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Research paper – Interim report 1

Integrated Reporting and the Capitals' Diffusion

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The views expressed are those of the authors alone.

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1 Introduction

Integrated reporting has been in the mind of business organizations, the accounting profession, and academics for 40 years now. For many years, “integrated reporting has been something of a holy grail for advocates of accountability, something that has not been achieved through most efforts at triple bottom line reporting” (Todd, 2005; Gibassier et al., 2018). However today, “we are perhaps witnessing the early stages of widespread promulgation of a different way of thinking about corporate success and reporting” (Adams, 2015, p. 23).

Today, integrated reporting is usually defined through the IIRC (International Integrated Reporting Council) framework’s definition as “a concise communication about how an organisation’s strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over a short, medium and long term” (IIRC, 2013, paragraph 1.1).

According to Adams (2015, p. 23), integrated reporting offers a bold and worthy approach that encourages organisations to “think longer term, consider what value means, to whom and to acknowledge the role of staff, broader society and the environment in creating it”. Integrated reporting has been said to be a way for companies to integrate sustainability better to their corporate strategy through integrated thinking (Gibassier et al., 2016).

Despite its apparent benefits, the diffusion of integrated reporting has been scarce up to 2010. Many were advocating a clear framework, which was then published by the IIRC in December 2013. Four years after its publication, it is now time to turn back and analyse the diffusion of integrated reporting from 2002 to today. Therefore, we asked ourselves: where and by whom was integrated reporting adopted? In what way was it adopted? Are the “capitals” being adopted as well?

Therefore, this report will analyse quantitatively integrated reporting through three different manners. First, we consider the diffusion of integrated reporting across five dimensions: geography, industry, company size, whether it is listed or not, and the link with two major sustainability reporting frameworks. Second, we analyse the depth of integrated reporting adoption. Finally, we address the disclosure of capitals

2 Research Design

2.1 Sample selection and reports available

We used different sources to find worldwide companies disclosing an integrated report (the report does not have to be labelled “integrated report” to be considered as an integrated report), with the aim at building the most exhaustive database of integrated reports as of 2017 (reporting on 2016 results). Table 1 summarizes the six sources we used.

Table 1: The six global sources we used to collect the reports

Sources	Procedure
GRI Database	In total, there were 1,812 companies from the list, without the integrated reports that have only been ticketed once from 2010 to 2015, there is: = 1,812 - 606 = 1,206
Corporate Register	It provides a list of 1,883 report in total. 1,059 at level 1 and 824 at level 2. After taking out companies for which reports are integrated on a multiple-year basis, we were left with a final list of 760 companies in total and 403 at level 2.
The IIRC Examples Database	It contains 201 reports
African Markets list of JSE companies	397 companies names
KPMG reports	277 were listed for 2016
Online report	There are 189 reported that are labelled as integrated reports. After taking out companies for which reports are integrated on a multiple-year basis, we were left with a final list of 129 companies.

We obtained a final list of 2,111 reports in total combining all sources. By cross-using different sources, we have made our list of integrated report stronger as 578 have multiple sources confirming their integrated report status.

From this initial list, we downloaded all reports with data from 2016 or 2016/2017 (for example with ending fiscal year dates as of March, June or November 2017). To find the reports, we had to type the name of companies and keywords that ranged from "integrated report" to "annual report" or "CSR report".

While we were downloading, we came across companies that were double counted (with names that are close for example), companies for which the reports were not available, not downloadable, or for which the report was only available in a language which is not English or French (the research team does not have the capacity to analyse reports in Spanish for example). We also eliminated reports that were clearly not integrated reports. To define the minimum requirement for a report to be included in our list, we decided to set the threshold with the definition of Todd (2005) and Frías-Aceituno et al. (2013), that if all of the statements such as financial statements, sustainability report, and corporate governance statements are all integrated into a single document, then it is an integrated report. While this definition is large, it allows to capture different levels of integrated reporting, as the innovation "integrated report" and its adoption are still relatively new. From the initial list of 2,111 reports, we have now a list of 1,553 reports.

2.2 Coding of the reports

Reports were coded using a list of 20 items as Table 2 shows.

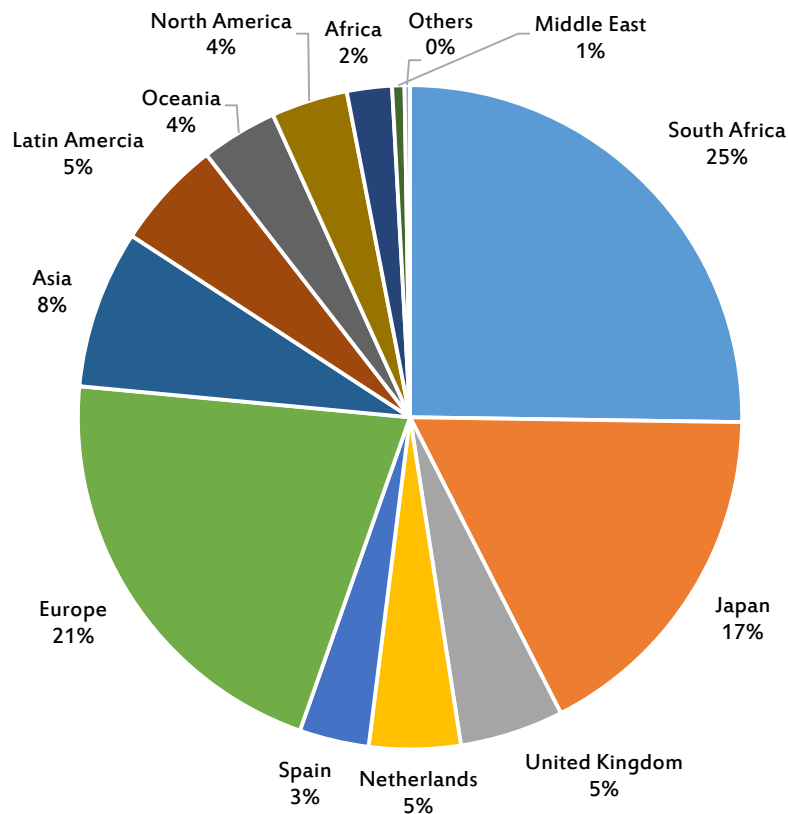
Table 2: List of the 20 items coded in each report

