

# Financial and Governance Characteristics of Voluntary XBRL Adopters in the US<sup>1</sup>

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**EXECUTIVE SUMMARY**

*KEYWORDS: XBRL, Corporate Governance, Voluntary Adoption, SEC regulation, Financial Reporting*

We examine a sample of voluntary XBRL adopters, who are using the US Securities and Exchange Commission's (SEC's) Voluntary Filing Program (VFP), and compare them to pair-matched companies based on industry, size and governance score availability. We find that these XBRL early adopters are bigger, less financially leveraged and have lower corporate governance ratings than those of the control group of non-adopting companies. These variables are also effective in discriminating between companies adopting and not voluntarily adopting XBRL in the USA. Comparisons of liquidity, profitability and external risk measures provide no evidence of group differences. We conclude that larger and visible companies that are intrinsically riskier seek to improve their corporate governance appearance by cost effectively voluntarily adopting XBRL in US regulatory and corporate environments. Despite the results relating to these early XBRL adopters, we believe that XBRL will play a significant role in both internal and financial reporting and have a significant impact on corporations, investors, analysts, regulators, and other various corporate stakeholders.

## INTRODUCTION

“What we need is something that will give individuals faster access to better information that they can easily use and understand. We need to make searches for information easier. It should be easy to call up information about any company you choose. You should be able to download it and use it in the personal software of your choice. And you then should be able to easily analyze and compare the data with the same information from other companies. We want to make the numbers derived from financial statements vastly more accurate. And we want to allow companies to communicate with investors on a constant basis.”

- *Speech by SEC Chairman Christopher Cox: The Interactive Data Revolution: Improved Disclosure, American Enterprise Institute, Washington, DC, May 30, 2006*

The scenario described above is now becoming a reality thanks to the eXtensible Business Reporting Language (XBRL), a powerful means of communicating business and financial information in an electronic format that is easy for users to read and interpret. As transparency is becoming more and more important in today’s world of business, XBRL is being viewed as the ultimate tool for investors. The Securities and Exchange Commission (SEC) agrees. In May 2008, the SEC proposed a rule that would make filing financial information in XBRL mandatory for all public companies within the next three years. Since 2005, the SEC has strongly urged companies to join the Voluntary Filing Program (VFP) and submit their filings in XBRL. The VFP was established to help the SEC evaluate the usefulness of XBRL to investors, the Commission, filers, and the marketplace [SEC 2003].

Despite the fact that XBRL is a relatively new technology, the expectation is that companies which use it to file their financials can experience many benefits. Cost savings can occur via increased efficiency and processing capabilities and decreased costs of bookkeeping. Greater transparency and improved access to data allows investors to dig into financials more easily. This can help reduce an investor’s perception of risk and uncertainty of investing in the

company and make them more apt to invest in the company. **When a company submits their financials in XBRL, it suggests that they are committed to transparency.** Many early adopters of XBRL also believe they will experience a first-mover advantage that will separate them from other companies within their markets [Pinsker and Li]. However, other studies [Boritz and No] suggest that the quality of the initial attempts to convert company financials to XBRL format may be suspect. This leads to the possibility that firms may choose to use XBRL filing to manipulate market perception of their technological expertise or their transparency. Firms may use XBRL filing in order to accrue the market's perception of quality without guaranteeing that the quality level is earned.

The possibility of benefits suggests that there might be distinct differences in the characteristics of XBRL-filing companies and non-XBRL filing companies. The primary motivation of this study is to determine if XBRL-filing companies are distinguishable, in terms of their internal or external characteristics, from similar, non-XBRL filing companies. In this study, we use four internal characteristics: liquidity, profitability, leverage, and size. Three external factors are also used: risk, cost of equity, and governance score.

## **LITERATURE REVIEW**

XBRL is a form of eXtensible Markup Language (XML), a language that enables data to be shared across different information systems, especially the Internet [Bray *et al*]. XBRL International, Inc. began developing XBRL in 1998 in order to achieve its goal of having a standard language to “digitize business reports according to the rules of accounting” [XBRL International]. It continues to promote the development and use of XBRL today and is made up of almost 550 companies located around the world. XBRL International has been successful thus far, and the adoption of XBRL is arguably revolutionizing the world of business.

XBRL creates interactive data that can be used by investors through the use of “tags.” Each “tag” stores semantic information about its associated number or disclosure as it appears in a company’s financial statements. The best way to describe XBRL is to compare it to barcodes found on products throughout the grocery store. To the naked eye, the barcode looks like a series of lines. When it is scanned, however, data such as the product’s price, origin, manufacturer, and distributor are revealed. XBRL is no different. Each piece of information that appears in the financials has various tags that indicate information such as label, description, currency, and units of the number. This allows investors to truly understand what the numbers in the financials represent [Stantial].

