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SUSTAINABILITY REPORTING – AN ANALYSIS OF THE WORLDWIDE DIFFUSION

Empirical research

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JEL Classification
M41, Q01, Q56

Abstract

The increasing importance of sustainability issues expressed by different types of stakeholders has placed them among the leading topics inside the accounting literature. The paper aims to extend the current knowledge through the analysis of the relation between the number of sustainability reports issued by companies inside one country and its social, environmental and economic performances from a worldwide perspective, with a particular focus on the European Union. Our results indicate a positive correlation between the analyzed variables, denoting a higher involvement of companies from more developed countries for the improvement of sustainability reporting concept and practice.

Introduction

Modern companies, the leading actors of the actual worldwide economic development, have to adapt their strategies and structures to respond to the new global challenges, including environmental degradation, climate change, resource scarcity or population growth. As financial reporting alone fails in meeting the actual information needs, a higher disclosure of non-financial information is demanded to emphasize an entity responsibilities and commitment for social, environmental and economic issues (Meyer, 2011; Eccles et al., 2011; Lynch et al., 2014;Spezialea and Klovien, 2014)**.**

The main objective of today's corporations goes beyond the generation of revenues for increasing shareholders wealth. Hence, traditional financial reporting, which "seems designed to encourage the very processes that are amongst the most likely causes of the environmental desecration" (Johnson, 2012 cited in Gray, 2013: 460), has to refocus by supporting long term sustainable value creation (Eccles et al. 2012; Aktaş et al. 2013)**.**

Our Common Future (1887:16) report defines sustainable development "as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The paper issued by the United Nations World Commission on Environment and Development grabbed policymakers attention internationally on the concept of sustainability development and represented the basis for the UN Earth Summit in 1992 (Ameer and Othman, 2012).

The rest of this article is divided in two sections, the first one presents a review of the accounting literature regarding the actual state of sustainability reporting. The second section develops an empirical study concerning the relation between a country's social, environmental and economic performances and the number of sustainability reports issued, allowing us to sustaine the ideas presented inside the literature review and to draw conclusions.

1. Literature review

The first approaches regarding the concept of corporate social responsibility dates back to 1950 (Kulkarni, 2014) and has experienced a continuous growing popularity, especially after 1990 as the public became aware of social issues such as environment protection and preservation, employees welfare, respect of human rights and contributions for the improvement of their communities (Dhaliwal et al. 2014; Romeroet al. 2014).

Despite the high interest showed inside the accounting literature, no generally accepted definition for the concept of corporate social responsibility (CSR) emerges (WBCSD, 1999). European Commission (n.d.) defines "CSR as companies taking responsibility for their impact on society. As evidence suggests, CSR is increasingly important to the competitiveness of enterprises. It can bring benefits in terms of risk management, cost savings, access to capital, customer relationships, human resource management, and innovation capacity".

A study published by KPMG (2013) emphasizes the growing trend of sustainability reporting practices, as 71% (increasing from 64% in 2011) of the biggest 4100 companies (the biggest 100 corporations from 100 countries) and 93% of the largest 250 entities worldwide (as listed in the Fortune Global 500 ranking for 2012) issue a sustainability report. Among the 250 Fortune Global 500 organizations, European companies (from Italy, Spain and United Kingdom) obtained the highest quality score (68 of 100) as compared with the average score of 51 registered by the American corporations and 48 for Asia Pacific (KPMG, 2013).

Sustainability plays an important role in investment decision making, more and more investors referring to sustainability matters when evaluating securities (Aust, 2013). Moreover, Social Responsible Investment increased in popularity leading to the establishment of several sustainability indices like Dow Jones Sustainability Index (DJSI), Johannesburg Stock Exchange (JSE) SRI Index, MSCI World ESG Index, or Domini Social Index (DSI) (Hubbard, 2008 cited in Aggarwal, 2013). Regardless the overall increasing interest regarding sustainability issue showed by investors, financial analysis and other stakeholders, difference among countries still exists (Romero et. al, 2014).