Number of the item	Element coded
Item 1	Name of report
Item 2	Present of IIRC mention
Item 3	Organizational overview and external environment
Item 4	Business model
Item 5	Governance
Item 6	Risks and opportunities
Item 7	Strategy and resource allocation
Item 8	Performance
Item 9	Outlook
Item 10	Basis of preparation and presentation
Item 11	Financial capital
Item 12	Manufactured capital
Item 13	Social and relationship capital
Item 14	Human capital
Item 15	Natural capital
Item 16	Intellectual capital
Item 17	Materiality matrix
Item 18	Stakeholders
Item 19	SDGs
Item 20	TCFD

3 Diffusion of integrated reporting

3.1 Geographical diffusion

Graph 1: Worldwide geographical distribution



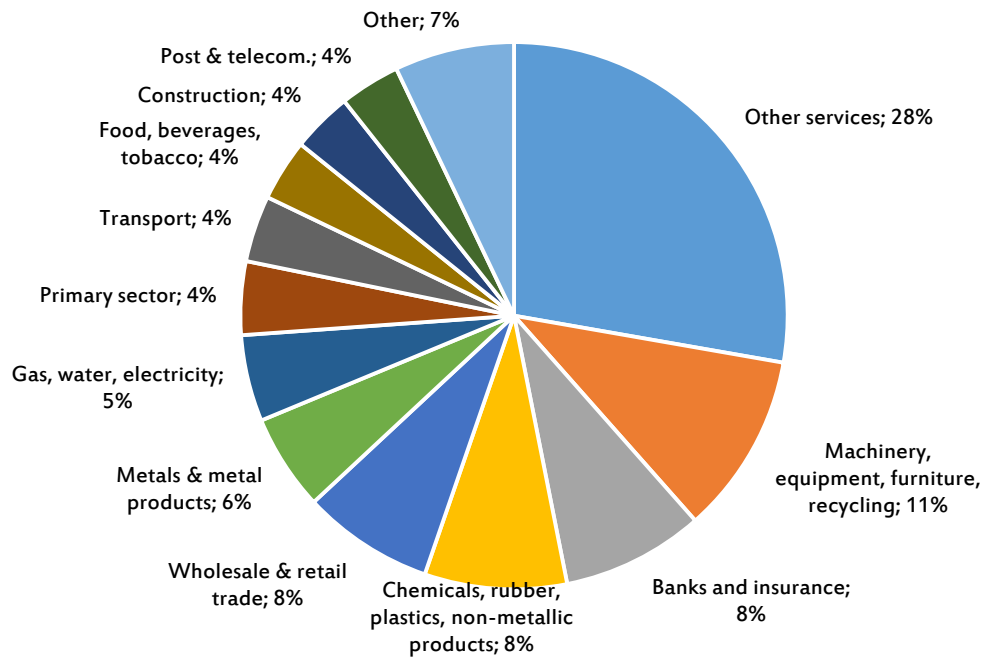
22 countries account for more than 85% of the final sample. Diffusion thus remains relatively concentrated. In particular, the first two countries are South Africa followed by Japan. Taken together, they account for 42.50% of the final sample.

Hot spots for IR adoption: For example in Sri Lanka; this may be due to the fact that the Institute of Chartered Accountants of Sri Lanka hosted the international conference on Integrated Reporting <IR> in 2012. In this case, an international event may be at the origin of a reporting dynamic.

Laggards in IR adoption: Some countries, because of their economic weight, can be seen as laggards. In Canada and Germany, for example, there are only about 20 companies with integrated reporting, which may seem low.

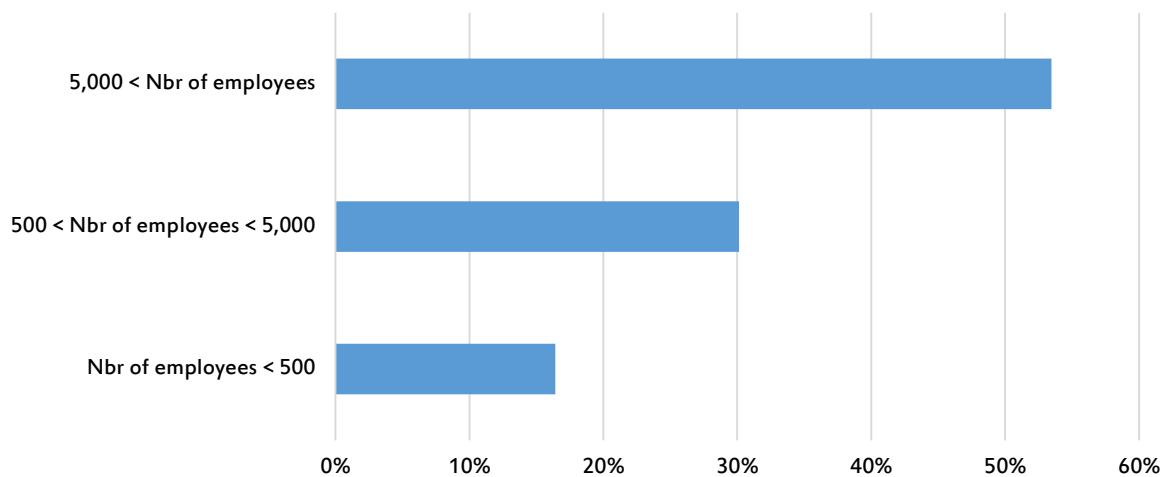
3.2 Industry distribution

Graph 2: Worldwide industry distribution



3.3 Size of the firms

Graph 3: Distribution by firm size



Contrary to what might be expected at first sight, the number of companies with more than 5,000 employees represents only 53% of the total sample. Medium-sized enterprises are equivalent to 30% of the sample, while small enterprises are equivalent to 16%. This result calls for more research on SMEs.

