

THE DETERMINANTS OF VOLUNTARY DISCLOSURE IN XBRL FINANCIAL STATEMENTS

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abstract

- USA: Financial reports are now sent to the SEC in **XBRL** (eXtensible Business Reporting Language) files
- Most of these files use the USGAAP taxonomy (standard set of tags, created by the FASB)
- But the filer can create custom tags (**extensions**) if deemed necessary
- Object of this study: we searched the determinants of extension creation (seen as a matter of voluntary disclosure)

Summary

1. XBRL (definition, recent evolutions)
2. XBRL taxonomies and voluntary disclosure
3. Our model and data collected
4. Results
5. Conclusion and discussion

XBRL

- XBRL is one of the many ways to improve data management (for financial data)
- Non exhaustive list of some common problems:
 - Too much data, and data quantity goes up exponentially
 - Reporting frequency & information needs are getting bigger
 - Data often poorly contextualized
 - IT tools still not efficient to deal with the **semantic** of data (digital data is still human readable, not machine readable)
- => growing need of adapted IT tools: IT is the cause AND the solution to this “data deluge”

XBRL & knowledge mgt

- XBRL is one of these IT tools, a standardized way to create & collect financial data
- An answer to the major issues of knowledge management:
 1. Make it possible to process more data within less time (**easy**): OK
 2. Allows processing of data of all kinds (**harder**): OK
 3. Facilitate or automate the analysis of data (**much harder**): OK???

XBRL: technical aspects 1/2

- **XBRL** is created upon **XML**, standard markup meta-language normalized by W3C
- Standardized representation: pieces of information stored in shared taxonomies (dictionaries of tags)
- Very **rigorous** formalism (essential to create machine readable data): tree structure with nested tags, the last opened tag is closed first

```
<a>  
  <b>  
    <c>  
      .....  
    </c>  
  </b>  
</a>
```

```
<pfs:LandBuildings decimals="INF" contextRef="CurrentInstant" unitRef="EUR">123393</pfs:LandBuildings>
```

XBRL: technical aspects 2/2

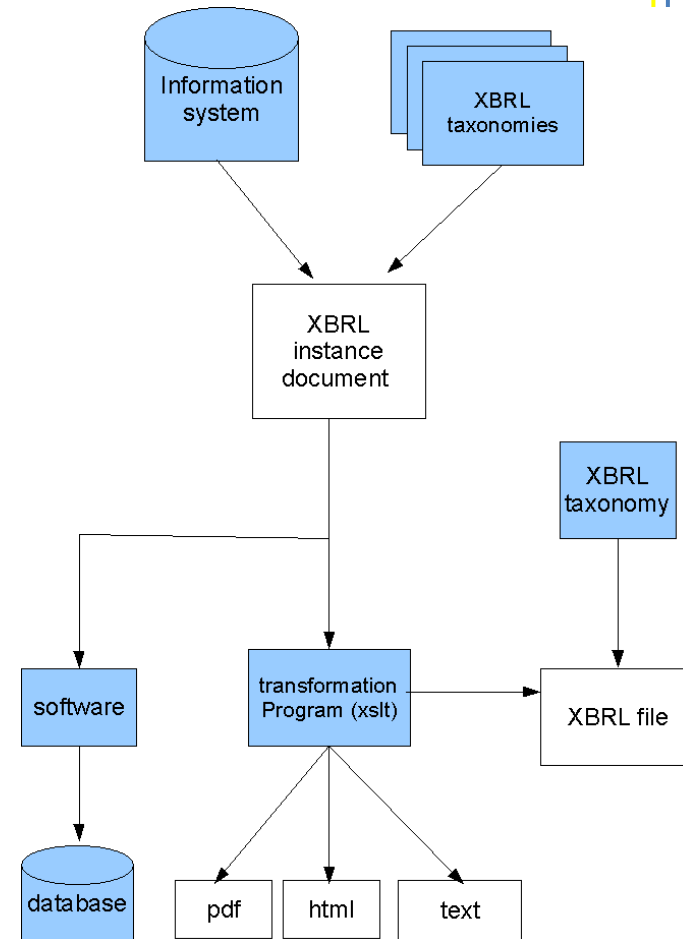
- Can store various data types
- Opening tags can be used to contextualize a piece of data
- XBRL formulas can be used to check validity

Recent evolutions

- First, adoption on a voluntary basis...
- In the USA, XBRL filing became mandatory for all listed companies (between 2010 and 2012)
- Files publicly available on the “Edgar Cloud”
- In Europe:
 - Support of the European Commission
 - Used in different countries(UK, Spain, Belgium, Netherlands, etc.) for different purpose

Taxonomies / instance documents

- Facts are stored in an **instance** document
- **Taxonomy** = dictionary of tags
- Several reference taxonomies (IFRS, USGAAP, etc.), national or industry specific, etc.
- Can use several taxonomies in the same instance document
- The filer can use custom tags, creating *de facto* a **custom** taxonomy



is extension creation an issue?

