggests potential associations also in the regression analyses.

3.2. Regression models

To answer at the research question, the authors investigate the relation between the level of IR completeness and the institutional factors determinants hypothesized to affect it. In particular, the authors test Model 1 including each independent variable one at the the time (Table 7). The overall reading of Table 7 shows legal system variables related to the compulsoriness of the IR adoption and the fact a company operates in a common law country positively affect the IR completeness till political system variables are not added to the model. In particular, once political system variables – i.e. Voice Accountability and Regulatory quality – are added to the model just common law variable persists significant related to the dependent variable.

[1] Risks and Opportunities (Risks_Opp) content element has been deleted from the correlation and regression analyses because it always assumes the maximum value. Following institutional factors do not affect it in any context.

Tab. 6 – Pairwise correlation on IR completeness, its content elements and institutional factors

	IR_Score	*Org_overview*	*Gover.*	*Strategy*	*BM*	*Perfor.*	*Outlook*	*Other*	*Mand.*	*Common law*	*Voice_Acc*	*Regul_ quality*	*own_dispersion*	*industry*	*country*
IR_Score	1.000														
Org_overview	**0.5871***	1.000													
Governance	**0.3404***	**0.2048***	1.000												
Strategy	**0.6924***	**0.3618***	0.1904	1.000											
BM	**0.4078***	0.1124	0.0575	0.1211	1.000										
Performance	**0.7119***	0.1099	0.0703	**0.3931***	**0.2816***	1.000									
Outlook	**0.4370***	0.0764	-0.0614	**0.1992***	-0.0057	**0.2811***	1.000								
Other	**0.5406***	**0.2875***	0.1105	**0.3099***	0.1344	**0.2387***	0.0915	1.000							
Mandatory	**0.2508***	**0.3411***	0.1032	**0.2712***	0.0653	0.1150	-0.0878	0.0961	1.000						
Common law	**0.2802***	**0.2081***	0.1277	**0.2275***	-0.0229	**0.2635***	0.0544	0.1053	**0.4956***	1.000					
Voice_Acc	0.0395	-0.1404	0.0047	-0.1053	-0.0366	0.1300	**0.2852***	-0.0208	**-0.2550***	0.1106	1.000				
Regul_quality	-0.0884	**-0.2801***	-0.0456	**-0.2118***	-0.0576	0.1006	**0.2193***	-0.0978	**-0.4687***	0.0227	**0.8881***	1.000			
own_dispersion	-0.0401	-0.0820	-0.0756	-0.0612	-0.0791	0.0962	0.1664	**-0.2182***	-0.1264	0.0348	**0.2528***	**0.2463***	1.000		
industry	0.0373	0.0334	0.0678	-0.0724	-0.0194	0.0681	-0.0388	0.0931	-0.0983	0.0494	0.1348	0.1701	-0.0011	1.000	
country	**0.2203***	0.1029	0.1317	0.1909	-0.0274	**0.2026***	0.1140	0.0658	0.1489	**0.4821***	0.0334	0.0859	0.1291	0.1093	1.000

Statistical level of significance at 0.01.

The full model (last column Table 7) exhibits a highly significant positive relation between common law countries, voice accountability and IR completeness. Further a highly negative significant relation between regulation quality and IR completeness emerge from the full model. No one of the economic system control variables – i.e. industry and ownership dispersion – present significant relation with the dependent one. Overall results support Hypothesis 2 and 3. While they partially support Hypothesis 4, identifying a significant but negative relation with IR_Score. Overall these results suggest companies established in common law countries with a high degree of democracy and freedoms but with a lower level of regulation quality are more prone to disclose more complete information within their IR.

Tab. 7 – Model 1: Regression models on institutional factors affecting IR completeness

	IR_Score	IR_Score	IR_Score	IR_Score	IR_Score	IR_Score
Mandatory	0.5874212 ***	0.3564508 *	0.401509 *	0.0609812	0.0701269	-0.0371827
Commonlaw		0.4429795 **	0.4125032 **	0.5103953 **	0.499978 **	0.5450044**
Voice_Acc			0.0024998	0 .0232333 **	0.0234512 **	0 .0211103**
Regul_quality				-0.0262176 **	-0.00268902 **	-0.0256561**
Industry					0.0179077	0.0229245
Own_ dispersion						-0.0013911
N.obs	169	169	169	169	169	154
Prob > Chi2	0.0009	0.0002	0.0007	0.0001	0.0003	0.0028
Adj R2	0.0109	0.0167	0.0170	0.0228	0.0234	0.0219

Statistical level of significance: * <0.1, **<0.05, ***<0.001

4. Additional analysis

To further dig into the investigation of the relation between IR completeness and institutional factors, the authors also split the dependent variable into its content element components[2]. Model 2 (in Table 8) highlights the results of the probit regressions having for dependent variable each IR content element variable at the time.