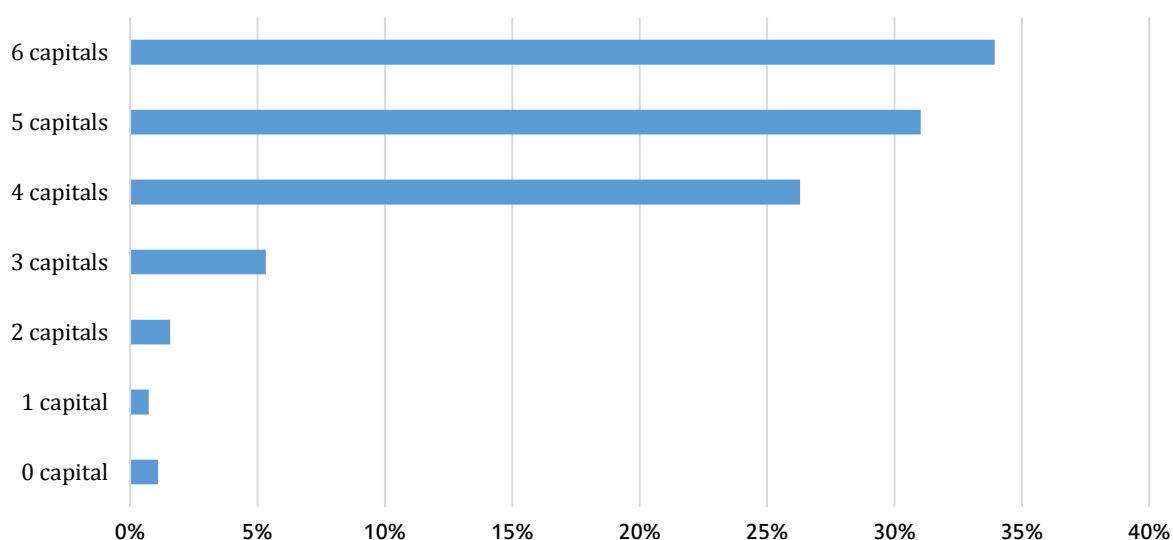
Table 3: Distribution of listed and not listed companies within our database

Status	Percentage
Not listed or delisted	34%
Listed	66%
Total	100%

Two thirds of our companies are listed. This is in accordance with the IIRC’s statement that “the framework is written primarily in the context of private sector, for-profit companies of any size but it can also be applied, adapted as necessary, by public sector and not-for-profit organizations” (IIRC, 2013, p. 4). However, we nuance the fact that only listed companies would use the integrated report as their way to report to the stakeholders. It seems that the integrated report innovation appeals also greatly to non-listed companies.

3.4 Diffusion of capital

Graph 4: Diffusion of capitals



Coulson et al. (2015) consider that the IR Framework (IIRC, 2013) is “a shift from a financial capital market system to an inclusive capital market system through recognition of multiple capitals and integrated reporting and thinking”. The capitals are considered as a fundamental concept of the IR Framework (IIRC, 2013). The vast majority of companies disclose between 4 and 6 capitals.

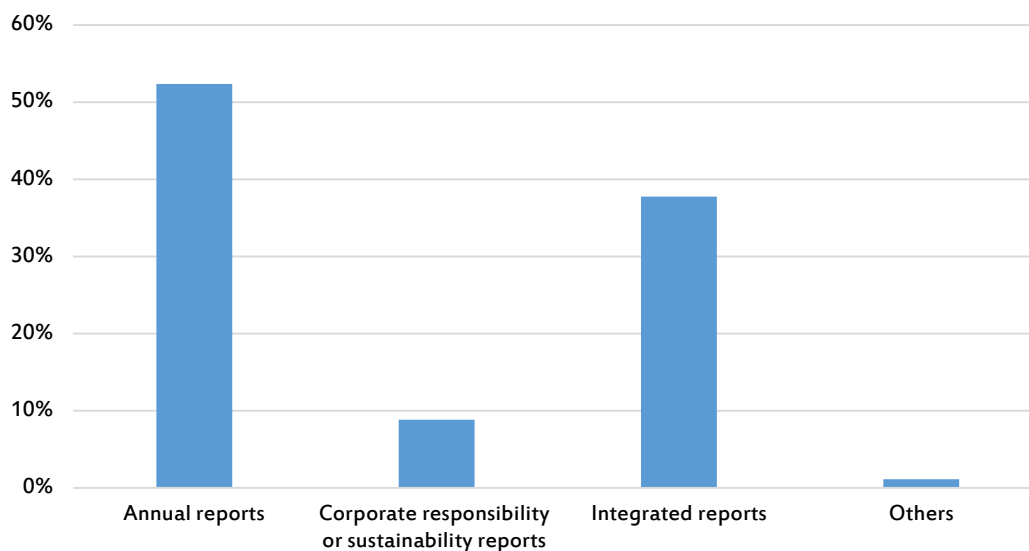
Table 4: The reported capitals

Capital	Percentage
Human capital	97,09%
Social capital	95,52%
Financial capital	94,79%
Natural capital	93,70%
Intellectual capital	58,91%
Manufactured capital	43,88%

The introduction of integrated reporting in South Africa resulted in an increase in the extent of disclosure of human, social and relational, natural, and intellectual capital information of the listed companies (Setia et al. 2015). We note that the first two capital mentioned are human capital and social capital which are mentioned by almost all companies. Interestingly, two capitals are clearly distinguishable from the others. It is intellectual capital (only 59%) and manufactured capital (only 44%).

3.5 Diffusion of the name "integrated-report"

Graph 5: Naming of reports



We note an important breakthrough of the integrated notion at the expense of the CSR/Sustainability idea which now appears as marginal (only 8.82% of our sample).

3.6 Depth of adoption, IIRC mention and link with the GRI

Table 5: Mention of the IIRC

No mention of the IIRC Framework	Mention of the IIRC Framework
63%	37%

We have created a level of “depth” of adoption of the integrated reporting framework in 5 levels.

Table 6: Depth of adoption of integrated reporting codes

Level 0	No reporting of the business model
Level 1	Reporting of the business model
Level 2	Reporting on materiality
Level 3	Reporting on at least three capitals
Level 4	Reporting on at least 10 out of the 17 elements of content

Table 7: Depth of adoption of integrated reporting

		IIRC Framework	
		Group 1	Group 2
		No mention of the IIRC Framework	Mention of the IIRC Framework
Depth of IR adoption	Level 0	53%	10%
	Level 1	25%	23%
	Level 2	0%	1%
	Level 3	0%	0%
	Level 4	21%	66%

Most companies do not mention the IIRC Framework. However, when they do (37.21% of the sample of coded reports), the level of adoption is relatively high and many elements of the framework are present. We therefore seem to have a relatively contrasted situation with, on the one hand, companies that do not fall within the IIRC Framework and, on the other hand, those that follow the guidelines very well.

