

The Relevance of XBRL Voluntary Disclosure for Stock Markets: The Role of Corporate Governance

Denis Cormier
ESG UQAM, Canada

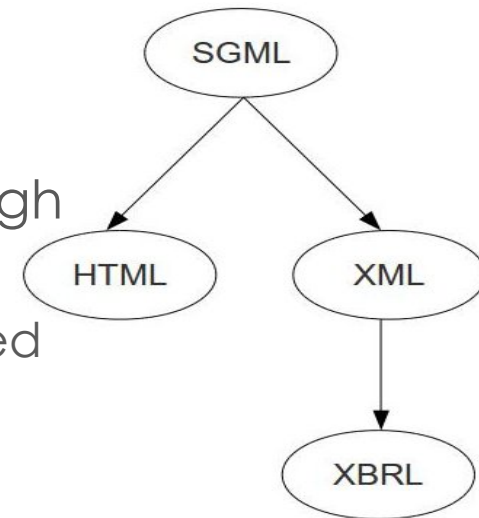
Dominique Dufour, Philippe Luu, Pierre Teller
GRM IAE de Nice, Université de Nice Sophia Antipolis

Objective

The aim of this paper is to investigate the relevance of **voluntary disclosures** in XBRL files for stock market participants considering the quality of **corporate governance**.

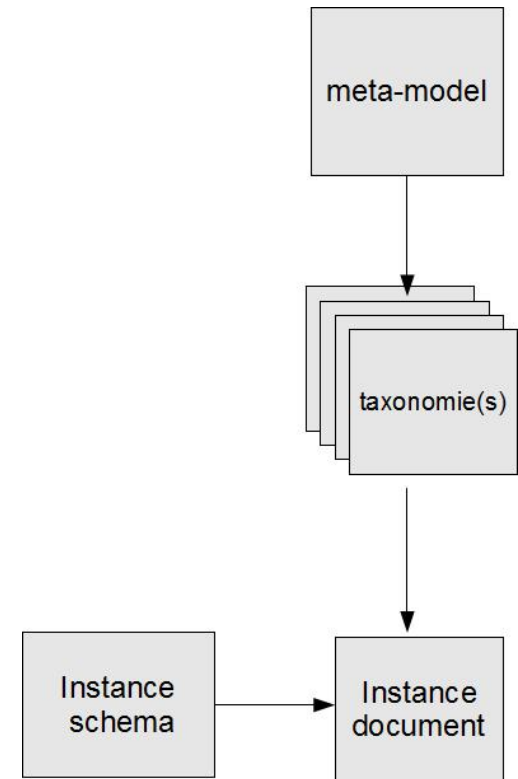
XBRL

- XBRL is a digital language created to store financial data
 - It is based on XML, the reference meta-language (W3C)
- Baseline principle: standard representation through shared **taxonomies** of tags
 - Pieces of information (facts) are stored in predefined tags
- This rigorous formalism is mandatory to create **machine-readable data** (a computer can easily parse an XBRL file)



Baseline principles

- Principle #1: clear separation of form and substance → machine-readable data
- Principle #2: standardization, through taxonomies (dictionaries of tags with shared meaning)
 - Facts are stored in **instance documents**
- Many different **taxonomies** (IFRS, USGAAP, for a sector, a country, individual, etc.)
- Each instance document is linked to a set of taxonomies
- Any filer can create **new tags** to make reporting more relevant; these tags are called **extensions** and are a matter of voluntary disclosure



news

- In the US, all American public firms must submit XBRL data to the SEC since 2012
- This requirement is now extended to foreign private companies on US markets
- SEC offers tools to access this data online
- In other countries: it is possible to use XBRL (for different purpose) in Belgium, Netherlands, Spain, Italy, China, Japan, South-Korea, India, etc.
- European transparency initiative: standard business reporting for 2020, XBRL is candidate

background

- Studies on the incidence of XBRL for market participants are numerous but little is known about the mechanisms underlying the **real impact of extensions**.
- Our research investigates the nature and the importance of taxonomy's extensions and argues that this practice is an element of a **voluntary disclosure** strategy.
- Similarly, our study is the first to focus on the **link between extensions and corporate governance** mechanisms:
 - We assess how voluntary disclosures in XBRL format **affect the value relevance of GAAP earnings** considering the quality of corporate governance.

XBRL extensions

- Supporters of taxonomy's extensions, such as SEC and IFRS foundation argue that **extensions improve reporting transparency** and create a better information environment between filers, regulators and investors.
- For SEC and IFRS foundation the use of extensions is consistent with **reporting flexibility** and suggests that such flexibility would facilitate financial analysis with **better information between firms and outsiders**, including investors (IFRS Foundation, 2015).

