Corporate Governance in the Telecom Industry - A Focus on the WorldCom Bankruptcy

by

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Introduction

Before WorldCom, Enron, and other scandals made national headlines, corporate governance was largely undefined and unstudied. Now, it is actively discussed in academia, Congress, and boardrooms nationwide. Corporate governance is really an umbrella for all of the self-established policies by which corporations govern themselves. Corporate governance covers a wide variety of subjects including takeover protection, executive compensation, directors' liability, and election procedures. A company has a strong corporate governance structure when its policies and procedures are more aligned with shareholder interests. Vice versa, a company has a weak corporate governance structure when its policies and procedures are more aligned with management interests.

In the last few years, a number of papers and articles have shown that a strong corporate governance structure leads to greater equity returns and improved business performance. For the most part, these papers analyzed a large dataset involving many companies across various industries. Their datasets have typically comprised a large percentage of the total capitalization of the public equity markets. These papers do an excellent job in showing the importance of governance on a macro level. However, they do little to explain the varying role of governance in specific companies and industries.

The purpose of this paper is to understand what role, if any, governance played in WorldCom's downfall. As such, this paper will take a different approach by narrowing in on one specific sector. What is the relative strength of governance in this sector? Were there any red flags in either the governance of the sector or the governance of WorldCom? Lastly, do the correlations between governance and various other metrics established in previous papers hold in this particular sector?

Literature Review

As discussed, previous research in this area has shown strong corporate governance leads to greater equity returns and improved business performance. However, a portion of the evidence is tenuous. In many of these papers, a number of governance variables and business metrics could not be established as statistically significant.

Corporate Governance and Firm Performance, written by Brown and Caylor in 2004, analyzed a dataset from Institutional Shareholder Services that provides data on 51 corporate governance variables divided into eight categories. This paper tested the governance of nearly 2,000 companies for correlation with return on equity, profit margin, sales growth, Tobin's Q, dividend payout, and share repurchase. Their analysis revealed mixed results. Many of the corporate governance variables, particularly those dealing with executive and director compensation, were associated with better firm performance. A few corporate governance variables, particularly those dealing with the corporate charter and bylaws, actually had a negative relationship with firm performance. This implies that good governance, as measured using corporate charters and bylaws, is best associated with bad performance. Of the six performance variables measured, only sales growth was insignificant.

Another prominent paper in this area is Corporate Governance and Equity Prices, written by Gompers, Ishii, and Metrick in 2003. This paper analyzed a dataset from the Investor Responsibility Research Center (IRRC), which contains data on 28 firm-level corporate governance provisions and related state laws. The paper found that strong governance companies consistently outperformed the weakest companies in the equity markets by approximately nine percent per year during the period 1990-1999. As for firm performance, the paper could not establish a significant relationship between governance and return on equity, profit margin, and sales growth. However, the paper did discover a significant positive relationship between governance and Tobin's Q and significant negative relationships between governance and capital expenditures and corporate acquisitions. In other words, strong corporate governance firms had higher valuations, lower capital expenditures, and made fewer corporate acquisitions.

Two other papers of interest are The Costs of Entrenched Boards, written by Bebchuk and Cohen in 2003, and Governance and Stock Returns, written by

Moorman in 2004. Bebchuk's paper analyzes the staggered board provision in the IRRC and finds that firms with this provision actually have lower firm value. Moorman's paper also contradicts previous research. It directly refutes the correlation between governance and abnormal equity returns, established in the Gompers article. The paper shows that abnormal returns are not achieved when control firm portfolios are used to correct for misspecification in the asset pricing model.

Hypotheses

Many governance advocates have argued that weak corporate governance was responsible for WorldCom's downfall. However, this paper will prove that this is not the case: Governance did not play a role in what happened with WorldCom.

This paper will examine the following questions:

1. What was the relative strength of WorldCom's governance compared with comparable companies in its sector and other public companies?
2. Are there any statistically significant correlations between governance and equity and firm performance in this sector?
3. Can governance adequately explain company-specific or industry-specific problems?