Significant associations have been found between the content element related to the Organizational overview (Org_overview) and political system independent variables, presenting a positive association with Voice_Acc, and a negative one with Regul_quality. This means, companies operating in a country with a higher degree of democracy and freedoms but a lower level

[2] See prior note.

of regulation quality are those more prone to provide greater information on their Organizational Overview. The content element Strategy in line with the results of Model 1 is found to be significant associated to Commonlaw variable (positive association), Voice_Acc (positive association), and Regul_quality (highly negative association). That is, companies releasing an IR in common law countries with a higher degree of democracy and a lower level of regulation quality are more prone to provide greater information about their strategy.

Performance content variable is instead positive associated just to Commonlaw variable. That is, companies operating in a common law countries and adopting an IR are more prone to give greater information about their performance. Outlook content element is positively associated just to the variable Voice_Acc; in other words, companies established in a country with a higher degree of democracy and freedoms tend to provide greater information related to their future outlook. Further, the residual content element Other is found to be positive significant associated to Voice_Acc, negative related to Regul_quality and ownership dispersion. That is additional information tend to be provided by companies established in a country with higher degree of democracy, lower level of regulation quality and by companies with a lower level of ownership dispersion which tend to be labeled as those with a lower quality of governance. Finally, both Governance and Business Model content elements are found to be neither associated to legal system variables or political system variables.

5. Discussion and conclusions

Overall findings of the current research show many factors related to institutional context affect IR completeness. Specifically, legal and political systems are found to be related to it. Whereas, economic system does not influence the level of IR completeness.

First, legal system, where considered in terms of common law countries, is found to be positively related to more complete IR. Whereas, compulsoriness of IR adoption is not a factor affecting IR contents' disclosure. Thus extending the contributes provided by Zhou *et al*. (2017) which focus just on the mandatory context.

Political system in line with Iannou and Serafeim (2012) is found to be the variable most associated to the level of disclosure.

Tab. 8 – Model 2: Regression models on institutional factors affecting each content element constituting IR completeness

	IR_Score	*Org_ overview*	*Governance*	*Strategy*	*BM*	*Performance*	*Outlook*	*Other*
Mandatory	-0.0371827	0.2911647	-0.0738518	0.2277036	0.0923476	0.0669806	-0.3206085	-0.3552522
Commonlaw	0.5450044**	0.2249519	0.3461077	0.3798198 *	-0.0823902	0.497845 **	0.1707137	0.3680136
Voice_Acc	0.0211103**	0.0180865 *	0.0111688	0.0191407 *	-0.003826	-0.0015547	0.0254863 **	0.0214503*
Regul_quality	-0.0256561**	-0.03317 **	-0.0145789	-0.0240508 **	0.0004659	0.0063368	-0.0135163	-0.027214 **
industry	0.0229245	0.0387051	0.0373041	-0.0148711	-0.0084296	0.0142563	-0.0210843	0.0287328
own_disper-sion	-0.0013911	-0.0006453	-0.0010704	-0.0010255	-0.0019775	0.0019464	0.0032099	-0.0062803 **
N.obs	154	154	154	154	154	154	154	154
Prob > Chi2	0.0028	0.0000	0.3189	0.0024	0.8899	0.0600	0.0237	0.0159
Adj R2	0.0219	0.0573	0.0201	0.0413	0.0062	0.0184	0.0332	0.0461

Statistical level of significance: * <0.1, **<0.05, ***<0.001

In particular, the political factor related to a country's degree of democracy has a positive relation with IR completeness, while contrary to expectation the level of regulation has a negative one. This latter means in countries with a lower regulation quality, companies tend to provide more complete information within IR. Such a relation may be interpreted as the fact that companies tend to provide for a lower level of regulation quality directly answering to investors and stakeholders' information needs with greater IR disclosure.