Table 8: Joint adoption of IR and the GRI

Joint use of GRI and integrated reporting	Not included in the GRI database	46%
	Included in the GRI database	54%
	Total	100%

In their 2017 “Reporting Matters” report, the WBCSD (World Business Council for Sustainable Development) noted that the adoption of IR was joint with the use of the GRI guidelines to a level of 80%. Moreover, Robertson and Samy (2015) state that the international regulatory arena is complex and that greater cohesion is sought by the IIRC which has signed several memorandums of understanding with several accounting and sustainability bodies including the GRI, IASB, SASB, and IFAC (see also Gibassier (2015)).

However, we find a lower level of joint use of the GRI guidelines and the production of an integrated report compared to what the WBCSD finds. However, it is possible that companies that use the GRI guidelines do not declare themselves to the GRI, which *de facto* leads to a lower percentage.

4 Conclusion

Our research confirms earlier findings:

- on the geographical dispersion of integrated report diffusion, and the high concentration in South Africa and Japan,
- on the high proportion of financial services companies that publish integrated reports,
- on integrated reporting being adopted by large organizations in majority,
- on the high adoption of the capitals (4.8 capitals adopted on average per report).

Our research makes the following new contributions to our understanding of integrated reporting:

- Our research contrasts the impression given by earlier research that only large companies publish integrated reports, as 46% of companies have less than 5,000 employees,
- Our research outlines several new countries that have a large number of integrated reports and have not been investigated in depth: Sri Lanka and Mexico for example, but also Colombia,
- Our research also outlines that, as of today, a large number of companies have adopted the naming “integrated report”, which demonstrates that adoption is deeper today than a few years ago,
- Within the three intangible capitals, intellectual capital is the least reported, while human and social and relationship capitals are highly embedded within integrated reports,
- Within the reports that acknowledge the use of the IIRC as their framework, the depth of adoption is high, with a majority of reports being in level 4,
- Despite previous acknowledgement of joint adoption of the GRI and integrated reporting, our report demonstrates that only a little over 50% recognise joint adoption.

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Research paper – Interim report 2

European study of intellectual capital, human capital, social capital and natural capital reporting in integrated reporting

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1 Introduction

According to The Reporting Exchange (2017), the number of sustainability reporting requirements has increased more than ten-fold since the 1992 Rio Earth Summit. Today, there are now over 1000 reporting requirements that have been introduced by various public and private bodies around the world. 69% of the reporting requirement concern environmental topics, versus 49% for social disclosures, and 30% for governance related items (The Reporting Exchange, 2017).

Today, over 77% of European organizations report on their non-financials according to KPMG (2017a). However, the quality and quantity of data varies enormously, making its use into decision-making processes for stakeholders very difficult. Moreover, non-financial data has been designed to respond to a variety of stakeholders such as governments, NGOs, consumers and investors alike, making a standardization of its content difficult. Moreover, new topics and demands appear as more environmental and societal topics are put the forefront of the agenda, such as modern slavery, conflict minerals, equity (or fairness), plastic pollution and biodiversity.

In this report, we review the voluntary non-financial reporting of **377 European organizations** that publish integrated reports for the year 2016. The non-financial data reported by organizations were manually coded through a reporting grid that was composed of more than 400 items. This grid was constructed based on 28 different sources ranging from current voluntary standards to former academic research that had reviewed non-financial reporting in previous years.

2 Research Design

2.1 Initial database

We used four different sources to find European companies disclosing an integrated report¹: (1) the Global Reporting Initiative, (2) Corporate Register, (3) the IIRC, and (4) the online-report website.

(1) We used the Global Reporting Initiative database as of November 2017 (this database contains all voluntary disclosed reports since 1999). This database includes, from 2010 to 2017, the possibility for companies that load their reports to tick the “integrated report” box. We integrated companies that have mentioned “yes” in integrated report at least twice from 2010 to 2015, or once in 2016 or 2017. This eliminates companies that might have ticked “integrated report” by error once in the past. This was the most comprehensive database that exists to date.

(2) The second database used was the one compiled by the Corporate Register. They have classified reports as “integrated reports” according to two levels (level 1: The IIRC and/or the <IR> Framework are referenced in the report / level 2: The IIRC and/or the <IR> Framework are referenced in the report and at least two of the capitals as defined in the Framework are reported against).

¹ To be considered as an integrated report, the report does not have to be labelled “integrated report”.

(3) The third database used is the one built by the IIRC itself, which contains, according to them, examples of the best integrated reports. We have downloaded all their reports.

(4) Finally, we found one last database, "online-report", which contained a list of integrated reports which we added to the compilation.

European companies are defined as companies incorporated² in one of the 28 European countries as of November 2017: Austria, Belgium, Bulgaria, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Great Britain, Greece, Croatia, Hungary, Ireland, Italy, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal, Romania, Sweden, and Slovenia. As such, companies incorporated in Liechtenstein, Norway, and Switzerland, are not included in our sample. The Channel Islands (Jersey and Guernsey) are considered as part of the Great-Britain.

2.2 Coding process

1. First a reporting grid was created from 28 sources, which led to coding over 400 items.
2. Then, two research assistants were trained in the coding in the first week of July 2018. Coding was done on Atlas.ti, allowing full traceability of coding within the reports.
3. For several weeks, the coding grid was refined as the coding of the first reports was ongoing. Items were added if necessary.
4. The main researcher accompanied the coding throughout the 15 weeks of coding, responding to all the questions related to coding and verifying the coding of reports throughout.
5. The data was then extracted from Atlas.ti in excel, and transferred to Stata for analysis.