One of the most prevalent benefits associated with the use of XBRL for financial reporting purposes is increased corporate transparency. One study revealed that investors who used a search-facilitating technology, like XBRL, were better able to acquire and interpret information within financial statements, and as a result, made different investment decisions than investors who did not use the search-facilitating technology [Hodge, Kennedy, and Maines]. Another researcher even goes as far as to suggest that if Enron had filed in XBRL, its filings would have been flagged for SEC review because it would be plain to see that numbers were so grossly above industry standards [McNamara]. Transparency helps reduce an investor’s uncertainty about a company and makes the individual more likely to invest in the company if the company’s measures warrant it.

Another potential benefit of XBRL is the reduced operating costs attributed to increased speed of data processing and reduced occurrences of data redundancy and reentry. Once the framework is established, financial information can be assembled and accessed very quickly. A survey revealed that one company using XBRL was moving 30% of its bookkeeping staff to

different positions and was able to decrease the time it took to create financial statement from five days per statement to 15 minutes or less [Pinksar and Li]. Regulatory bodies, accounting firms, and other interested parties will also reap the benefits of reduced processing time, too.

Most research about XBRL has come in the form of examining the benefits experienced by companies that adopt XBRL. There has been little research, however, beyond the benefits that motivate companies to file in XBRL. One study [Premuroso and Bhattacharya 2008] was recently conducted, however, that hypothesized that companies currently filing in XBRL have stronger financial performance and corporate governance structure than similar, non-XBRL filing companies. This hypothesis was tested by examining the liquidity, net profit margin, return on equity, auditor type, firm size, leverage, total assets, and governance rating of twenty XBRL filers and pair-matched non-XBRL filers. Companies were matched based on industry and 2006 revenues. The study included the twenty XBRL filers that appeared in the SEC's Interactive Financial Report Reviewer as of May 31, 2007. Various regression analyses were performed to determine if the variables used could predict that a firm would file in XBRL. Additionally, t-tests were conducted to test for any distinction between XBRL and non-XBRL filers. Overall, the study found that strong corporate governance and firm performance factors are associated with XBRL filers, although the t-tests provided some mixed results regarding firm performance.

Another study by the same authors [Premuroso and Bhattacharya 2007] examined whether there is a relationship between firm performance, corporate governance and the existence of a corporate technology committee. Since corporate technology committees are a key element in aligning IT goals with corporate goals, it is not surprising that the authors found a relationship between technology committees and corporate governance scores. Since the two Premuroso and Bhattacharya studies' data collection, many more companies have become XBRL

filers and more years of data have become available. We use this extended data in our analysis which follows.

## HYPOTHESES

Are early adopting XBRL filers distinguishable, in terms of specific financial disclosures and external measures, from non-XBRL filers? Do these factors permit an effective discrimination between XBRL early adopters from a control group of non-early adopters? Based on the normative literature presented above, we would expect XBRL early adopters to show stronger signs of financial performance and risk when compared to similar, non-XBRL counterparts in the initial year of XBRL adoption. For external measures we select systematic risk (beta), cost of equity capital (CoEq) and corporate governance scores (GS)<sup>2</sup>. To test for possible financial performance differences, the following disclosed characteristics will be considered in this study: liquidity, profitability, leverage, and size. In turn liquidity is measured by the working capital ratio (CR), profitability by the return on assets (ROA), leverage by the book-value-of-debt to market-value-of-equity (D2E) and size as book value of total assets (AT). For the external measures we chose beta, CoEq, and GS.

The set of null hypotheses related to disclosed financial measures for this study are then:

*H<sub>01</sub>: XBRL filers are not different in terms of liquidity than non-XBRL filers.*

*H<sub>02</sub>: XBRL filers are not different in terms of profitability than non-XBRL filers.*

*H<sub>03</sub>: XBRL filers are not different in terms of financial leverage than non-XBRL filers.*

*H<sub>04</sub>: XBRL filers are not different in terms of size than non-XBRL filers*

The set of null hypotheses related to disclosed external measures for this study are then:

*H<sub>05</sub>: XBRL filers are not different in terms of systematic risk than non-XBRL filers*

*H<sub>06</sub>: XBRL filers are not different in terms of cost of equity capital than non-XBRL filers*

*H<sub>07</sub>: XBRL filers are not different in terms of corporate governance than non-XBRL filers*

A firm's liquidity is often measured by its current ratio. Current ratio is calculated by dividing total current liabilities by total current assets and measures a company's ability to payoff short-term obligations. The higher the current ratio, the more able a company is to pay of its short-term liabilities. Because the use of XBRL improves transparency and allows investors to make better, more informed decisions, investors should be willing to invest more capital in the company. Because of this, we hypothesize that XBRL filers will be more liquid than their pair-matched, non-XBRL filing peers.