Background

Exhibit 1

Five Largest Bankruptcies in U.S. History			
Company	**Bankruptcy Date**	**Total Assets Pre-Bankruptcy**	**Filing Court District**
WorldCom	7/21/2002	$103,914,000,000	NY-S
Enron	12/2/2001	$63,392,000,000	NY-S
Conseco	12/18/2002	$61,392,000,000	IL-N
Texaco	4/12/1987	$35,892,000,000	NY-S
Financial Corp. of America	9/9/1988	$33,864,000,000	CA-C
Source: BankruptcyData.Com			

On July 21, 2002, WorldCom filed for bankruptcy nearly a month after it revealed that it had improperly booked $3.8 billion dollars in expenses. The WorldCom bankruptcy was the largest in US history. At the time of its filing, the company was the second largest long distance phone company in the U.S. It had $103.9 billion dollars in assets and $41 billion dollars in debt. This was nearly 64% larger than Enron's $63.4 billion dollar bankruptcy, and nearly 289% larger than Texaco's $35.9 billion dollar bankruptcy in 1987.

The most remarkable aspect of the scandal is its simplicity. Long distance telephone companies traditionally spend a great deal of money on infrastructure. During the computer revolution of the nineties, these firms accelerated their spending to upgrade copper wire technology to fiber optic cable. The purpose of the upgrade was to usher in a transition from voice traffic to data. When demand did not materialize fast enough, companies were left with an incredible amount of expenses threatening to put them in the red. WorldCom found an answer in an accounting gray area. Expenses can capitalized, or put on the books as an asset and then depreciated, if they extend the useful life of existing assets. In this case, these expenses should have been recognized as operating and expensed in the quarter incurred, because their purpose is to maintain the existing infrastructure. Over five quarters, and thousands of accounting transactions, WorldCom mischaracterized $3.8 billion dollars in operating expenses as capital expenditures. By doing so, WorldCom recognized substantially less expenses, which, in turn, inflated asset values and profitability.

Data

The primary source of governance data for this paper is the Investor Responsibility Research Center (IRRC), which publishes detailed listings of corporate governance provisions for individual firms. The IRRC tracks 22 charter provisions, bylaw provisions, other firm-level rules, and coverage under six state takeover laws. These 28 provisions are reduced to 24 unique provisions when accounting for duplication. IRRC data is derived from a variety of public sources including corporate bylaws and charters, proxy statements, annual reports, as well as 10-K and 10-Q documents. The IRRC has data for seven time periods: 1990, 1993, 1995, 1998, 2000, 2002, and 2004. There are between 1,500 and 1,900 observations per year. Most are large-cap companies that belong to the S&P 500, as well as the annual lists of the largest corporations in the publications of Fortune, Forbes, and Business Week. For example, in 1990, the IRRC universe contained more than 93% of the total capitalization of the combined NYSE, AMEX, and NASDAQ markets.

The 28 provisions are divided among five groups: Delay, Voting, Protection, Other, and State. The Delay group includes four provisions designed to slow down a hostile bidder. The Voting group contains six provisions, which all relate to shareholders' rights in elections or charter/bylaw amendments. The Protection group contains six provisions designed to insure officers and directors against job-related liability or to compensate them following a termination. The Other group includes six other firm-level provisions. The State group contains six provisions, which all relate to state laws governing takeovers. In addition to these 28 provisions, the IRRC tracks firms that have elected to opt-in and opt-out of certain state laws. These options are also used in the construction of the governance index.

In addition to governance, equity performance and financial data was obtained from two sources: the Center for Research in Security Prices (CRSP) and Standard and Poor's Compustat database. This paper will analyze annual equity returns, including and excluding dividends, and a number of business performance metrics, including debt/equity ratio, ROA, ROE, and profit margin. These metrics were constructed from accounting data provided by the Compustat database.

The Governance Index

This paper will utilize the governance index constructed by Gompers, Ishii, and Metrick in Corporate Governance and Equity Prices, 2003. The IRRC tracks 28 corporate governance provisions and indicates whether they are present in each company. Although many of the provisions can be made stronger or weaker, no strength distinctions are made in the IRRC. Therefore, the methodology for the governance index is quite simple.

For most provisions in the Delay, Voting, Protection, and Other categories, one point is added to a company's score when it is present, and no points are added when it is not present. Two provisions, secret ballots and cumulative voting, posses the counter-effect of actually increasing shareholder rights, and therefore, the index adds one point for each of these two provisions a company does not have.

As for the state law coverage, one point is added to the index if the company is covered under the firm-level provision or the state law or both. Of the six state laws covered by the IRRC, four can be redundant because of associated firm-level provisions. The Business Combination Law and Cash Out Law are the only two of the State laws that cannot be redundant. In the case of a redundancy, only one point is added to the index. Since there are four possible redundancies, the 28 provisions in the IRRC are reduced to 24 unique provisions. Thus, the index value has a possible range from 1 to 24.