The role of sustainability reporting gains a more important significance if we refer to the study published by KMPG (2012) which identifies ten interconnected megaforces that will have a significant impact on every business activity over the next twenty years, namely climate change, energy & fuel, material resources scarcity, water scarcity, population growth, wealth, urbanization, food security, ecosystem decline and deforestation.

Although sustainability reporting is largely voluntary, significant regulatory efforts have been registered (Eccles and Krzus, 2010). One of the most substantial regulatory initiative at an international level concerning non-financial reporting is represented by the adoption of the European Union Directive 2014/95/EU of 22 October 2014 by the plenary of the European Parliament on disclosure of non-financial and diversity information by certain large undertakings and groups which amends the Accounting Directive 2013/34/EU(European Commission, 2014, Turcu, 2015b).

The Directive aims to enhance the consistency and comparability of non-financial information disclosed and targets large companies with more than 500 employees, which must disclose in the management report information on policies, risks and outcomes as regards environmental matters, social and employee aspects, respect for human rights, anticorruption and bribery issues, and diversity in their board of directors (European Commission, 2014, Turcu, 2015b).

The Global Reporting Initiative (GRI), founded by the U.S. –based nonprofit Ceres and the Tellus Institute, represents the de facto international standard setter for reporting on sustainability (English and Schooley, 2014; Romero et al., 2014). The organization is "a multistakeholder, network-based organization of global participants from business, civil society, labor, academia, and other professional institutions" (Lynch et. al., 2014: 21) , having as main goal to promote the use of sustainability reporting as a mean for organization to become more sustainable and contribute to sustainable development (GRI, n.d.).

In May 2013, GRI lunched the fourth generation (G4) of the guidelines, "the launch marked the culmination of two years of extensive stakeholder consultation and dialogue with hundreds of experts from across the world from a wide variety of sectors, including companies, civil society, labor organizations, academia, and finance. G4 includes references to other widely recognized frameworks, and is designed as a consolidated framework for reporting performance against different codes and norms for sustainability.The guidance in G4 is designed to be compatible with a range of different reporting formats. In addition to enhancing the relevance and quality of standalone sustainability reports, G4 also offers a widely recognized global standard for sustainability information to be included in integrated reports" (GRI, 2013: 2-3).

2. Methodology

The fact that sustainability reporting is gaining momentum is no longer a secret (Marimon et al., 2012; Yekiniand Jallow, 2012; KPMG, 2013;Speziale and Klovien, 2014). Even so, differences among counties in the practice of sustainability reporting exists and has been previously examined (e.g. Ameer and Othman, 2011; Jensen and Berg, 2011; Meyer, 2011;Lungu et al., 2012;Marimon et al., 2012;Fernandez-Feijoo et al., 2013; Bonsón and Bednárová,2014;Barkemeyer et al., 2014;Fernandez-Feijoo et al., 2014; Mori Junior et al., 2014).

Meyer (2011) argues that cross-national institutional differences are valuable factors in explaining the relationship between popular demands for environmental sustainability and corporate responses to these demands and must get proper attention. Bonsón and Bednárová(2014) demonstrate that the activity sector and the listing in DJSI influence the practice of sustainability reporting. Their results regarding the sector influence are confirmed by other researchers (Marimon et al., 2012; Fernandez-Feijoo et al., 2014).

According to Fernandez-Feijoo et al. (2013) transparency of sustainability reports is affected by ownership, size and global region, while the pressure of several groups of stakeholders including, customers, clients or employees, improves the quality of transparencyof the reports.

Marimon et al. (2012)analyzing the worldwide diffusion of the Global Reporting Initiative (GRI), states that sectors, presenting a higher environment and society risk and increased visibility in the capital market, are the first ones that have embraced the adoption of the GRI. Their study also confirms the Europe and Asia as the leaders concerning the number of GRI reports disclosed, although other areas, such as Latin America registers significant improvement.

The present paper aims to analyze the relationship between the number of reports issued inside each country and its social, environmental and economic performances at a global level, but having a special focus on the European Union. The model used follows the one developed by Turcu (2015a), based on Jensen and Berg (2011) paper, regarding the difference in the adoption of integrated reporting among countries.