3 Diffusion of integrated reporting in Europe

We summarize the characteristics of the 377 firms we coded and for which we were able to find information in Orbis below:

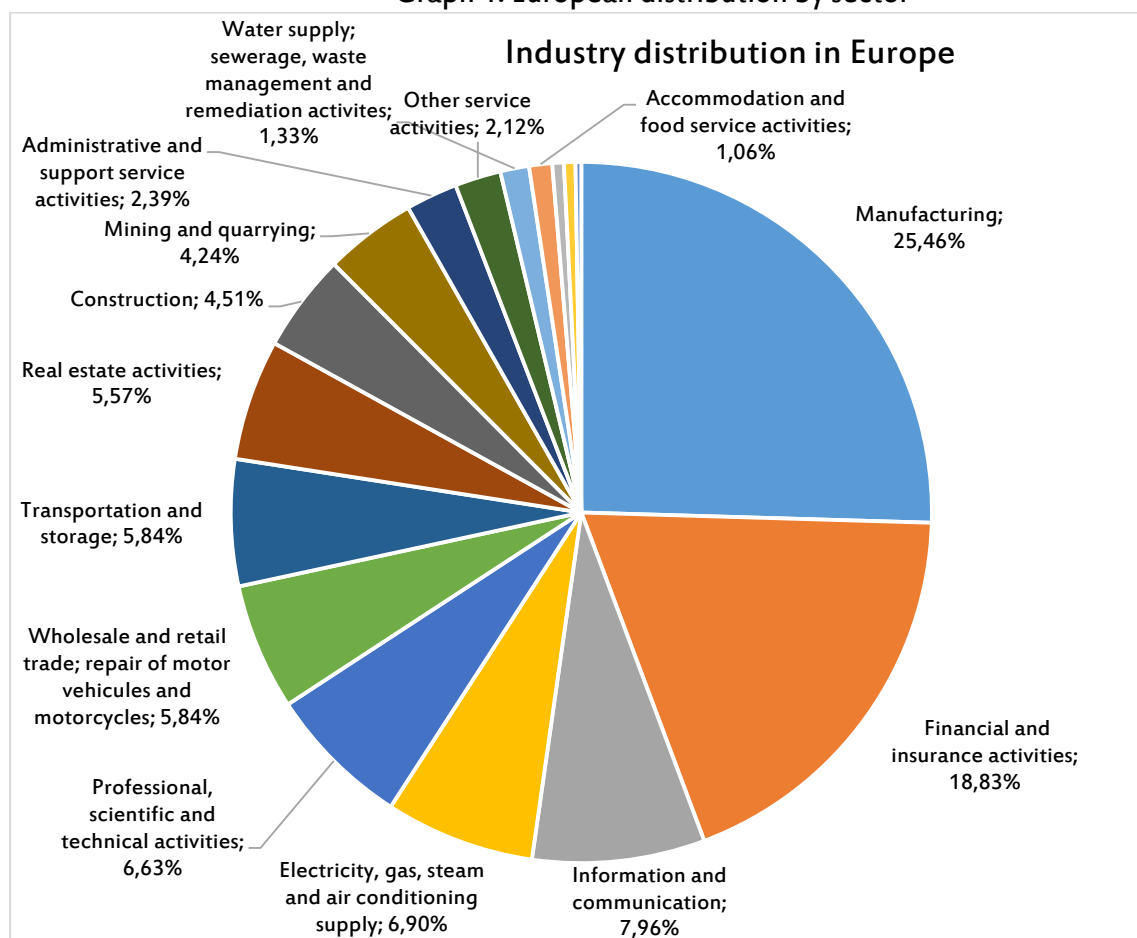
- There are mainly **listed firms**: 63% of the sample is listed on stock markets.
- Firms in our sample are **large firms**: the average number of employees is equal to 29,426 (sample size equal to 313 firms).
- In Europe, the concept of integration is emphasized throughout the 'Guidelines on non-financial reporting (methodology for reporting non-financial information) (2017/C 215/01)': "The guidelines recognise the importance of linkages and inter-relations of information (connectivity), whether it is between different aspects of

² The country of incorporation was found in the Orbis database operated by Bureau VanDijk.

non-financial information or between financial and non-financial information.” Continuing, “The non-financial statement is also expected to be concise, and avoid immaterial information... Generic or boilerplate information that is not material should be avoided.” (IIRC, 2018). Indeed, we found that, companies come from almost **all European countries** (only Cyprus, Lithuania, and Slovakia are missing) report using “integrated reports”.

- However, some countries seem more concerned by the integrated reporting approach than others. Three countries each account for more than 10% of the final sample: Great Britain (19%), the Netherlands (16%), and Spain (13%). This can be explained by favorable legislation such as the ‘Dutch Corporate Governance Code’ which includes concepts of integrated reporting, such as value creation, throughout (IIRC, 2018), the section 172 of the UK Companies Act 2006.
- Despite the interest of the Deutsche Börse for the Integrated Reporting Framework, Germany is one the laggards in Europe for adoption of integrated reporting, covering only 5% of our total database for Europe (In 2016, they stated “Integrated reporting has become the approach of choice for state-of-the-art communication to the capital market.” (IIRC, 2018))
- There are companies mainly from the **manufacturing sector** (more than one fourth). As Graph 1 shows, it is worth noting the strong presence of companies from the financial sector (close to 20%). Unless indicated, all sectors are included in the analysis: the financial sector is not excluded a priori.

Graph 1: European distribution by sector



4 Non financial reporting: quality and governance

4.1 Quality

The natural capital CDSB framework (2015) requests company to:

- “Cite the reporting provisions used for preparing environmental information and shall confirm that they have been used consistently from one reporting period to the next.”
- “report and explain amendments made to previously reported information due to errors, changes to policies, methodologies or organisational structure”
- “inform the reader about whether, and to what extent, environmental information reported has been assured by a third party” (CDSB, 2015)

Therefore, our measure of quality is composed of four dimensions: assurance, comparability, standards followed, and transparency.

Assurance of non-financial disclosure has been steadily growing from 33% in 2005 to over 45% today, according to KPMG (2017b). We confirm their findings on European integrated reports, where non-financial elements are assured on 41% of reports. Moreover, companies that report based on the IIRC often included a page on the “basis of report” which contains the list of standards for non-financial information that they follow. This is reflected in the high number of standards reported, with a clear standard that is the basis for over 60% of non-financial reporting, the GRI. However, transparency on restatement and changes is still low.

Table 1: Quality of the reporting

Dimension of quality	Items	Percentage
Assurance	Assurance of non-financial elements	41%
	Scope of assurance	38%
	Level of assurance	34%
Comparability	Address if restatement of information	10%
	Address changes in reporting	9%
	Address misinformation or unintended consequences	0%
Standards	GRI	63%
	UN Global Compact	30%
	UN Sustainable Development Goals	30%
	IIRC	26%
	Other standards	19%
	GHG Protocol	10%
	SASB	1%
Transparency	Non-compliance with environmental laws and regulations	14%
	Natural capital: address negative impacts	9%
	Carbon: address negative impacts	7%
	Water: address negative impacts	4%
	Biodiversity: address negative impacts	1%

4.2 Governance (natural capital)

Governance is measured through three key points:

- the mention of the highest governance body's role in environmental reporting
- the description of natural capital management structure (including link with bonuses),
- the mention of a specific officer with responsibility for the environment.