Since firms can opt or opt into state laws, these options are included in the governance index. All opt-outs result in a point taken away from the index, while opt-ins result in a point added to the index. For example, a company subject to the Fair Price Law would have one point added, but no points would be added if it could opt-out of this law.

Each point added to the index represents an increase in managerial power and a decrease in shareholder rights. It is important to note that the index simply accounts for increases in managerial control, and makes no judgments about the efficacy of any of the provisions. The index only reflects the balance of power. For an exhaustive description of all provisions in the IRRC, see Appendix 1.

Company Selection

The primary objective of this paper is to ascertain what role, if any, governance played in WorldCom's downfall. This paper will examine WorldCom's governance, business performance, and equity performance in comparison to comparable companies. Selecting comparable companies is a difficult process. On one hand, there needs to be a large number of comparable companies in order to show statistical significance. While on the other hand, only companies most akin to WorldCom, both in size and business strategy, should be used in order to guarantee an accurate analysis.

As one of the largest industry classifications in the public markets, telecommunications encompasses a number of different sectors. WorldCom's primary business was to provide customers with wireline and wireless phone service. Other companies in this industry provide equipment, networks, and hardware. Others provide products and services for other mediums such as cable and computers. While all of these sectors are related, only wireline and wireless carrier companies will be used in the analysis.

Another important attribute that must be controlled for is size. Most of the companies in this sector are large-cap companies because of the enormous capital expenditure requirements. However, a few are small-cap companies with limited network availability. These companies maintain lease/sharing agreements for the infrastructure owned by larger companies. Since these agreements change the cost structure, small-cap companies were excluded from the analysis. The cut-off point was a one billion dollar market cap achieved at any point from 1998 to 2002, the target period. Any company achieving this milestone during the target period was included in the analysis.

WorldCom was created in September of 1998 by the merger of MCI Communications and WorldCom. WorldCom traded publicly from September of

1998 until June of 2002. Consequently, this paper will analyze three time periods: 1998, 2000, and 2002. Companies with inadequate or incomplete data for all three time periods were excluded from the analysis. Companies that had complete data for one or two of these years, but not all three, were included. In other words, companies with no IRRC score or no financial data for a given year were excluded from that year's analysis.

For a complete list of coverage dates, see Appendix 2.

Governance Results

Exhibit 2

Year	**IRRC Universe**				
	Number of Observations	*Minimum*	*Maximum*	*Average Governance Score*	*Standard Deviation*
1990	1467	1.00	17.00	8.89	2.89
1993	1463	2.00	17.00	9.19	2.88
1995	1496	2.00	17.00	9.29	2.81
1998	1914	2.00	18.00	8.77	2.85
2000	1887	2.00	19.00	8.98	2.69
2002	1894	1.00	18.00	9.03	2.64
2004	1983	2.00	18.00	9.05	2.56

Exhibit 3

Company Info			Governance Score		
Company Name	*Ticker*	*State Incorp*	*1998*	*2000*	*2002*
Airtouch Communications	ATI	DE	9		
Aliant Communications	ALNT	NE	7		
Allegiance Telecom	ALGX	DE			7
Alltel	AT	DE	12	12	12
AT&T	T	NY	8	8	9
AT&T Wireless	AWE	DE			10
Bell Atlantic	BEL	DE	10		
Bell South	BLS	GA	11	11	12
Centennial Communications	CYCL	DE		5	5
Centurytel	CTL	LA	15	15	15
Cincinnati Bell	CBB	OH	13	13	12
Citizens Communications	CZN	DE	7	8	8
Commonwealth Telephone	CTCO	PA			6
Frontier	FRO	NY	12		
GTE	GTE	NY	13		
IDT	IDTC	DE		6	7
Leap Wireless	LWIN	DE			10
Level 3 Communications	LVLT	DE		10	10
MCI WorldCom	WCOM	GA		8	7
Nextel Communications	NXTL	DE	6	7	8
Price Communications	PR	NY			10
Qwest Communications	Q	DE	4	6	10
SBC Communications	SBC	DE	14	13	13
Sprint	FON	KS	10	10	10
Talk America	TALK	DE	5	7	8
Telephone & Data Systems	TDS	DE	8	10	9
Time Warner Telecom	TWTC	DE			5
US Cellular	USM	DE	5	5	5
Vanguard Cellular	VCELA	NC	8		
Verizon Communications	VZ	DE			9
Western Wireless	WWCA	WA	9	9	9
Number of Observations			20	18	25
Minimum			4	5	5
Maximum			15	15	15
Average Governance Score			9.3	9.06	9.04
Standard Deviation			3.18	2.92	2.56