The study is conducted by reference to the sustainability reports included in the GRI database. The use of GRI database represents a viable choice as it stands out as a good practice inside the accounting literature (e.g. Isaksson and Steimle, 2009; Jensen and Berg, 2011; Meyer, 2011; Marimon et al., 2012; Fernandez-Feijoo et al., 2013;Lungu et al., 2012; Barkemeyer et al., 2014;English and Schooley, 2014 ; Fernandez-Feijoo et al., 2014; Hughen et al., 2014). Moreover, seventy eight percent of the reporting companies worldwide make use of to the GRI sustainable reporting guidelines (KPMG, 2013).

The variables embedded for the worldwide analysis regards each country's social, environmental and economic development, the three pillars of the sustainable development (Drexhage and Murphy, 2010), as no such sustainability index exists at a global level (Turcu, 2015a). Table 1 gives an insight into the selected variables.

The analysis inside the European Union utilizesthe sustainable development index developed by Bolcárová and Kološta (2014). The index is developed based on the set of sustainable development headlines indicators provided by the Eurostat (Turcu, 2015a).

The independent variables were collected from different sources in line with the reference year, 2013, if available. Two software were involved for the processing of data, Microsoft Office Excel and

Eviews, the level of correlation was determined using the Pearson correlation coefficient for the worldwide analysis and Spearman's rank correlation coefficient for the study conducted at the European Union (Turcu, 2015a).

3. Results

The interest for the sustainability reporting development and practice has experienced a significant increased during the last decade, from 401 in 2005 to 4321 reports in 2014. Also, the European Union has played a substantial role, roughly 30 % of the total reports published in 2014 coming from this area. The share detained varies during the entire analyzed period, fluctuating between 30% and 50% (see Figure 1).

The highest number of sustainable reports published are attributed to the United States of America (459), followed by South Africa (317), Japan (225), Brazil (206) and China (191). An interesting result is registered by Germany, who occupies the highest place among the European Union's state members, despite the absence of any specific environmental regulation in force (Barbu et al., 2014), denoting greater awareness of the reporting companies for their responsibilities towards the society (see Figure 2).

The result obtained by South Africa represents a consequence of the introduction of King III report (The King Code of Governance Principles for South Africa 2009) which requires all South African listed companies on the Johannesburg Stock Exchange to publish an integrated report starting with 2010 based on the "apply or explain" approach (Turcu, 2015a) (see Figure 2).

There is a positive correlation between the number of sustainability reports issued inside one country and its sustainable performances. The results show low to moderate significant positive level of correlation for a 95% confidence interval. The highest correlation degrees are attached to National Corporate Responsibility Index (0.44), Human Development Index (0.32) and Gross National Income (0.27) (see Table 2).

More than 65% of the total number of sustainability reports published all over the world comes from countries registering a higher status of social, environmental and economic development, the three axis of sustainable development (Drexhage and Murphy, 2010). The highest result was obtained by the National Corporate Responsibility Index, 73.77% of the reports being attached to the leading countries in terms of low level of corruption, civic freedom, corporate governance and environmental management (see Table 3).

Analyzing the obtained figures (see Table 4 and 5), we can state that there is a high positive correlation level (0.59)between the sustainable development index and the number of reports published inside one country. Consequently, the distribution of sustainability reports, among the countries placed in the first and the second half of the ranking according to the result registered for the sustianable development index (85% as compared to 15%), denotes a higher commitment of the companies from more developed states for the issuance of this type of reports.

4. Conclusions

The findings of our study confirm the increasing global trend in the practice of sustainability reporting. The number of reports published registering an almost eleven times increase during the last ten years, confirming previous relevant studies conducted by Yekini and Jallow (2012), Marimon et al. (2012), KPMG (2013), Speziale and Klovien (2014).