Hypotheses 1/2 (extensions)

- Since XBRL documents can be analyzed quickly and efficiently by analysts, we anticipate a positive relationship between analyst following and the release of XBRL extensions.
- We also anticipate that XBRL extensions should help analysts to make more precise earnings predictions and, therefore, a greater association between earnings and stock price. This gives rise to the following hypotheses:

- H1. XBRL extensions attract financial analysts.
- H2. XBRL extensions enhance the value relevance of earnings.

Hypotheses 2/2 (governance)

- Earnings are likely to be of high quality, i.e., relevant and reliable, if there is strong governance, a situation which will attract greater financial analysts' coverage and reduce information asymmetry. In such a context, XBRL extensions are likely to be less needed and less relevant for earnings valuation.
 - XBRL extensions are likely to be more relevant in a context of weak governance, i.e. to act as a **substitute for less effective governance** mechanisms in reducing asymmetry.
 - Overall, XBRL extensions should help market participants to better assess earnings valuation when the firm-level governance is weak.
 - Hence, the following hypothesis:
- H3. Corporate governance moderates the relation between XBRL extensions and the value relevance of earnings.

sample

- The sample comprises 155 firm-year observations of Canadian firms included in the S&P/TSX composite index of Toronto Stock Exchange for years 2010 to 2015. We first choose U.S. cross-listed firms, for a 38 firm-year observations (8 firms) reporting under US-GAAP and providing extended (voluntary) XBRL information. Second, from SEDAR (System for Electronic Document analysis and Retrieval) Canadian database, we find 24 firm-year observations (13 firms) of Canadian firms reporting under IFRS providing XBRL extensions.
- This gives 62 firm-year observations (21 firms). Third, we match these 21 firms based on size (total asset) and industry membership based on listed firms composing the S&P/TSX index of the Toronto stock exchange for the same years. This matched sample gives 93 firm-year observations ($21 \times 6 \text{ years} = 126 - 33 \text{ missing data essentially for the ISS Governance quality score} = 93$).
- This match sample is warranted since focusing on a sample of firms that report XBRL extensions is likely to create a sample selection bias.

Empirical Models

Earnings management, analyst following, governance and XBRL extensions

$$\text{EXTENSIONS} = \text{EM} + \text{ANFOL} + \text{BSIZE} + \text{BSIZESQR} + \text{BOARDIND} + \text{GOV} \quad (1)$$

XBRL extensions, governance and value relevance of earnings

$$\begin{aligned} \text{PRICE} = & \text{BVPS} + \text{EPS} + \text{EPS} * \text{EXTENSIONS} + \text{EPS} * \text{GOV} + \\ & \text{EPS} * \text{EXTENSIONS} * \text{GOV} + \text{EXTENSIONS} * \text{GOV} + \text{BSIZE} + \text{BSIZESQR} + \\ & \text{BOARDIND} + \text{EXTENSIONS} + \text{GOV} \quad (2) \end{aligned}$$

Results # 1

Table 1
Descriptive Statistics

	Matched sample			SEDAR			EDGAR			Total
	Mean	Min.	Max.	Mean	Min.	Max.	Mean	Min.	Max.	
PRICE	28.73	0.04	576.88	14.44	0.05	67.66	29.75	0.29	166.33	25.58
BVPS	10.52	-5.22	89.45	7.40	0.01	26.90	10.74	0.78	27.64	9.90
EPS	0.83	-26.57	18.49	0.27	-1.67	4.12	0.65	-3.23	4.46	0.66
BFSIZE	9.95	5	18	10.20	6	15	8.62	6	11	9.69
BOARDIND (%)	75.18	42.86	94.44	74.04	42.86	93.33	80.49	63.64	90.91	76.02
EXTENSIONS (%)	0	0	0	13.80	0	47.65	21.04	4	38	7.73
GOV	4.74	1	10	5.53	1	10	7.07	2	10	5.39
EM	1.49	0.01	47.15	1.63	0.01	16.67	1.55	0.03	18.37	1.53
ANFOL	8.44	0	21	12.96	0	42	13.95	3	29	10.66
N (Firm-year):	155	93		24			38			155

PRICE: Stock price at year-end; BVPS: Book value per share; EPS: Earnings per share; BFSIZE: Board size; BOARDIND: % of independent members on the board; EXTENSIONS: % of voluntary XBRL extensions; GOV: ISS governance quality score; EM: $|\text{Accruals}|/|\text{Cash flow from operations}|$ (scaled by total assets); ANFOL: Number of analysts following a firm; LNVOLUME: Natural log of annual trading volume; Beta: Systematic risk.