We investigated the natural capital governance as well as three domains which are part of it: biodiversity, carbon and water. However, we only report data for natural capital as information on biodiversity, carbon, and water are mentioned only on rare occasions.

Major frameworks request to disclose governance mechanisms for natural capital (the GRI, the CDSB, and the CDP requests for climate, water and forest): publishing on governance demonstrates "transparency about and accountability for the organization's oversight of environmental policies, strategy and information. Successful environmental policies require the support and leadership of an organization's Board, or highest governing body" (CDSB, 2015). However, we find only a quarter of firms publish their governance mechanisms.

Table 2: Governance of the natural capital reporting (N = 224³)

Items - Natural capital governance	Percentage
Highest governance body's role in environmental reporting	44%
Natural capital management structure (including link with bonuses)	37%
The company reports that they have a specific officer with responsibility for the environment	25%

5 Reporting of the four capitals

5.1 Human capital

5.1.1 Human capital types of information reported

In their study of human capital reporting in the annual reports of FTSE 100 companies, McCracken et al (2018) found a 17% increase in human capital reporting in the two-year period to 2014/2015. The most significant areas of growth in human capital reporting were in: human resources development i.e. planned learning and development activities and opportunities) 26%; and, organizational justice and equity (i.e. treating employees in a fair and equitable way and offering equal opportunities) 25%. Reporting on knowledge, skills and abilities increased by 16% and employee welfare by 7%. In general, presence of indicators is low, and the value of human capital for the organizations is not well represented. An

³ The first three capitals (human, social, and intellectual) have been coded on the entire sample (N = 377). However, regarding natural capital, only 224 reports have been coded so far.

interesting report to consider on human capital and its value for an organization it the SSE report on human capital from 2015, and how you can “grow” human capital on page 11 of their report.

Table 3: Types of human capital items reported

Types of human capital information reported	Items	Percentage
General information	Employee numbers	93%
	Average age of staff	48%
	Employee geography	48%
	Total workforce with breakdown by employment type, employment contract and gender	46%
	Workforce years of service	20%
Compensation	Total amount spent on employee (salaries+benefits+taxes)	55%
	Remuneration policies	28%
	Employee benefits	23%
Collective agreements	Percentage of employees covered by collective agreements	38%
Human capital performance	Employee satisfaction/engagement	47%
Career development	Programs for upgrading employee skills and transition assistance programs	32%
	Percentage of employees receiving regular performance and career development reviews	25%
Education, planned learning and development	Average hours of training per year per employee	41%
	Cost of training (per capita, total)	26%
Knowledge, skills and abilities	Enhancement of professional competence	46%
	Enhancement of social competence	16%
Recruitment	New employee hires	46%

5.1.2 Human capital focus on gender

The topic “gender”, while having gain importance through its presence in the SDG list (the Sustainable Development Goal 5 “Achieve gender equality and empower all women and girls”) is still not well reported. While some classic women leadership indicators score well, others such as pay gap are still low (10%) and gender inequalities in the supply chain are not reported.

Table 4: Items reported on gender issues

Items related to gender issues	Percentage
Number of women in the workforce	81%
Women in senior roles (directors)	47%
Number of female managers	41%
Women on board	40%
Parental leave	19%
Ratio of basic salary and remuneration of women to men	10%

5.1.3 Human capital: focus on organizational justice and equity information reported

Equity issues are reported by a third of companies, however discrimination investigation systems are very low, demonstrating a lack of monitoring of the issue.

Table 5: Items reported on organizational justice and equity-related

Items related to organizational justice and equity	Percentage
Diversity of governance bodies and employees	51%
Equity issues: race, gender and religion	30%
Equity issues: disable issues	27%
Incidents of discrimination and corrective actions taken	15%
Leaders from emerging markets	2%

5.2 Social and relationship capital

According to the Social Capital Protocol (WBCSD, 2015), it is important to report on social capital because it helps: obtain or maintain your license to operate, improve the business enabling environment, optimize resource management, strengthen the value chain, fuel product and service growth innovation.

5.2.1 Social capital: focus on stakeholders

European companies report well on their stakeholder relationships and put five groups consistently in the group of stakeholders they have strong relationships with, including NGOs, academia, regulators, customers, shareholders and employees.

Table 6: Items reported on relationships with stakeholders

Items related to relationships with stakeholders	Percentage
NGOs and academia	48%
Legislators, regulators and policy makers	45%
Customers	42%
Shareholders	38%
Employees	38%
Competitors	29%
Lenders	7%
Distribution channels	4%

5.2.2 Social capital: focus on customers

Customers are often reported on in a separate section in reports where topics such as satisfaction, new products and health and safety are presented. However, rising issues such as privacy breaches are still well reporting, in a era where they are becoming more common.

Table 7: Percentage of firms reporting at least one item related to one of the dimensions⁴ of customer relationships

Dimension of relations with customers	% of firms reporting at least one item
Satisfaction and loyalty	75%
Product	28%
Health and safety	19%
Privacy	9%

⁴ Satisfaction and loyalty contains the following items: Customer satisfaction, Number of customers, Market share, Customer rating, Number of new customers/new markets/new leads, Number of recorded customer complaints received, Customer retention, Customers lost, Claims and lawsuits. The high number of items may explain the high percentage of companies reporting data on satisfaction loyalty.

5.2.3 Social capital: focus on human rights

Legislation in the US, France and UK to address human trafficking and forced labour are evidence that harder law on business and human rights is coming within some jurisdictions (Ethical Corp, 2017). Already in 2011, the UN had endorsed the Guiding Principles on Business & Human Rights, which are principles that establish the responsibility of businesses to respect human rights. While KPMG’s 2017 report on corporate sustainability reporting show that almost 73% of the world’s largest companies recognize human rights as a business issue (KPMG, 2017a), our European sample of integrated reports demonstrate that the maturity on human rights related issue is much lower, with only 28% reporting a policy on human rights.