Despite the growing interest in sustainability issues and related reporting, showed by various types of stakeholders, our research reveals the fact that difference among countries still exist regarding companies attitude towards the adoption of sustainability reporting. The outcomes are consistent with the ones presented by Ameer and Othman (2011), Jensen and Berg (2011), Meyer (2011),Marimon et al. (2012), Fernandez-Feijoo et al. (2013), Barkemeyer et al. (2014), Bonsón and Bednárová (2014), Fernandez-Feijoo et al. (2014), and Mori Junior et al. (2014).

Our paper also notes the significant contribution brought by the European Union to the development of sustainability reporting practice, emphasized by other pertinent researches conducted byMarimon et al. (2012)and Fernandez-Feijoo et al., (2014).

Furthermore, our results indicate a positive significant correlation between the number of sustainable reports issued inside each country and its sustainable performances, emphasized by the widespread agreement between the results achieved during the studies conducted at both worldwide and the European Union level. Other significant factors influencing the adoption of sustainability reporting include, the activity sector (Marimon et al., 2012; Bonsón and Bednárová, 2014; Fernandez-Feijoo et al., 2014), the structure of the company (public or private) (Fernandez-Feijoo et al., 2014), the inclusion in a sustainability stock index (Bonsón and Bednárová, 2014).

As for future research we find appropriate to extend our analysis to other factors, external and company specific ones, influencing the issuance of sustainability reports and reporting quality.

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References

[1]AccountAbility (2005). ResponsibleCompetitiveness: Reshaping Markets Through Responsible Business Practices. Available at: http://www. accountability.org/images/content/1/1 /110/Full% 20 Report%20%28Compressed%29.pdf*;*

[2]Aggarwal, P. (2013).Sustainability reporting and its impact on corporate financial performance: a literature review. *Indian Journal of Commerce & Management Studies,IV (3):51-59;*

[3]Ameer, R. and Othman, R. (2012) Sustainability Practices and Corporate Financial Performance: A Study Based on the Top Global Corporations, *J Bus Ethics108: 61–79;*

[4]Aktaş, R.,Kayalidere, K. &Karğin, M. (2013) Corporate Sustainability Reporting and Analysis of SustainabilityReports in Turkey, *International Journal of Economics and Finance 5(3): 113-125;*

[5]Aust, D.N. (2013). Enhancing shareholder value by improving sustainability performance.Corporate Finance Review,17, 6:11-15;

[6]Barbu, E.M., Dumontier, P., Feleagă, N., Feleagă, L. (2014).Mandatory Environmental Disclosures by Companies Complying with IASs/IFRSs: The Cases of France, Germany, and the UK. *The International Journal of Accounting, 49: 231–247;*

[7]Barkemeyer, R., Stringer, L.C., Hollins, J.A., Josephi, F. (2014) Corporate reporting on solutions to wicked problems: Sustainable land management in the mining sector, *Environmental science & policy 48:196 -209;*

[8] Bolcárová, P. and Kološta, S. (2014). Assessment of sustainable development in the EU 27 using aggregated SD index. *Ecological Indicators 48 (January 2015): 699–705;*

[9]Bonsón, E. And Bednárová, M. (2014) "CSR reporting practices of Eurozone companies", *Spanish Accounting Review, In press;*

[10]Dhaliwal, D., Li, O.Z., Tsang, A. &Yang, Y.G. (2014) Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency. *J. Account. Public Policy 33: 328–35;*

[11]Drexhage, J. and Murphy, D. (2010) Sustainable Development: From Brundtland to Rio2012, *Available at http://www.un.org/ wcm/webdav/site/c limatechange/shared/gsp/docs/ GSP16_Background%20on %20Sustainable%20Devt.pdf;*

[12]Eccles, R.G. and Krzus, M.P. (2010). One report Integrated Reporting for a Sustainable Strategy. *John Wiley & Sons, Inc*;

[13]Eccles, R.G., Serafeim G., Krzus, M.P.&Krzus, M. Consulting (2011) Market Interest in Nonfinancial Information**,** *Journal of Applied Corporate Finance 23 (4): 113-128;*

[14]Eccles, R.G., Ioannou, I. &Serafeim, G. (2012) The Impact of a Corporate Culture of Sustainability on Corporate Behavior and Performance. *Harvard Business School, Available at http://www.hbs.e du/faculty/Pages/download .aspx?name=12035.pdf;*