A firm's profitability is often measured by its return on assets. Return on assets (ROA) is calculated by dividing operating net income by total assets and is an indication of how well management is utilizing the company's assets to generate income. The higher the ROA, the more effective a company is in generating income with a given amount of investment. We hypothesize that XBRL filers will be more profitable than their pair-matched non-XBRL filing peers since they choose to file in a transparent format.

Leverage refers to the amount of debt a company takes on to finance its assets. Therefore, a firm with a lot of debt and little equity is considered to be highly leveraged. In this study, the book value of total debt is divided by the market value of equity in order to determine financial leverage. Companies with low leverage are considered to be a safer investment because they are more capable to service their debt. Again, because of the transparency issue, we hypothesize that XBRL filers will be less leveraged than their pair-matched, non-XBRL filing peers.

We form no expectation with respect to size other than observing that prior studies have found a positive relationship between size and the propensity to be an early XBRL adopter. We speculate that this may be because larger companies tend to be more visible (and more likely to



be tracked by more financial analysts) and benefit more from the supposed increase transparency of an XBRL filer.

A firm's systematic risk is often measured by its beta. Beta is calculated through regression analysis and indicates the likelihood that the company's stock price will follow the overall market. If beta is less than 1, it means the stock is less risky than the market portfolio of all assets. If beta is greater than 1, it means the stock is more risky than the market. The larger the number, the more risky the stock will be. Because the use of XBRL improves transparency and allows investors to make better, more informed decisions, we hypothesize that XBRL filers will be less risky, as measured by beta, than their pair-matched, non-XBRL filing peers.

A firm's cost of equity capital can be derived under the capital asset pricing model (CAPM) from its systematic risk and the prevailing risk free rate of return. Therefore, under conventional wisdom, we would expect it to be lower for early XBRL adopters

Finally for corporate governance rankings, with a higher score indicating superior corporate governance, the prevailing literature suggests that early XBRL adopters would have higher corporate governance scores. Based on a small sample of early XBRL adopters one study [Premuroso and Bhattacharya 2008] provides limited evidence of this positive relationship.

To further analyze the effects of these measures on the XBRL adoption choice, significant variables from the univariate hypotheses will be used as explanatory variables for a logistical regression, where the limited dependent variable is early XBRL adoption (coded 1 for early XBRL adopters, and 0 otherwise). The logistical model will be tested for overall model significance and each independent variable parameter will be tested for sign and significance.

## SAMPLE SELECTION

Voluntary XBRL adopters were identified by examining SEC website, <http://216.241.101.197/viewer>, as of May 22, 2008, after the proposal of the rule mandating XBRL for publicly traded companies. The site covers the period since the establishment of the VFP in 2004. The cutoff date is assumed to be appropriate in that motivations for voluntary filing after the mandating proposal date may be systematically different than those of the earlier, more purely voluntary period. In this sense, a complete sample for voluntary XBRL filers is obtained in this study. For this period, seventy-seven (77) companies are identified as having filed annual reports under the VFP. Appendix A lists these companies, along with the year(s) each company filed. The number of filings by year is: 2 (2004), 16 (2005), 46 (2006), and 63 (2007), totaling 127 filings for the seven-seventy (77) companies. For each company, the initial year of volunteering is also indicated, as well as the ticker symbol, four-digit Standard Industrial Classification (SIC) code and Foreign Identification Code (FIC) of each company. The initial period is chosen for subsequent analyses since this period is likely to have the greatest impact on the measures chosen for analysis.<sup>3</sup> Finally, companies that were excluded from the sample for a variety of reasons indicated later are also identified in bold with an asterisk appending the company name.

Table 1 provides a breakdown of the companies by SIC code. The seventy-seven companies are represented by fifty (50) different industries. Most industries are represented by a single company, with Unit Investment Trusts (SIC=6726), i.e. closed end Mutual Funds, having the maximum number of nine (9) companies. These mutual funds are, however, excluded from the final sample as being both different in kind from the remaining operating companies and having COMPUSTAT data items structured differently and incomparably than those of other

companies. Thus, the remaining sample companies are more homogenous and disbursed fairly evenly across industries.

[Insert Table 1 around here]

The breakdown of voluntary XBRL filers by country of incorporation (FIC) is depicted in Table 2. Sixty-eight (68) companies are incorporated in the US, while eight (8) are foreign incorporated and one (Reuters, PLC-ADR) being unavailable (#N/A) from COMPUSTAT. Since these eight (or nine) foreign companies face different regulatory and corporate governance constraints, they are excluded from the final sample. Thus, the remaining sample consists of publicly-traded, US-incorporated companies that presumably face similar regulatory and corporate governance environments.