Graph 1

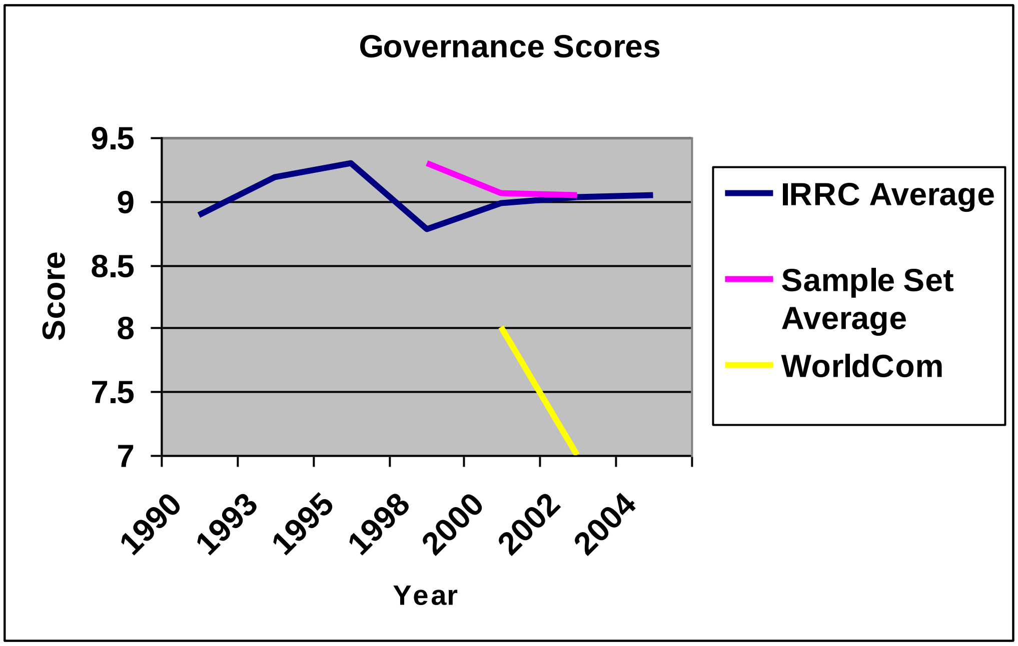


Exhibit 2 is a summary table of the entire IRRC universe. The only significant variation between years is in the number of observations, which jumps from an average of 1500 in 1990, 1993, and 1995, to an average of 1900 in 1998, 2000, 2002, and 2004. Excluding this, the data is fairly consistent across all seven time periods. On a year over year basis, there is little change in minimum score, maximum score, average score, and standard deviation. The minimum score and maximum score range from 1 to 2 and 17 to 19 respectively. The average score is the most constant with a range of 8.77-9.29.

Exhibit 3 is a summary table of the companies used in the analysis. Again, the data is consistent across the three time periods. The minimum score ranges from 4 to 5 while the maximum score is fixed at 15. The average score ranges from 9.04 to 9.3. The average scores reveal that governance in this sector is marginally weaker than that of the IRRC universe. Yet, the difference is too small to be statistically significant. From these two tables, it seems that the sample is fairly consistent with the IRRC universe.

There is little variation in governance scores across time because most of the changes in governance score result from extraordinary events such as mergers, bankruptcies, reincorporations in a different state, and relistings on a different exchange. For instance, the score of Qwest Communications increased from six to ten following its move from the OTC market to the NASDAQ. Consequently, average scores and standard deviation are consistent across time. The mild variability in average scores can mostly be attributed to the addition and removal of firms.

As discussed, the governance index value can range from 1 to 24. However, the average scores, which center around nine for both the sample and universe, are on the low end of this range. It appears that there is a systematic bias toward shareholder rights and limited managerial power. There are many possible explanations of this bias. It could be the result of a selection bias in the variables used in the IRRC. In other words, the IRRC might be excluding variables that would reveal a greater bias toward manager power. It could also be that state legal codes favor shareholder rights. Lastly, it could just be status quo that companies are more inclined to curtail their power in order to attract investors.

Since WorldCom was incorporated in late 1998, it has no governance score for that year. Its governance scores for 2000 and 2002 are eight and seven respectively. These are below both the IRRC and sample averages. WorldCom had the seventh lowest score out of eighteen companies in 2000 and the fifth lowest score out of twenty-five companies in 2002. These results are certainly counterintuitive. Ironically, WorldCom had one of the strongest governance structures in both its sector and the IRRC universe.