[15]English, D.M. and Schooley, D.K.*(2014).* The Evolution of Sustainability ReportingUtilizing the GRI's Latest Guidelines and Looking to Integrated Reporting. *The CPA Journal, March 2014: 26-35;*

[16]Fernandez-Feijoo, B., Romero, S. and Ruiz , S. (2014). Commitment to Corporate social responsibility measured through global reporting initiative reporting: factors affecting the behaviorof companies, *Journal of Cleaner Production 81: 244-254;*

[17]Global Reporting Initiative (2013).An introduction to G4 The next generation of sustainability reporting**.***Available at https://ww w.globalreporting .org/resourcelibrary/GRI-An-introduction-to-G4.pdf;*

[18]Gray, R. (2013) Back to basics: What do we mean by environmental (and social) accounting and what is it for?—A reaction to Thornton, *Critical Perspectives on Accounting 24: 459–468;*

[19]Hughen, L., Lulseged, A. and Upton, D.R. (2014). Improving Stakeholder Value through Sustainability and Integrated Reporting, *The CPA Journal, March 2014: 57-61;*

[20]Isaksson, R. and Steimle, U. (2009) What does GRI-reporting tell us about corporate sustainability?,*The TQM Journal21 (2): 168 – 181;*

[21]Jensen, J. C. and Berg, N. (2011) Determinants of Traditional Sustainability Reporting Versus Integrated Reporting. An Institutionalist Approach, *Business Strategy and the Environment21: 299–316*;

[22]KPMG (2012).Expect the Unexpected: Building Business Value in a Changing World. *Available at http://www.kpmg.com/Global/ en/IssuesAndInsights/ArticlesPublications/Pages/building-business-value.aspx;*

[23]KPMG (2013) The KPMG Survey of Corporate responsibility reporting 2013:

executive Summary, *Available online at http://www.kpmg. com/Global /en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/corporat e-responsibil ity-reporting-survey-2013-exec-summary.pdf;*

[24]Kulkarni, A.R. (2014). A Review of Concept and Reporting of Non-Financial Initiatives of Business Organisations.*Procedia Economics and Finance, 11 Pages: 33–41;*

[25]Lungu, C.I., Caraiani, C., Dascalu, C., Cimpoeru, V.M., and Sahlian, D.N. (2012). Repoziţionarearaportăriifinanciare[Financial reporting repositioning].*Editura ASE, Bucharest*;

[26]Lynch, N.C.,Lynch,M.F., &Casten, D.B. (2014).The Expanding Use of Sustainability Reporting Standards Setting and Assurance Opportunities for CPAs.*The CPA Journal, March 2014: 26-35:19-24;*

[27]Marimon, F., Alonso-Almeida M.M., Rodríguez, M.P. &Alejandro, K. A. C.(2012). The worldwide diffusion of the global reporting initiative: what is the point?. *Journal of Cleaner Production 33: 132-144;*

[28]Meyer (2011) Varieties of Capitalism and Environmental Sustainability: Institutional Explanations for differences in Firms' Corporate Environmental Responsibility Reporting across 21 OECD Economies, *Working draft, Prepared for presentation at the APSA 2011 Annual Meeting, Seattle, Washington, September 1-4;*

[29]Mori Junior, R., Best, P.J. and Cotter, J. (2014) Sustainability Reporting and Assurance: A Historical Analysis on a World-Wide Phenomenon, *J Bus Ethics120:1–11;*

[30]Romero, S., Lin, B.B., Jeffers, A.E. & DeGaetano, L.A (2014).An Overview of Sustainability -Reporting Practices. *The CPA Journal, March 2014: 68-75;*

[31]Speziale, M.T. and Klovien, L. (2014) The relationship between performance measurement and sustainability reporting: a literature review, *Procedia - Social and Behavioral Sciences156: 633 – 638;*

[32]The Wall Street Journal and The Heritage Foundation (2014). Index of Economic Freedom Promoting Economic Opportunity and Prosperity. *Available at: http://www. heritage. org/index/download;*