[Insert Table 2 around here]

In order to test the governance characteristic of the remaining sample, we had to have governance ranking scores<sup>4</sup> (GS) from a database<sup>5</sup> freely available and downloadable from the Web.<sup>6</sup> The GS for each firm is constructed by adding the 51 governance binary factors [Brown and Caylor], with a higher score reflecting better corporate governance<sup>7</sup>. GS (calculated as of February 1, for the years 2004-2005), is used as a proxy for corporate governance in this study for both XBRL filers and their pair-matched counterparts. The GS data restriction further reduced the sample by nineteen (19) companies.

Further, the surviving sample had to have sufficient specific COMPUSTAT data needed to calculate the final variables of interest, resulting in the loss of an additional two (2) companies. Table 3 summarizes the foregoing filtering operations resulting in a final sample of thirty-nine (39) XBRL early adopters.

[Insert Table 3 around here]

A pair-match company was identified for each XBRL company in the final sample, resulting in total sample of seventy-eight (78) companies. For each XBRL company a matching company was based on industry (SIC code), size as measured by the book value of assets (AT) and availability of GS. The GS measure was chosen for the year closest to the initial year of XBRL adoption. Thus, the control group consisted of non-early XBRL adopters of similar industry and size, and meeting the same data requirements of the XBRL test group. The matching process should permit relevant comparisons of financial and corporate governance characteristic of the pair-matched sample and reduce the sources of variations not attributable to the early XBRL adoption decision.

For both the test and control groups, liquidity, profitability, leverage and other risk characteristics measures were gathered. Liquidity was defined by the working capital ratio (CR), profitability measured as return on assets (ROA), leverage operationalized as the ratio of book value of debt to market value of equity (D2E) and size surrogated by the book value of total assets (AT). The underlying data items were gathered from COMPUSTAT to calculate the fundamental, internal, financial variables. Similarly, the classified external variables of Corporate Governance Score (GS), systematic risk (Beta) and Cost of Equity capital (CoEq) were gathered or estimated. Beta was estimated by regressing 60 months of dividend adjusted returns on a market portfolio of returns, surrogated by the dividend adjusted return of the S&P 500 index. The CoEq was estimated using the beta result and the risk free rate of interest, using a US T-Bill rate of return.

The sample and data constructed permit an examination of differences between the mean measure of the XBRL and control groups. Specifically we can test whether or not XBRL early

adopters are more or less liquid, profitable, riskier, or have different perceived corporate governance structures.

## **EMPIRICAL RESULTS**

### **Univariate Analyses**

Table 4 summarizes the results of comparing XBRL early adopters with their pair-matched counterparts on the fundamental (Panel A) and external dimensions (Panel B). In particular, our results are that there is no statistically significant mean differences for CR, ROA, Beta, or CoEq between the XBRL group and its pair-matched control group using a pair-matched t-Test as the basis of comparison. Thus it would appear that XBRL early adopters are not different from their counterparts in terms of liquidity, profitability, leverage or external measures of riskiness (Beta and CoEq).

[Insert Table 4 around here]

Conversely, XBRL early adopters are less financially leveraged (D2E), bigger (AT), and have lower corporate governance scores than their pair-matched counterparts based on the pair-matched t-Tests results for the underlying variables.

We infer, given similar Betas and CoEQs (measures of total risk between the groups), that the lower financial leverage measures for the XBRL group, implies that XBRL early adopters are intrinsically riskier (i.e. have lower unleveraged betas), reflecting unobservable factors like more uncertain demand for products, riskier projects, higher fixed cost, and other intrinsic risk factors. These factors in turn might be reflected in the lower GS for the XBRL group. The size difference is notable in that the pair-matching process tried to reduce the size effect between the groups. Thus, the pair match on size found the closest control company, but these control companies were still smaller on average. Apparently size matters even after

controlling for size. This result also held true for the Premuroso and Bhattacharya, 2008 study, where size was the most important explanatory variable even after also matching on size.

However unlike that study our larger sample study reveals that XBRL adoption is negatively related to the GS measure. That is companies, with lower governance ratings, tend to adopt XBRL voluntarily. In part, this might be due to differences in “later” early adopters, but it also due to a larger sample size and corresponding more powerful statistical tests.

In summary, our univariate results contradict predictions coming from the normative literature suggesting mainly the benefits of adopting XBRL and the assumed attributes of companies who would make such an efficacious decision, without proper consideration of the underlying characteristics of firms motivated toward early adoption of XBRL. We find that early XBRL adopters tend to be larger firms (even when pair-matched on size), tend to be less financially leverage (as predicted), but also tend to have lower corporate governance scores, while concurrently not being significantly more liquid, profitable or less risky with lower costs of equity capital. To the extent the governance scores used are externally valid measures, then the promised or speculated benefits of XBRL adoption are not manifested in the data for our sample of firms. Instead, what appears to be happening is that visible companies with higher intrinsic risk and lower governance scores are early adopting XBRL in perhaps a low cost attempt to improve the perception their corporate governance quality. This of course does not negate the possible beneficial effects of XBRL, but it does suggest that the characteristics early adopters do not provide evidence of the immediate benefits of XBRL adoption. The mandating of XBRL for financial reporting on the other hand may provide an opportunity to examine over time the benefits of XBRL reporting.