Analysis

Part 1: Equity Results

Exhibit 4

Company Info Company Name	1998	Equity Performance (Excluding Dividends) 2000	2002
Verizon Communications		-1.35%	-18.35%
SBC Communications	46.42%	-2.05%	-30.79%
Bell South	77.14%	-12.55%	-32.19%
Sprint	60.17%	-69.82%	-27.89%
Nextel Communications	-9.13%	-52.00%	5.38%
Alltel	45.66%	-24.50%	-17.38%
AT&T	23.55%	-66.05%	-28.42%
MCI WorldCom	50.26%	-73.50%	-100.00%
Qwest Communications	68.07%	-4.94%	-64.61%
Centurytel	103.26%	-24.54%	-10.43%
Telephone & Data Systems	-3.49%	-28.57%	-47.61%
Citizens Communications	-14.36%	-7.49%	-1.03%
Western Wireless	26.62%	-41.29%	-81.24%
US Cellular	22.58%	-40.31%	-44.71%
Level 3 Communications	16.16%	-59.92%	-2.00%
Centennial Communications	100.00%	-32.13%	-74.51%
Cincinnati Bell	21.98%	-38.14%	-62.95%
Commonwealth Telephone	32.23%	-33.81%	-21.23%
Price Communications	372.17%	-39.55%	-27.55%
IDT	-24.07%	7.95%	-11.38%
Talk America	-15.72%	-91.90%	355.28%
Time Warner Telecom		27.03%	-88.07%
Bell Atlantic	18.68%	-17.46%	
GTE	24.40%	-11.78%	
Allegiance Telecom	-11.82%	-63.80%	-91.92%
Aliant Communications	30.28%		
Airtouch Communications	74.29%		
AT&T Wireless		-45.69%	-60.68%
Frontier	41.67%		
Leap Wireless	-9.38%	-68.15%	-98.14%
Vanguard Cellular	102.45%		
Average:	**45.36%**	**-33.94%**	**-27.30%**

Exhibit 5

Company Info Company Name	Equity Performance (Including Dividends) 1998	 2000	 2002
Verizon Communications		-0.69%	-15.06%
SBC Communications	49.69%	0.11%	-28.28%
Bell South	80.94%	-11.08%	-30.40%
Sprint	62.38%	-69.37%	-24.79%
Nextel Communications	-9.13%	-52.00%	5.38%
Alltel	49.17%	-22.81%	-14.99%
AT&T	26.14%	-65.35%	-27.25%
MCI WorldCom	50.26%	-73.50%	-100.00%
Qwest Communications	68.07%	-4.94%	-64.61%
Centurytel	104.35%	-24.08%	-9.77%
Telephone & Data Systems	-2.45%	-28.22%	-47.08%
Citizens Communications	-14.36%	-7.49%	-1.03%
Western Wireless	26.62%	-41.29%	-81.24%
US Cellular	22.58%	-40.31%	-44.71%
Level 3 Communications	16.16%	-59.92%	-2.00%
Centennial Communications	100.00%	-32.13%	-74.51%
Cincinnati Bell	23.56%	-38.14%	-62.95%
Commonwealth Telephone	32.23%	-33.81%	-21.23%
Price Communications	372.17%	-39.55%	-27.55%
IDT	-24.07%	7.95%	-11.38%
Talk America	-15.72%	-91.90%	355.28%
Time Warner Telecom		27.03%	-88.07%
Bell Atlantic	22.56%	-16.41%	
GTE	28.65%	-10.42%	
Allegiance Telecom	-11.82%	-63.80%	-91.92%
Aliant Communications	33.37%		
Airtouch Communications	74.29%		
AT&T Wireless		-45.69%	-60.68%
Frontier	45.96%		
Leap Wireless	-9.38%	-68.15%	-98.14%
Vanguard Cellular	102.45%		
Average:	**46.60%**	**-33.55%**	**-26.68%**

Exhibit 4 contains annual equity performance data excluding dividends for 1998, 2000, and 2002. The averages were calculated using equal weights rather than market weights. These averages reveal the effect of the stock market bubble on this sector. Telecom stocks rose to astronomical levels in the late nineties but tanked following the end of the bubble. Exhibit 5, which adjusts returns for dividends, shows that on average, stocks in the sample were up 46.6% in 1998, but down 33.55% and 26.68% in 2000 and 2002 respectively. Although excluded from the analysis, 1999 and 2001 were even more turbulent for these stocks. The average returns for 1999 and 2001 were 153.48% and -19.27% respectively. As a comparison, the S&P 500 Index rose 28.58% in 1998, but fell 9.11% and 22.1% in 2000 and 2002 respectively. Clearly, this sector was more volatile than the overall market during these years.