These results lead to two main contributions. First they integrate literature on financial and non-financial disclosure extending prior results of both the research streams. In particular, in line with Frias-Acetuino *et al*. (2013) the study identifies legal system as one of the most important institutional factors affecting IR development while extending the analysis to IR completeness. However, the current study contrary to their results shows common law countries positively affect IR completeness. Further in line with Coluccia *et al*. (2018) the research finds a positive relation between integrated disclosure content with political system, specifically with the degree of a country democracy. On the contrary, the results show that the integration of financial and non-financial information is negatively affected by the quality of regulation.

Second, they suggest when financial and non-financial disclosure are integrated into a unique report, and follow a specific framework, is not more the economic isomorphism to affect the completeness of disclosure but the coercive and normative ones depending on legal and political systems, respectively.

Further, distinguishing for content element disclosure it emerges not all of them depend on institutional factors. For instance, Governance or

Business Model are found to be not associated at all. Organizational overview content element is found to be associated just with political system factors: degree of democracy (positively) and higher regulation quality (negatively). While just the results of regressions based on content element related to Strategy are in line with the overall model. That is, significantly associated to the common law factor of the legal system, and to the degree of democracy and level of regulation quality which are factors of the political system. The content element related to Performance interestingly is only related to the legal system and in particular it is positively related to the common law factor. Thus supporting prior literature on legal system quality and financial disclosure (for all La Porta *et al*. 1997). The content element related to Future Outlook is instead associated just to higher level of democracy which gives companies more freedom and willingness of expression about future outcomes. Finally, additional information on conciseness, materiality and board sign-off once again is found to be significant related to political system (common law countries and with lower regulation quality), and to economic system in terms of lower ownership dispersion. This latter suggests companies with a greater ownership concentration are more prone to disclose additional information to legitimize themselves. This may lead to future research investigation according to a corporate governance point of view.

Risk and Opportunities content element has not been analyzed because all companies provide the higher degree of disclosure completeness about it. This leads to two considerations: the fact that all companies provide information on both risks and opportunities at the same level may lead to unuseful information for primary IR users; this in turn makes emerge one of the methodology limitation which is based on verifying the presence and depth of information about each content element without investigating in detail the content of it.

The paper suffers of other limitations too. First it relies on one single year analysis, this because the year 2017 is the one presenting the highest number of IR according to the IIRC website allowing to run regression analyses. Further, as mentioned above, the methodology aims at extending the Zhou *et al*. (2017) model focusing on the identification of the absence, presence and deep of content element description while not investigating the quality of information content they describe. Future research may fill this gap.

Despite of that the authors believe the results overall support the idea that a mimetic isomorphism is not the only one affecting corporate disclosure but normative and coercive isomorphism have a stronger effect when speaking of information integrating financial and non-financial aspects. This in turn may contribute to practice both favoring decision-taking by the different

stakeholders (Frias-Acetuino *et al*., 2013) and be relevant for shareholders. Investors who are interested in specific information of firms that are disclosed in IR may consider the institutional conditions that increase the likelihood of this form of sustainability reporting. This in turn providing insights for future investigation in addressing the question of which elements of IR are most effective at attracting long-term investors (Serafeim, 2014) depending on the institutional context in which the company operates.

Finally results showing compulsoriness does not statistically affect the completeness of information within IR, may affect policy-maker decision in not requesting mandatory IR to increase the integration of financial and non-financial disclosure.

References

Ali, A., Hwang, L.S. (2000), "Country specific factors related to financial reporting and the value relevance of accounting data", *Journal of Accounting Researc*h, Vol 38, No. 1: 1-22.

Ball, R., Kothari, S.P., Robin, A. (2000), "The effect of international institutional factors on properties of accounting earnings", *Journal of Accounting and Economics*, Vol. 29: 1-51.

Beattie, V., McInnes, B., Fearnley, S (2004), "A methodology for analysing and evaluating narratives in annual reports: a comprehensive descriptive profile and metrics for disclosure quality attributes". *Accounting forum*, Vol. 28, No. 3; 205-236.

Brammer, S., Pavelin, S. (2006), "Voluntary environmental disclosure by large UK companies", *Journal of Business Finance & Accounting*, Vol. 33, No. 7-8: 1168-1188.

Boyatzis, R. E. (1998), *Transforming qualitative information: Thematic analysis and code development*, Sage.

Campbell, J.L. (2006), "Institutional analysis and the paradox of corporate social responsibility", *American Behavioural Scientist*, Vol. 49, No. 7: 925-938.

Campbell, J.L. (2007), "Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility", *Academy Management Review,* Vol. 32: 946-967.