## **Logistical Analysis**

In order to determine whether one could discriminate between early XBRL adopters and the control group, the significant variable from the paired t-test analyses were used as explanatory variable in a model where the dependent variable reflected the early adoption decision (coded one (1) for early XBRL adopter and zero (0) otherwise). Given this limited dependent variable, normal OLS regression assumptions and alternative methods of parameter estimation need to be undertaken. We chose maximum likelihood method of estimation, using SAS logistical regression procedures to examine the early XBRL adoption decision. Table 5 summarizes the results of these procedures.

[Insert Table 4 around here]

Panel A of Table 5 gives overall goodness of fit measures. The global tests for model fit that under the null hypothesis that the model betas are collectively zero can be rejected at any reasonable level of significance as indicated by the p-values of the three tests performed. Therefore, the three independent measures of financial leverage (D2E), corporate governance score (GS) and size (AT) collectively and significantly explain variations in the XBRL early adoption choice. The R-square measures confirm this result and indicate a significant percent of variation in the dependent variable is explained by the model. In terms of each independent variable, Panel B indicates the magnitude and significance of each parameter estimate. Confirming the results from the paired t-tests, GS are negatively and significantly related, while AT is positively and significantly related to the early XBRL adoption choice.

## **CONCLUSION**

Based on our analyses of disclosure and governance characteristics of our sample, we find that early XBRL adopters less financially leveraged, larger and have lower corporate

governance ratings than those of pair-matched control companies. These variables collectively and individually discriminate between XBRL early adopters and non-adopters for our sample of US incorporated firms that are subject to SEC regulation. We also infer that XBRL adopters are intrinsically riskier than the control group.

One possible overall characterization of these results is that larger (and therefore more visible), intrinsically riskier companies, with corresponding lower governance scores, choose to adopt XBRL voluntarily as a cost effective means to improve their outward corporate governance appearance and possibly subsequent governance scores themselves. Thus, this disclosure mechanism (XBRL) may be used to improve their governance profile.

The benefits of adopting XBRL will continue to be revealed in the future as the technology is embraced by both companies and investors. Studies similar to the one reported in this paper should be conducted in the future as the number of companies adopting XBRL increases and investors become more comfortable using it. Different financial ratios could be used to indicate financial performance and other measures of corporate governance could be considered, as well. Despite the results relating to early XBRL adopters, we believe that XBRL will play a significant role in both internal and financial reporting and have a significant impact on corporations, investors, analysts, regulators, and other various corporate stakeholders.



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**Appendix A: SEC Voluntary XBRL Filings, as of May 22, 2008**