Table 8: Items reported on human rights

Items related to human rights	Percentage
Human rights policy	28%
Employee training on human rights policies or procedures	7%
Operations that have been subject to human rights reviews or impact assessments	6%
Human rights labour review	4%
Operations and suppliers at significant risk for incidents of child labor	3%
Living wage	3%
Operations and suppliers at significant risk for incidents of forced or compulsory labor	3%

5.3 Intellectual capital

5.3.1 Intellectual capital: types of information reported

While there is a low number of companies reporting on their intellectual capital overall, when they do they seem to be able to report in details and what makes up that capital and its importance and quality. Brands and quality systems are most reported items, while corporate culture and reputation come next.

Table 9: Types of intellectual capital items reported

Intellectual capital items	Percentage
ISO 9000 and similar quality systems	41%
Brands	40%
Corporate culture	26%
Company reputation	24%
Organizational structure	20%
Patents	14%
Corporate image	8%
Management philosophy	7%
Trademarks	3%
Computer software	3%
Licensing agreements	2%
Franchises	1%

5.3.2 Intellectual capital: focus on performance and strategy

Performance of intellectual capital is measured through award and recognition, and targets seem harder to set and disclose.

Table 10: Items reported on intellectual capital performance and strategy

Items on intellectual capital performance and strategy	Percentage
IC Company has received award or recognition	63%
Strategic partnerships	22%
Intellectual capital - Mid term targets (3-5 years)	9%
Intellectual capital - Short term targets (1 year)	6%
R&D related management systems, policies, and standards	4%

5.3.3 Intellectual capital: focus on R&D

While research and development might seem from the outset as a key asset to disclose, it is only reported by a third of companies, with little information on projects, laboratories and management standards.

Table 11: Items reported on Research and Development

Items on Research and Development (R&D)	Percentage
R&D expenditure	28%
R&D strategic laboratories	16%
Number of R&D projects	15%
R&D staff	13%
R&D related management systems, policies, and standards	4%

5.4 Natural capital

In the whole natural capital section, all statistics are computed on a sample of 224 firms only.

5.4.1 Strategy

Demonstrating the maturity on natural capital, strategy and management systems are reported by 40% of companies in Europe. Climate change strategy is reported by 21% only.

Table 12: Items reported by type of natural capital strategy

Items on natural capital strategy	Percentage
Natural Capital strategy and action plans	40%
Environmental-related management systems, policies, and standards	38%
Climate Change strategy and action plans	21%
Natural capital partners	16%
Percentage of ISO 14001 certified sites corporates	11%
Water strategy and action plans	11%

5.4.2 Performance

Performance is recognized externally only for the environmental in general and carbon, which is also a sign that more disclosure on water and biodiversity is not yet externally recognized and encouraged, explaining partly the lower scores that we have consistently found in all items for water and biodiversity across our categories.

Table 13: Items on natural capital performance recognition

Item on award and recognition received	Percentage
Environment	46%
Carbon	34%
Water	7%
Biodiversity	2%

Only 31% of organizations report targets, of which half or mid-term targets. This is at odds with the willingness of integrated reporting to drive forward-looking reporting

Table 14: Items on natural capital targets

Items on natural capital targets	Percentage
Natural capital long term targets (+5 years)	7%
Natural capital mid term targets (3-5 years)	15%
Natural Capital short term targets (1 year)	9%

5.4.3 Supply chain

For each category (natural capital, biodiversity, carbon, and water), we measure the seven following items related to supplier performance (example for the biodiversity category):

1. Collection of biodiversity-related data from suppliers
2. Company has a biodiversity policy and purchase material and goods
3. Measure supplier biodiversity performance
4. Negative biodiversity impacts in the supply chain and actions taken
5. New suppliers that were screened using biodiversity related criteria
6. Percentage of purchased volume which is verified as being in accordance with credible, internationally recognized biodiversity standards, broken down by standard

7. Reduction targets for supply chain biodiversity impact

In Table 15 below, we report only items for natural capital and carbon, as biodiversity and water are almost never mentioned.

Table 15: Items reported on natural capital and carbon supply chains

Category	Items on supply chain	Percentage
Natural Capital	New suppliers that were screened using natural capital related criteria	44%
	Company has a natural capital policy and purchase material and goods	21%
	Measure supplier environmental performance	12%
	Negative natural capital impacts in the supply chain and actions taken	7%
Carbon	New suppliers that were screened using climate change related criteria	2%
	Company has a climate change policy and purchase material and goods	1%
	Measure supplier carbon performance	1%
	Negative climate change impacts in the supply chain and actions taken	1%

5.4.4 Other topics

Afforestation

To consider afforestation, we coded the thirteen following items:

1. Board-level oversight of forest-related issues
2. Certification/standard to sustainable production (such as roundtables)
3. Company reports its involvement in afforestation activities
4. Disclosure of barriers and challenges to tackle afforestation
5. Forest risk commodity disclosure (soy, timber, palm oil, cattle products, rubber)
6. Forest-related opportunities identified
7. Forest-related policy
8. Forests-related risk assessment performed

9. Public commitment to reduce or remove deforestation/degradation from supply chain and operations
10. Reporting of any detrimental forests-related impacts
11. System in place to monitor forests-related risks
12. Targets for increasing sustainable production and/or consumption of forest-related commodities
13. Traceability system in place

The world loses between €1.35 trillion and €3.10 trillion-worth of natural capital every year, from deforestation alone (SustainAbility, 2010). According to the CDP (2017), up to US\$941 billion of turnover in publicly listed companies is dependent on commodities linked to deforestation, including soy, palm oil, cattle and timber.

The CDP (2017) recognizes that traceability to the point of origin and certification are key to enable businesses to recognize opportunities associated with the sustainable production or consumption of a forest-linked commodity. Moreover, three quarters (73%) of companies responding to the CDP led forests program report a commitment to reduce or remove deforestation from their supply chains (CDP, 2017).

Only four items (out of the thirteen) are reported by firms included in our sample, as Table 16 shows, with small percentages. However, they are consistent with the CDP findings in terms of demonstrating the importance of certification and traceability. Afforestation is also driven by particular type of resources (palm oil, soy, timber...) and should be reassessed per industry.

Table 16: Items reported on afforestation

Items on afforestation	Percentage
Certification/standard to sustainable production	12%
Company reports its involvement in afforestation activities	6%
Traceability system in place	5%
Forest-related policy	1%

Biodiversity

Biodiversity is defined by the Convention for Biological Diversity (2010) as “The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part;

This includes diversity within species, between species and of ecosystems”. It is one of the nine planet boundaries, and one of the three, with climate change and nitrogen levels, that has already been exceeded. Biodiversity is also associated with key business risks in terms of reputation and operation (supply security), but also key opportunities such as opportunities in

developing new technologies inspired by nature; reducing resource intensity, reducing biodiversity degradation and increasing supply chain resilience (SustainAbility, 2010). We find that globally biodiversity is not well reported, and that mainly companies rely on GRI indicators to do so.