Results #2 – model (1)

Table 2

OLS Regression on the association between XBRL Extensions and Earnings Management Controlling for Corporate Governance (with robust estimators)

Dependent variable:		Restricted to observations with extensions		Including a matched sample with no extensions	
EXTENSIONS					
EM	+/-	0.790	0.005	1.124	0.001
ANFOL	+	0.252	H1 0.053	0.896	0.000
BSIZE	+	-9.365	0.068	1.558	0.092
BSIZESQR	-	0.471	0.009	-0.106	0.040
BOARDIND	+	0.064	0.278	0.036	0.171
GOV	+	0.778	0.034	0.044	0.039
R Square		36.7%		38.8%	
F Statistic		12.7(0.000)		28.3(0.000)	
N:		62		155	

One-tailed if directional prediction, two-tailed otherwise.

EXTENSIONS: % of voluntary XBRL extensions; EM: $|\text{Accruals}|/|\text{Cash flow from operations}|$ (scaled by total assets); ANFOL: Number of analysts following a firm; GOV: ISS governance quality score; BSIZE: Board size; BSIZESQR: Board size square; BOARDIND: % of independent members on the board.

Results #3 – model (2)

Table 3

*OLS Regression on the Value Relevance of XBRL Extensions Controlling for Corporate Governance
(with robust estimators)*

Dependent variable: Stock price	Restricted to observations with extensions		
	Sign	Coefficient	P value
BVPS	+	1.727	0.000
EPS	+	-29.324	0.140
EPS*EXTENSIONS	+	1.214	H2 0.055
EPS*EXTENSIONS*GOV	-	-0.212	H3 0.009
EPS*GOV	+	5.839	0.035
EXTENSIONS*GOV	+	0.159	0.052
BSIZE	+	27.723	0.031
BSIZESQR	-	-1.472	0.027
BOARDIND	+	-0.254	0.433
EXTENSIONS	+	-0.094	0.834
GOV	+	-3.28	0.166
R-Square		54.3%	
F Statistics		10.7(0.000)	
N :		62	
F test of coefficient difference			
EPS*EXTENSIONS +			
EPS*EXTENSIONS*GOV = 0		3.44(0.07)	

Table 4
Sample Selection model with Endogeneity Treatment Effect on the Value Relevance of XBRL
Extensions Controlling for Corporate Governance

Dependent variable:		Coefficient	Z Statistic	P value
Stock price				
BVPS	+	0.833	5.58	0.000
EPS	+	-0.991	1.58	0.113
EPS*EXTENSIONS	+	0.434	4.95	H2 0.000
EPS*EXTENSIONS*GOV	-	-0.105	-8.61	H3 0.000
EPS*GOV	+	1.092	7.03	0.000
EXTENSIONS*GOV	+	0.059	3.78	0.000
BSIZE	+	8.122	2.69	0.003
BSIZESQR	-	-0.384	-2.69	0.005
BOARDIND	+	-0.177	-1.68	0.075
EXTENSIONS 1/0	+	18.660	2.92	0.001
GOV	+	0.461	0.98	0.162
Dependent variable:				
EXTENSIONS 1/0 (treatment)				
EM	+/-	0.094	1.43	0.153
ANFOL	+	0.100	4.92	0.000
BSIZE	+	0.357	1.09	0.135
BSIZESQR	-	-0.024	-1.52	0.064
BOARDIND	+	0.006	0.60	0.272
GOV	+	0.001	0.02	0.492
Rho		-0.924(0.00)		
Inverse Mills Ratio		-11.758(0.00)		
Wald Chi2		459.6(0.00)		
N: 155				
Chi2 test of coefficient difference				
EPS*EXTENSIONS +				
EPS*EXTENSIONS*GOV = 0		14.61(0.06)		
EPS*EXTENSIONS +				
EPS*GOV +				
EPS*EXTENSIONS*GOV = 0		52.28(0.00)		

One-tailed if directional prediction, two-tailed otherwise.

BVPS: Book value per share; EPS: Earnings per share; EXTENSIONS: % of voluntary XBRL extensions; EXTENSIONS 1/0: Binary variable, 1 if extensions, 0 otherwise; BSIZE: Board size; BSIZESQR: Board size square; BOARDIND: % of independent members on the board; %Extensions: % of voluntary extensions; EM: $|\text{Accruals}|/|\text{Cash flow from operations}|$ (scaled by total assets); ANFOL: Number of analysts following a firm; GOV: ISS governance quality score.

Conclusion: results

- It appears that XBRL extensions attract financial analysts.
- Good corporate governance is positively associated with voluntary XBRL extensions.
- We observe that XBRL extensions enhance the positive relationship between GAAP earnings and stock price. However, this positive association is reduced for firms with a good governance, suggesting a substitution effect between XBRL extensions and corporate governance.
- It also appears that XBRL extensions would strategically be related to earnings quality (positive relation).

Limitations & future works

- Sample limited to Canadian firms
- Similar work could be done on a larger sample (all S&P index in the US?)
- We also found (table2) that earnings management is positively associated with XBRL Extensions, that is something that could be investigated later