Count	TICKER	COMPANY NAME	2004	2005	2006	2007	IYear	SIC	FIC
1	MMM	3M CO			X	X	06	2670	0
2	ADBE	ADOBE SYSTEMS INC		X	X	X	05	7372	0
3	ATG	AGL RESOURCES INC*				X	07	4924	0
4	AA	ALCOA INC*				X	07	3350	0
5	MO	ALTRIA GROUP INC*			X	X	06	2111	0
6	BSP	AMER STRATEGIC INCM PTFL II*				X	07	6726	0
7	MRF	AMERICAN INCOME FUND INC*				X	07	6726	0
8	XAA	AMERICAN MUN INCOME PTFL INC*				X	07	6726	0
9	SLA	AMERICAN SELECT PORTFOLIO*				X	07	6726	0
10	ASP	AMERN STRATEGIC INCM PTF INC*				X	07	6726	0
11	CSP	AMERN STRATEGIC INCM PTL III*				X	07	6726	0
12	APC	ANADARKO PETROLEUM CORP			X	X	06	1311	0
13	ADSK	AUTODESK INC*				X	07	7372	0
14	ADP	AUTOMATIC DATA PROCESSING			X	X	06	7374	0
15	BBD	BANCO BRADESCO SA -ADR*		X	X		05	6020	20
16	B	BARNES GROUP INC			X		06	5072	0
17	BNE	BOWNE & CO INC			X	X	06	2750	0
18	BMY	BRISTOL-MYERS SQUIBB CO			X		06	2834	0
19	BR	BROADRIDGE FINANCIAL SOLUTNS				X	07	7373	0
20	BOBJY	BUSINESS OBJECTS SA -ADR*		X			05	7372	35
21	CME	CME GROUP INC				X	07	6200	0
22	CMCSA	COMCAST CORP			X	X	06	4841	0
23	UCM1	COMMONWEALTH EDISON CO			X	X	06	4911	0
24	BTC	COMMUNITY BANKERS TRUST CORP*			X	X	06	6020	0
25	CINT	CRYSTAL INTL TRAVEL GROUP*		X			05	4700	0
26	D	DOMINION RESOURCES INC				X	07	4911	0
27	RRD	DONNELLEY (R R) & SONS CO	X	X	X	X	04	2750	0
28	DOW	DOW CHEMICAL		X	X	X	05	2821	0
29	DD	DU PONT (E I) DE NEMOURS*			X	X	06	2820	0
30	ETFC	E TRADE FINANCIAL CORP			X		06	6211	0
31	EDGR	EDGAR ONLINE INC	X	X	X	X	04	7370	0
32	EMC	EMC CORP/MA		X	X		05	3572	0
33	ENG	ENGLOBAL CORP*			X	X	06	8711	0
34	EXC	EXELON CORP			X	X	06	4911	0
35	EXC2	EXELON GENERATION CO LLC*			X	X	06	4911	0
36	FAST	FASTENAL CO*			X	X	06	5200	0
37	FAF	FIRST AMERICAN CORP/CA*				X	07	6361	0
38	MXN	FIRST AMERN MN MUN INC FD II*				X	07	6726	0
39	F	FORD MOTOR CO			X	X	06	3711	0
40	F1	FORD MOTOR CREDIT CO LLC*			X	X	06	6159	0
41	GE	GENERAL ELECTRIC CO			X	X	06	9997	0
42	GRA	GRACE (W R) & CO*			X	X	06	2810	0
43	HR	HEALTHCARE REALTY TRUST INC				X	07	6798	0
44	HIT	HITACHI LTD -ADR*		X			05	3570	52
45	ICUI	ICU MEDICAL INC*				X	07	3841	0
46	INFY	INFOSYS TECHNOLOGIES -ADR*		X	X	X	05	7371	44
47	IBM	INTL BUSINESS MACHINES CORP			X	X	06	7370	0
48	ISE	INTL SECURITIES EXCHNG HLDGS*			X		06	6200	0
49	LEHMQ	LEHMAN BROTHERS HOLDINGS INC				X	07	6211	0
50	L.CM	LIBERTY MEDIA CORP -CONSOL*				X	07	5961	0

**Appendix A: SEC Voluntary XBRL Filings, as of May 22, 2008**

Count	TICKER	COMPANY NAME	2004	2005	2006	2007	IYear	SIC	FIC
51	LMT	LOCKHEED MARTIN CORP			X	X	06	3760	0
52	MSFT	MICROSOFT CORP		X	X	X	05	7372	0
53	MXA	<b>MINNESOTA MUN INCM PTFL INC*</b>				X	07	6726	0
54	MOH	<b>MOLINA HEALTHCARE INC*</b>			X		06	6324	0
55	NETC	<b>NET SERVICOS DE COMMUN -ADR*</b>		X	X	X	05	4841	20
56	NIHD	NII HOLDINGS INC				X	07	4812	0
57	3NAMC	NORTH AMERICAN TECHNOLOGIES				X	07	3089	0
58	NYX	<b>NYSE EURONEXT*</b>				X	07	6200	0
59	OLA	<b>OLD MUTUAL/CLAYMORE LNG-SHT*</b>			X		06	6726	0
60	PZZA	PAPA JOHNS INTERNATIONAL INC				X	07	5812	0
61	EXC1	<b>PECO ENERGY CO*</b>			X	X	06	4931	0
62	PEP	PEPSICO INC			X	X	06	2080	0
63	PBR	<b>PETROBRAS BRASILEIRO -ADR*</b>		X	X	X	05	2911	20
64	PFE	PFIZER INC			X	X	06	2834	0
65	PNC	PNC FINANCIAL SVCS GROUP INC				X	07	6020	0
66	TROW	PRICE (T. ROWE) GROUP			X		06	6282	0
67	QCOM	QUALCOMM INC			X		06	3663	0
68	RADN	RADYNE CORP			X	X	06	3661	0
69	SAY	<b>SATYAM COMPUTR SVC LTD -ADR*</b>		X	X	X	05	7370	44
70	TSFG	SOUTH FINANCIAL GROUP INC			X		06	6020	0
71	TEVA	<b>TEVA PHARMACEUTICAL INDS-ADR*</b>				X	07	2834	49
72	X	UNITED STATES STEEL CORP				X	07	3312	0
73	UTX	<b>UNITED TECHNOLOGIES CORP*</b>		X	X	X	07	3720	0
74	XRX	XEROX CORP		X	X	X	05	3577	0
75	XMSR	XM SATELLITE RADIO HLDGS INC			X	X	06	4832	0
76	0319B	XM SATELLITE RADIO INC				X	07	4899	0
77	RTRSY	<b>REUTERS GROUP PLC /ADR/</b>				X	07	#N/A	#N/A
		<b>Filings by year:</b>	2	16	46	63			
		<b>Total Filings:</b>				<u>127</u>			