Table 17: Items reported on biodiversity protection

Category of biodiversity performance	Items on biodiversity	Percentage
Facility related performance	(geographic location of) Operational sites owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas	13%
Species related performance	IUCN Red List species and national conservation list species with habitats in areas affected by operations	5%
	Reporting on specific species	4%
	Company reports the native/indigenous/endemic species affected/conserved/protected/restored	2%
Water related biodiversity performance	Company reports marine biodiversity affected/conserved/protected/restored	3%
	Company reports wetlands affected/conserved/protected/restored	1%

6 “Pre-finalization and calculability of the capitals

6.1 Pre-finalization

According to KPMG (2017a), “non-financial” is the new financial, and the time when sustainability was considered strictly “non-financial” is gone. Therefore, we have created a score of “pre-financialization” of the non-financial capitals composed by three possible items:

- Whether they are considered as risks & opportunities by companies
- The reporting of expenditure, investments or budget for those capitals
- The monetization of items of those capitals (through pricing, offsetting..)

We report that non-financial capitals are mainly considered as risks, more than as opportunities. Generally speaking, they are well integrated into the risk management framework with for carbon, natural capital, human, intellectual and social capitals, they are reported in 18 to 47% of organizations.

Table 18: Items reported on risks and opportunities

Type of capital	Items on business risks and opportunities		Percentage
Human capital	Human capital - Business risks and opportunities		37%
Intellectual capital	Intellectual capital - Business risks and opportunities		47%
Social capital	Social capital - Business risks and opportunities		47%
Natural capital	Natural capital	Business opportunities (linked to natural capital)	11%
		Business risks (linked to natural capital)	29%
		Tools used for natural capital risk assessment	3%
	Biodiversity	Business opportunities (linked to biodiversity)	0%
		Business risks (linked to biodiversity)	2%
		Tools used for biodiversity risk assessment	0%
	Carbon	Business opportunities (linked to carbon)	9%
		Business risks (linked to carbon)	18%
		Tools used for carbon risk assessment	0%
	Water	Business opportunities (linked to water)	3%
		Business risks (linked to water)	6%
		Tools used for water risk assessment	3%

One third of organizations are capable of reporting investments for natural capital, and 11% for carbon, which demonstrate some financial commitments to what was considered “externalities” before. Moreover, 24% report amounts related to innovations, R&D or technologies to enhance natural capital. Even water appear, although on a smaller scale, to be worth of a specific investment category that 7% of companies report on.

Table 19: Items reported on cost and funding

Items on costs and funding		Percentage
Natural capital	Reporting of environmental investments by type	34%
	Amount spent (R&D, technologies, innovations) to enhance natural capital	24%
Carbon	Reporting of investments related specifically to carbon	11%
	Amount spent (R&D, technologies, innovations) to enhance carbon	4%
Water	Reporting of investments related specifically to water	7%
	Amount spent (R&D, technologies, innovations) to enhance water	3%
Biodiversity	Reporting of investments related specifically to biodiversity	1%
	Amount spent (R&D, technologies, innovations) to enhance biodiversity	2%

The last item we measured in the monetization of elements of the natural capital through carbon trading, offsetting and internal pricing. While reporting on monetization is still low, it is part of a wider trend to monetize impacts that can be seen through the “value creation” processes that are modelled in integrated reports and through new multi-capital accountings such as the one proposed by Kering since 2011, or the Crown Estate, Novartis and Yorkshire Water more recently.

Table 20: Items reported on monetization

Items on monetization	Percentage
Carbon offset	13%
Carbon internal pricing	3%
Biodiversity offset	3%
Allocation of CO2e emissions allowances or equivalent	2%
Carbon credit purchased	1%
Carbon credit originated	0%
Water offset	0%

6.2 Calculability of the capitals

Finally, as the number of non-financial accounting standards has grown exponentially, with many acquiring quasi worldwide standard status (such as the GHG Protocol), we report on how European companies that use integrated reporting use sustainability accounting for their performance measurement. More than half of organizations report on their calculative frameworks for natural capital, and more than 40% do so for carbon as well. This demonstrates a high level of commitment to the quality of performance measurement of their non-financial capital.

Table 21: Items reported on calculability

Items on calculability	Percentage
Natural capital accounting framework (standards, methods, assumptions)	56%
Carbon accounting framework (standards, methods, assumptions)	41%
Internal audits specific to natural capital	11%
Life cycle assessment performed	6%

7 Conclusions

- Favorable regulation or investiture in integrated reporting has sparked adoption, to the notable exception of Germany (5%).
- There is an increase in quality of the reporting however disclosure of governance is still lagging (only 25%).
- Our report demonstrates that despite a call to look for long term value creation, targets are often absent (only 31% report target for natural capital), and if they are, they only demonstrate mid-term outlook (15%).
- Recognizing the capitals: Despite often reporting their capitals as key inputs into their business models, companies do not elaborate on some of the capitals extensively within their report. This is the case of intellectual capital and manufactured capital notably. There is a disconnection between recognizing their importance (in the value creation model) and being able to account for it to their stakeholders.
- Integrating new topics: Many of the more recent challenges are not well reported and accounted for. While the maturity on climate change, waste, energy and water are growing, the reporting is slow to evolve. Notably there is growing demand for reporting on supply chains (The Sustainability Consortium, 2016; CDP, 2017, The Accountability Framework initiative, 2017). Supply chains raise topics such as deforestation, human exploitation (modern slavery), sustainable agriculture, poverty, human rights, indigenous rights and local communities. New accounting frameworks and ratings have been developed recently (e.g. the poverty footprint from Oxfam,

2009, The Corporate Human Rights Benchmark 2018) but have had little impact on corporate reporting, which includes integrated report. A new report from Australia notes that biodiversity and income inequality will be the growing topics on the non-financial disclosure agenda (Meath, 2018).

- Our results demonstrate the depth of non-financial reporting, with a high level of pre-financialisation and calculability framework reporting, versus the breadth of reporting which is weak (difficulty to integrate new topics in social capital and biodiversity for example).

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