- There are pros and cons
 - Comparability Vs Relevance
- Many discussions and debate
- Our goal is not to “decide” if extensions are good or bad
- Not even to find the “best proportion” of extensions in an XBRL file
- It is just to investigate the factors encouraging a filer to create extensions

Research question

- eXtensible → the filer can create custom tags (extensions)
- Proportion of extensions can be really different (ranging from 0% to 81% in our sample, 16% on average)
- This additional work is a voluntary choice of the filer → we considered that it is a matter of **voluntary disclosure**
- We used the definition given by Pourtier (2004): “we considered that anything that has not been either standardized nor made mandatory is therefore voluntary”
- Goal of this work: identify the determinants of voluntary disclosure in XBRL filings

MODEL & DATA

XBRL and the agency theory

- In this conceptual framework, voluntary disclosure is a mean to reduce agency costs
- Our hypothesis:
 - *H1: extensions (%) are positively correlated with the size of the filer*
 - *H2: extensions (%) are positively correlated with debt ratio*
 - *H3: extensions (%) are positively correlated with ownership diffusion*

Control variables

- Taken from both agency and signal theory
- Second model (robustness tests) uses the following variables
 - **Liquidity**: results from a good management, it is therefore an incentive for broader communication
 - **Profitability**: a more profitable firm tends to communicate more information to its environment
 - **Auditors reputation**: the reputation and expertise of the auditors encourages voluntary disclosure

proxys

Explanatory variable	Name	Proxy
Leverage	Lev	Ratio of Debt over total assets (Depoers, 2000)
Firm Size	Size	Logarithm of market capitalization (Petersen and Plenborg, 2006)
Ownership Dispersion	OD	Logarithm of the number of shares owned by shareholders (Lan et al., 2013)
Liquidity	Liq	Ratio of Short-term over Long-term assets (Lan et al., 2013)
Profitability	Prof	Ratio of Operating Income over Assets (Petersen and Plenborg, 2006)
Auditor Size	Big4	Dummy variable (1 for Big Four, 0 Otherwise) (Depoers, 2000)

Sample & methodology

- XBRL filings from the EDGAR platform, in 2012: 7817 files
- Finding the tickers of the filers, from the CIK code of the SEC: 5904 tickers found
- Searching financial data in the database Thomson One, removing incomplete data: 2924 observations remaining
- To this aim, we created 2 computer programs:
 - One to count the number of tags of a specific taxonomy in an XBRL file (in Java)
 - One to get the Thomson Ticker from the CIK code of the SEC (Python)

Models

$$[1] \text{ PCT_EXT} = \beta_0 + \beta_1 \text{ LEV} + \beta_2 \text{ SIZE} + \beta_3 \text{ OD} + \varepsilon$$

$$[2] \text{ PCT_EXT_AJU} = \beta_0 + \beta_1 \text{ LEV} + \beta_2 \text{ SIZE} + \beta_3 \text{ OD} + \varepsilon$$

$$[3] \text{ PCT_EXT_AJU} = \beta_0 + \beta_1 \text{ LEV} + \beta_2 \text{ SIZE} + \beta_3 \text{ OD} + \beta_4 \text{ PROF} + \beta_5 \text{ LIQ} + \beta_6 \text{ BIG4} + \varepsilon$$

- Model 2: percentage of sector-adjusted extensions
- Model 3: addition of the control variables

results

Variables exogènes	Signe attendu	Modèle 1	Modèle 2	Modèle 3
		Y = PCT_EXT	Y = PCT_EXT_AJU	Y = PCT_EXT_AJU
LEV	+	0,000021 (0,000028)	0,000023 (0,000028)	0,000005 (0,000031)
SIZE	+	0,024100 *** (0,000817)	0,022820 *** (0,000808)	0,022570 *** (0,000923)
OD	+	0,017570 *** (0,00132)	0,015920 *** (0,00130)	0,015930 *** (0,00133)
PROF	-/+			0,000020 (0,000014)
LIQ	-/+			-0,000908 *** (0,000297)
BIG4	-/+			0,001290 (0,00469)
N		2924	2924	2924
Adjusted R ²		0,2287	0,2145	0,2159
F statistic		289,96	265,76	135,16
p-Value		<0,0001	<0,0001	<0,0001

* Significant at .10
 ** Significant at .05
 *** Significant at .01

results

- H1 and H3 are confirmed
 - Larger firms tend to have more extensive reporting expectations
 - Ownership dispersion also make firm more likely to voluntary disclose
- But H2 is not!
 - Voluntary disclosure should be a mean to reduce the monitoring costs resulting from a High debt ratio, but this relationship is not statistically significant

Extensions & limits

- Possible extensions:
 - Include several years in our sample
 - Evolution of the extension proportion over the years
 - Distinguish extensions between financial statements categories (income statement, assets, equity, etc.)
- Limitations:
 - 2012 data → was XBRL reporting “mature” enough?
 - we do not address the relevance of extensions, we suppose that extensions are always created to improve financial statements
 - *is it possible to enhance relevance and comparability at the same time?*

THANK YOU FOR YOUR ATTENTION