\*Indicates exclusion from final sample

<b>Table 1: XBRL Industry Classifications</b>			
<b>Count</b>	<b>SIC</b>	<b>Industry</b>	<b>Total</b>
1	1311	CRUDE PETROLEUM & NATURAL GS	1
2	2080	BEVERAGES	1
3	2111	CIGARETTES	1
4	2670	CONVRT PAPR,PAPRBRD,EX BOXES	1
5	2750	COMMERCIAL PRINTING	2
6	2810	INDL INORGANIC CHEMICALS	1
7	2820	PLASTC,SYNTH MATLS;EX GLASS	1
8	2821	PLASTICS,RESINS,ELASTOMERS	1
9	2834	PHARMACEUTICAL PREPARATIONS	3
10	2911	PETROLEUM REFINING	1
11	3089	PLASTICS PRODUCTS, NEC	1
12	3312	STEEL WORKS & BLAST FURNACES	1
13	3350	ROLLING & DRAW NONFER METAL	1
14	3570	COMPUTER & OFFICE EQUIPMENT	1
15	3572	COMPUTER STORAGE DEVICES	1
16	3577	COMPUTER PERIPHERAL EQ, NEC	1
17	3661	TELE & TELEGRAPH APPARATUS	1
18	3663	RADIO, TV BROADCAST, COMM EQ	1
19	3711	MOTOR VEHICLES & CAR BODIES	1
20	3720	AIRCRAFT AND PARTS	1
21	3760	GUIDED MISSILES & SPACE VEHC	1
22	3841	SURGICAL,MED INSTR,APPARATUS	1
23	4700	TRANSPORTATION SERVICES	1
24	4812	RADIOTELEPHONE COMMUNICATION	1
25	4832	RADIO BROADCASTING STATIONS	1
26	4841	CABLE AND OTHER PAY TV SVCS	2
27	4899	COMMUNICATIONS SERVICES, NEC	1
28	4911	ELECTRIC SERVICES	4
29	4924	NATURAL GAS DISTRIBUTION	1
30	4931	ELECTRIC & OTHER SERV COMB	1
31	5072	HARDWARE-WHOLESALE	1
32	5200	BLDG MATL,HARDWR,GARDEN-RETL	1
33	5812	EATING PLACES	1
34	5961	CATALOG, MAIL-ORDER HOUSES	1
35	6020	COMMERCIAL BANKS	4
36	6159	MISC BUSINESS CREDIT INSTN	1
37	6200	SECURITY & COMMODITY BROKERS	3
38	6211	SECURITY BROKERS & DEALERS	2
39	6282	INVESTMENT ADVICE	1
40	6324	HOSPITAL & MEDICAL SVC PLANS	1
41	6361	TITLE INSURANCE	1
42	6726	UNIT INV TR, CLOSED-END MGMT	9
43	6798	REAL ESTATE INVESTMENT TRUST	1
44	7370	CMP PROGRAMMING,DATA PROCESS	3
45	7371	COMPUTER PROGRAMMING SERVICE	1
46	7372	PREPACKAGED SOFTWARE	4
47	7373	CMP INTEGRATED SYS DESIGN	1
48	7374	CMP PROCESSING,DATA PREP SVC	1
49	8711	ENGINEERING SERVICES	1
50	9997	CONGLOMERATE	1
	#N/A	#N/A	1
	<b>Grand Total</b>		<b>77</b>

<b>Table 2: XBRL Country of Incorporation</b>	
<b>Country</b>	<b>Total</b>
Brazil	3
France	1
India	2
Israel	1
Japan	1
United States of America	68
#N/A	1
<b>Grand Total</b>	<b>77</b>
<b>Foreign Incorporation total</b>	<b>8</b>

<b>Table 3: Sample Selection Procedures</b>	
Initial Sample	77
Mutual Funds exclusion	(9)
Foreign Incorporation	(8)
Missing or Insufficient Research Insight/ COMPUSTAT data	(2)
Missing Corporate Governance Scores	(19)
Final Sample	39