[33]Turcu, R.D. (2015a).Integrated reporting - the next step ahead for a sustainable society. *18th International Scientific Conference "Enterprise and the Competitive Environment", Brno, Czech Republic*;

[34]Turcu, R.D. (2015b).The value relevance of non-financial information in assessing a company's performance: The case of airline industry. *Draft sent for the 10th edition of the International Conference onAccounting and Management Information Systems, Bucharest, Romania;*

[35]United Nations Development Programme (2014).Human Development Report 2014. The Rise of the South: Human Progress in a Diverse World. *Available at: http://hdr.undp .org/ en/2014-report;*

[36]World Business Council for Sustainable Development (1999).Meeting changing expec-tations Corporate Social Responsibility.*Available at http://oldwww.wbcsd .org/plugins/DocSearch/ details.asp?type=DocDet&Object Id=Mjg2;*

[37]World Commission on Environment and Development (1987). Our Common Future. *Available at: http://www.un-documents.net/our-common-future.pdf*;

[38]Yale Center for Environmental Law & Policy (2014).Environmental Performance Index and Pilot Trend Environmental Performance Index. Available at: *http://issuu.com/yaleepi/docs/2014 _epi_report;*

[39]Yekini, K. , Jallow, K.(2012).Corporate community involvement disclosures in annual report A measure of corporate community development or a signal of CSR observance?. *Sustainability Accounting, Management and Policy Journal, 3(1): 7-32;*

[40]http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD;

[41]http://ec.europa.eu/enterprise/policies/sustainable-business/corporate-social responsibility/index _en.htm;

[42]http://eur-lex.europa.eu/legal-content/EN/TXT/?uri =CELEX:32014L0095;

[43]https://www.globalreporting.org/information/about-gri/Pages/default.aspx

Appendices

Indicator	Area covered	Issuer	Refference year
Economic Freedom Index (EFI)	Healthier societies, cleaner environments, greater per capita wealth, human development, democracy and poverty elimination	The Wall Street Journal & The Heritage Foundation	2013
Environmental Performance Index (EPI)	Protection of human health from environmental harm and protection of ecosystems	YCELP & CIESIN	2013
Gross National Income (GNI) per capita	Socio-economic development	The World Bank	2013
Human development index (HDI)	Public health, living standards	UNDP	2013
National Corporate Responsibility Index (NCRI)	Corruption, civic freedom, corporate governance and environmental management	AccountAbility	2005

Table 1. ***Description of social, environmental andeconomic indicators***

Source:AccountAbility (2005); The Wall Street Journal & The Heritage Foundation (2014); YCELP & CIESIN (2014), The World Bank (2014), UNDP (2014)