Clarkson, P.M., Li, Y., Richardson, G.D., Vasvari, S.P. (2008), Revisiting the relation between environmental performance and environmental disclosure: an empirical analysis, *Accounting, Organizations and Society*, Vol. 33, No. 4-5: 303-327.

Coluccia, D., Fontana, S., Solimene, S. (2018), "Does Institutional Context Affect CSR Disclosure? A Study on Eurostoxx 50", *Sustainability*, Vol. 10, No. 8: 23-28.

Deffains, B., Guigou, J.D. (2002), "Droit, gouvernement d'entreprise et marches de capitaux", *Working Paper* No. 2. Université de Nancy.

De Villiers, C., Marques, A. (2016), "Corporate social responsibility, country-level

predispositions, and the consequences of choosing a level of disclosure", *Accounting Business Research,* Vol. 46: 167-195.
DiMaggio, P.J., Powell, W. (1983), "The iron cage revisited institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, Vol. 48: 147-160.
Doh, J., Guay, T. (2006), "Corporate social responsibility, public policy, and NGO activism in Europe and the United States: An institutional stakeholder perspective", *Journal of Management Studies*, Vol. 43: 47-73.
Dong, M., Stettler, A. (2011), "Estimating firm-level and country-level effects in cross- sectional analyses: an application of hierarchical modeling in corporate disclosure studies", *The International Journal of Accounting*, Vol. 46: 271-303.
Frías-Aceituno, J.V. Rodríguez-Ariza, L., García-Sánchez, I.M. (2013), "Is integrated reporting determined by a country's legal system? An exploratory study", *Journal of Cleaner Production*, Vol. 44: 45-55.
Fortanier, F., Kolk, A.B., Pinske, J. (2011), "Harmonization in CSR reporting: MNEs and global CSR standards", *Management International Review*, Vol. 51: 665-696.
Goodrich, P.S. (1986), "Cross-national financial accounting linkages: An empirical political analysis", *British Accounting Review*, Vol. 18: 42-60.
Haniffa, R., Cooke, T.E. (2005), "The impact of culture and governance on corporate social reporting", *Journal of Accounting and Public Policy*, Vol. 24, No. 5: 391-430.
Holthausen, R.W. (2009), "Accounting standards, financial reporting outcomes, and enforcement", *Journal of Accounting Research*, Vol. 47, No. 2: 447-458.
Hung, M. (2001), "Accounting standards and value relevance of financial statements: an international analysis", *Journal of Accounting and Economics*, Vol. 30: 401-420.
Ioannou, I., Serafeim, G. (2012), "What drives corporate social performance? The role of nation-level institutions", *Journal of International Business Studies*, Vol. 43: 834-864.
IIRC (2013). The Integrated <IR> framework.
Jackson, G., Apostolakou, A. (2010), "Corporate Social Responsibility in Western Europe: An Institutional Mirror or Substitute?", *Journal of Business Ethics*, Vol. 94: 371-394.
Jensen, J.C., Berg, N. (2012), "Determinants of Traditional Sustainability Reporting Versus Integrated Reporting. An Institutionalist Approach", *Business, Strategy and the Environment*, Vol. 21: 299-316.
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W. (1997), "Legal determinants of external finance", *Journal of Finance*, Vol. 52: 1131-1150.
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. (1998), "Law and finance", *Journal of Political Economy*, Vol. 106: 1113-1155.
Leuz, C., Nanda, D., Wysocki, P. (2003), "Earnings management and investor protection: an international comparison", *Journal of Financial Economics,* Vol. 69: 505-527.
Prado-Lorenzo, J.M., García-Sánchez, I.M. (2010), "The role of the board of directors in disseminating relevant information on greenhouse gases", *Journal of Business Ethics*, Vol. 97: 391-424.

Roe, M.J. (1991), "A political theory of American corporate finance", *Columbia Law Review*, Vol. 91: 10-67.
Roe, M.J. (1994), *Strong Managers, Weak Owners: The Political Roots of American Corporate Finance*. Princeton University Press, NJ: Princeton.
Serafeim, G. (2014). Integrated reporting and investor clientele. *Harvard Business School*, working paper 14-069, February 2014 (Revised April 2014.)
Williams, S.M. (1999), "Voluntary environmental and social accounting disclosure practices in the Asia-Pacific region: An international empirical test of political economy theory", *International Journal of Accounting*, Vol. 34: 209-238.
Worldwide Governance Indicators (WGI). Available online: http://info.worldbank.org/governance/wgi/index.aspx#home (accessed on 11 October 2019).
Zhou S., Simnett, R., Green W. (2017), "Does Integrated Reporting Matter to the Capital Market?", *Abacus*, Vol. 53, No. 1: 94-132.