**Table 4: t-Tests: Mean Differences for Paired Sample (XBRL [x] v. Non-XBRL [c])**

Panel A: <i>Fundamental Variables</i>	Current Ratio (CR)		Return on Assets (ROA)		Debt-to-Equity (D2E)		Size, Book Value of Assets (AT)	
	<i>CRx</i>	<i>CRc</i>	<i>ROAx</i>	<i>ROAc</i>	<i>D2Ex</i>	<i>D2Ec</i>	<i>ATx</i>	<i>ATc</i>
Mean	1.721	1.633	1.781	-0.524	1.043	2.541	70008.1	34081.2
Variance	1.428	0.760	333.736	657.682	9.184	33.140	24429476051	5258248405
Observations	29	29	39	39	39	39	39	39
Pearson Correlation	0.210		-0.012		0.892		0.683	
t Stat	0.360		0.455		-2.796		1.882	
p-value, two-tail (one-tail)	72.17%		65.20%		0.81%		6.75%	(3.38%)
t Critical two-tail	2.048		2.024		2.024		2.024	
Panel B: <i>External Variables</i>	Governance Score (GS)		Beta		Cost of Equity (CoEq)			
	<i>GSx</i>	<i>GSc</i>	<i>Betax</i>	<i>Betac</i>	<i>CoEqx</i>	<i>CoEqc</i>		
Mean	27.821	31.385	1.230	1.228	7.032	6.306		
Variance	30.204	35.085	1.085	1.177	51.585	27.254		
Observations	39	39	38	38	38	38		
Pearson Correlation	0.475		0.581		0.375			
t Stat	-3.797		0.014		0.628			
p-value, two-tail	0.05%		98.89%		53.36%			
t Critical two-tail	2.024		2.026		2.026			

<b>Table 5: Logistical Regression Results</b>					
<b>Panel A: Overall Fit, All Beta=0</b>					
Test		Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio		38.0746	3	<.0001	
Score		17.6065	3	0.0005	
Wald		15.8772	3	0.0012	
R-Square		0.3862			
Max-rescaled R-Square		0.5150			
<b>Panel B: Analysis of Maximum Likelihood Parameter Estimates</b>					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	5.5779	1.7258	10.4468	0.0012
GS	1	-0.1960	0.0602	10.6104	0.0011
D2E	1	-1.2012	0.3662	10.7578	0.0010
AT	1	0.000052	0.000016	10.6772	0.0011



## **Biographies**

Joseph H. Callaghan graduated from the University of Detroit-Mercy with a B.S. in Accounting and special joint J.D.-M.B.A. degrees. His doctorate is from the University of Illinois at Urbana-Champaign in Accountancy. Dr. Callaghan's primary research areas include: re-engineering legacy AIS, evaluating risk and performance of organizations, and developing AIS using advanced technologies. He has long and productive research record, including articles published in numerous academic and professional journals such as the Journal of Financial Services Research, Advances in Accounting, the International Journal of Accounting, and the Journal of Information Systems.

Robert A. Nehmer is an Assistant Professor at the School of Business Administration of Oakland University. Dr. Nehmer's research interests include formal systems, XBRL, internal controls, natural language, and critical theory. He is a member of the American Accounting Association, the Information Systems Audit and Control Association, the Institute of Electronic and Electrical Engineers, and is an active member in the XBRL Global Ledger Working Group.

## Notes

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<sup>1</sup> We gratefully acknowledge Jenifer Skonieczny, a former graduate student and assistant at Oakland University, now a practicing accountant at Ernst and Young, who gathered preliminary data, analyzed data, and participated in earlier drafts of this study. However, any errors of commission or omission in this paper are those of the authors.

<sup>2</sup> The distinction between disclosed internal measures of financial performance measures (e.g. financial ratios from the financial statements) and external measures is not always clear cut. For instance a financial leverage ratio based on book-value-of-debt to market-value-of-equity has an external market measure in the denominator. Similarly, a corporate governance scoring scheme may be based on some internal but financially disclosed measures.

<sup>3</sup> Although pooling results across time would increase sample size substantially, the effect of pooling would hinder inferences about the companies, as an uneven number of observations is available for each firm. The time series effect would be difficult to disentangle from the cross-sectional effect that is of main interest to us. Thus, this study is a cross-sectional study in event time, where time is the year of early adoption.

<sup>4</sup> Many summary measures are available to use as proxy measures for a firm's corporate governance. Following Premuroso and Bhattacharya, 2008, we used Gov\_Score (GS) as the proxy for corporate governance in this study, as GS is freely available and better reflects recent changes in the corporate governance environment since passage of the Sarbanes Oxley Act of 2003 (SOX).

<sup>5</sup> This database contains Gov\_Score data for 2,538 firms as of February 1, 2003; 2,749 firms as of February 1, 2004; and 3,258 firms as of February 1, 2005. This subset of data was generously provided by Institutional Shareholder Services. Specific components of Gov\_Score are available for purchase through Institutional Shareholder Services (<http://www.issproxy.com/>).

<sup>6</sup>See [http://www.robinson.gsu.edu/accountancy/gov\\_score.html](http://www.robinson.gsu.edu/accountancy/gov_score.html).

<sup>7</sup> For details on the construction of Gov-Score and its 51 underlying components, see Lawrence D. Brown and Marcus L. Caylor, "Corporate Governance and Firm Operating Performance," and "Corporate Governance and Firm Valuation". These papers can be downloaded from the SSRN at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=814205](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=814205) and [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=754484](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=754484).