Figure 1. ***Number of reports evolution***

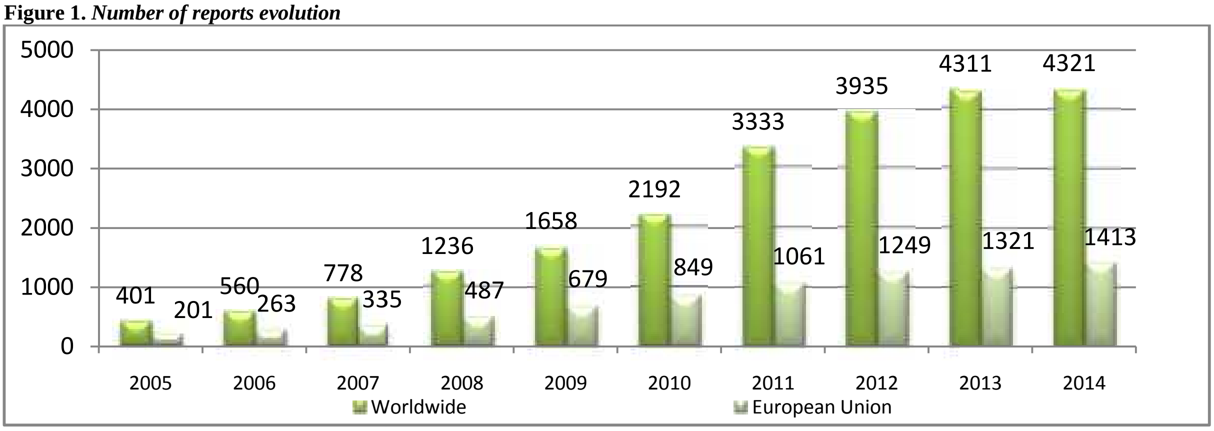
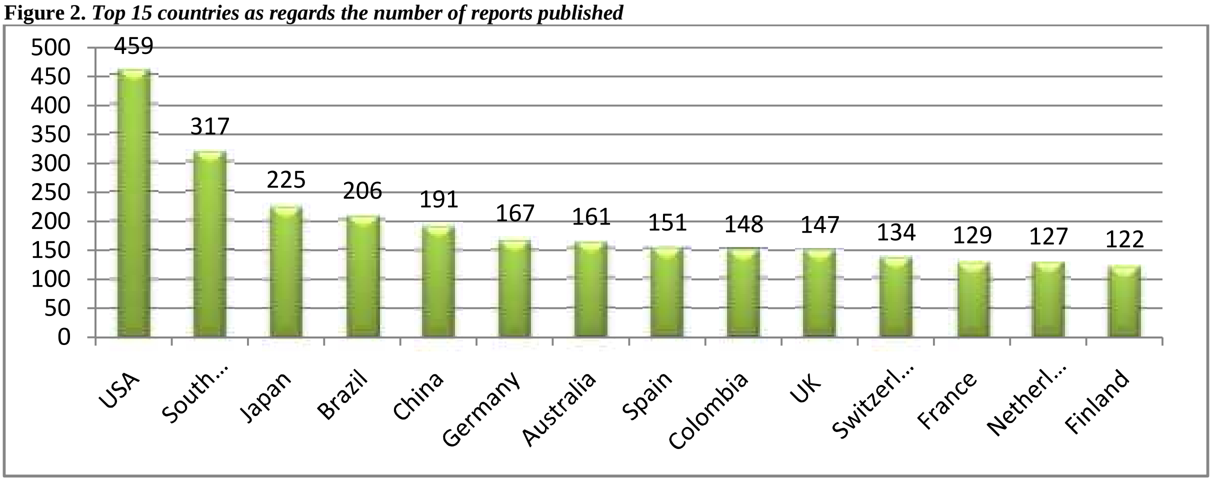


Figure 2. ***Top 15 countries as regards the number of reports published***



Tabel 2. ***Results of worldwide correlation analysis***

Indicator	Pearson correlation (r)	t computed	df	t critic (α= 0.05)
Environmental Performance Index (EPI)	0.246	2.273	80	1.664
Human Development Index (HDI)	0.321	3.032	80	1.664
National Corporate Responsibility Index (NCRI)	0.445	4.013	65	1.671
Gross National Income (GNI)	0.272	2.433	74	1.671
Economic Freedom Index (EFI)	0.254	2.349	80	1.664

Table 3. ***Number of sustainability reports issued by reference to a country's social, environmental and economic performances***

Indicator	Number of reports published by the second half of the ranking	Number of reports published by the second half of the ranking
Environmental Performance Index (EPI)	66.95%	33.05%
Human development index (HDI)	66.76%	33.24%
National Corporate Responsibility Index (NCRI)	73.77%	26.23%
Gross National Income (GNI)	69.46%	30.54%
Economic Freedom Index (EFI)	65.50%	34.50%

Tabel 4. ***Correlation results between the number of sustainability reports issued and sustainable development index***

Indicator	Spearman's rank correlation coefficient (r_s)	t computed	t critic (df=25,α= 0.001)
Sustainable development index	0.597417	3.724	3,450

Tabel 5. ***Number of sustainability reports issued by reference to the sustainable development index ranking***

Indicator	Number of reports published by the first half of the ranking	Number of reports published by the second half of the ranking
Sustainable development index	85.30%	14. 70%