Appendix

CONTENT ELEMENT (variable name)	RANGE VALUE	SUB-CONTENT ELEMENT	SUB-CONTENT ELEMENT VALUE
Organizational overview and operating context (Org_overview)	0 – 5 It is the sum of the following sub-content elements:	Reporting boundary	"Reporting boundaries" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Mission and value	"Mission and value" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Business overview	"Business overview" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Operation context	"Operation context" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Summary statistics	"Summary statistics" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
Governance (Governance)	0 -4 It is the sum of the following sub-content elements:	Governance structure	"Governance structure" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Governance and strategy	"Governance and strategy" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Remuneration and performance	"Remuneration and performance" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.

		Governance and others	"Governance and others" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
Opportunities and risks (Risks_Opp)	0-2 It is the sum of the following sub-content elements:	Risks	"Risks" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Opportunities	"Opportunities" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
Strategy and resource allocation plans (Strategy)	0 – 4 It is the sum of the following sub-content elements:	Strategic objectives	"Strategic objectives" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Links between strategy and other elements	"Links between strategy and other elements" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Competitive advantage	"Competitive advantage" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Stakeholder consultations	"Stakeholder consultations" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
Business model (BM)	0 – 3: It is the sum of the following sub-content elements:	Business model description	"Business model description" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Links between business model and others	"Links between business model and others" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Stakeholder dependencies	"Stakeholder dependencies" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
Performance and outcomes (Performance)	0 – 7 It is the sum of the following sub-content elements:	KPIs against strategy	"KPIs against strategy" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Explanation of KPIs	"Explanation of KPIs" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Stakeholder relationship	"Stakeholder relationship" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Past, current, and future performance	"Past, current, and future performance" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Financial implications of other capitals	"Financial implications of other capitals" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.

		Supply chain performance	"Supply chain performance" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		The quality of quantitative indicators	"The quality of quantitative indicators" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
Future outlook (Outlook)	0 – 3 It is the sum of the following sub-content elements:	Anticipated changes	"Anticipated changes" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Potential implications	"Potential implications" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Estimates	"Estimate"" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
Other elements (Other)	0- 3: It is the sum of the following sub-content elements:	Conciseness and links	"Conciseness and links" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		Materiality determination process	"Materiality determination process" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.
		The board sign-off	"The board sign-off" value is equal to: 0 when it not mentioned in the report; 0.5 when it is just mentioned in the report without any description or discussion about it; 1 when it is mentioned and discussed in the report.

In the current economic context, Corporate Social Responsibility is an increasingly relevant topic that has swept away the traditional views about firms' competitiveness, survival and profitability. The rise of sustainability driven pressures and opportunities makes particularly interesting the interplay among management, sustainability and social impacts for scholars, public authorities, policy makers and practitioners. In line with these considerations, this book aims to investigate the opportunities, the criticalities and the future perspectives in the CSR studies for increasing firm performance and growth.

The contributions in this volume sketch a picture of the current state of CSR research including the evolution of sustainable regulation and its impact on firms' operations, organizational models and disclosure. The included papers emphasize the role of sustainability as a "new strategic variable" for contributing to strengthen the competitive positioning of firms and to increase their value creation process. The integration of socio-environmental variables into the overall strategic processes can drive firm to increase opportunities for developing new resources and capabilities and to improve competitive advantage.

By examining issues ranging from theory in CSR to practical application of practices and tools, the book contributes to the field of corporate social responsibility, accounting and strategic management studies and suggest implications for practitioners to support an evolution of sustainable business practices considering simultaneously the accountability to a wide range of firm's internal and external actors.

Stefano Garzella is a Full Professor of Strategic Management at the University Parthenope. He is also Visiting Professor at the University of Pisa. He received his PhD in Business Administration from the University of Pisa in 1998. He is a member of SIDREA (Italian Association of Professors in Accounting and Management), AIDEA (Italian Academy of Management). He has published research articles in several peer-reviewed national and international Journals. His research focuses on strategic management, M&As and valuation approaches.

FrancoAngeli
La passione per le conoscenze