Exhibit 6

Correlation – R^2	1998	2000	2002
Equity Return without Dividends	14.49%	1.84%	0.10%
Equity Return with Dividends	16.64%	2.19%	0.13%

Exhibit 7

P-Value	1998	2000	2002
Equity Return without Dividends	9.78%	59.18%	88.35%
Equity Return with Dividends	7.42%	55.74%	86.30%

Is there any relationship between governance and equity performance in this sector? Using regression analysis, equity returns were compared to governance scores for each year. Exhibits 6 and 7 contain the R^2 and p-values from these regressions. These values reveal that no significant relationship with 95% confidence exists between governance and equity returns for any of the three time periods, 1998, 2000, or 2002. Data for both categories in 1998 is marginally significant if the standard is reduced to 90% confidence. Still, the regression results for 2000 and 2001 were abysmal. The p-values of equity return with dividends for 2000 and 2002 were 55.74% and 86.30% respectively.

Part 2: Business Results

Exhibit 8

Company Info	1998					
Company Name	**Debt/Equity**	**ROA**	**ROA***	**ROE**	**ROE***	**Profit Margin**
	LT Debt / Market Cap	EBITDA / Total Assets	EBITDA* / Total Assets	Net Income / Market Cap	Income before EI / Market Cap	Income before EI / Sales
Qwest Communications	36.13%	6.22%	6.22%	-13.22%	-13.22%	-37.63%
US Cellular	18.76%	13.57%	13.57%	7.66%	7.66%	18.66%
Talk America	21.96%	9.23%	9.23%	-20.05%	-27.94%	-68.76%
Nextel Communications	213.11%	-2.11%	-2.11%	-45.66%	-41.98%	-82.24%
Citizens Communications	89.90%	8.73%	8.73%	2.44%	2.54%	3.85%
Aliant Communications	10.65%	27.64%	27.64%	5.70%	5.90%	17.71%
AT&T	16.42%	25.30%	25.30%	18.91%	15.47%	9.84%
Telephone & Data Systems	71.76%	7.62%	7.62%	2.49%	2.49%	3.57%
Vanguard Cellular	75.12%	19.16%	19.16%	9.81%	12.46%	22.35%
Western Wireless	220.16%	0.89%	0.89%	-31.12%	-31.12%	-38.33%
Airtouch Communications	8.91%	14.30%	14.30%	2.39%	2.39%	13.99%
Sprint	78.35%	11.96%	11.96%	2.72%	2.96%	2.63%
Bell Atlantic	23.56%	25.44%	25.44%	3.96%	3.99%	9.47%
Bell South	12.84%	27.11%	27.11%	5.19%	5.19%	15.25%
Alltel	28.18%	24.80%	24.80%	4.24%	4.24%	10.12%
Frontier	26.17%	18.57%	18.57%	3.41%	3.44%	6.85%
Cincinnati Bell	19.55%	23.70%	23.70%	7.99%	4.36%	9.24%
GTE	27.95%	23.11%	23.11%	3.94%	4.52%	9.78%
SBC Communications	15.35%	28.27%	28.27%	4.90%	4.95%	14.14%
Centurytel	88.89%	16.76%	16.76%	7.95%	7.95%	14.51%
Number of Companies: 20	**55.19%**	**16.51%**	**16.51%**	**-0.82%**	**-1.19%**	**-2.25%**

Exhibit 9

Company Info	2000					
Company Name	Debt/Equity	ROA	ROA*	ROE	ROE*	Profit Margin
	LT Debt / Market Cap	EBITDA / Total Assets	EBITDA* / Total Assets	Net Income / Market Cap	Income before EI / Market Cap	Income before EI / Sales
US Cellular	7.82%	15.27%	15.27%	3.36%	4.08%	13.66%
Centennial Communications	90.19%	18.44%	18.44%	9.92%	10.13%	28.99%
Qwest Communications	19.91%	16.36%	16.36%	-0.10%	-0.10%	-0.49%
IDT	9.31%	-19.38%	-19.38%	38.31%	38.81%	21.38%
Nextel Communications	36.80%	6.15%	6.15%	-2.05%	-1.79%	-12.44%
Talk America	15.86%	-12.33%	-12.33%	-9.47%	-9.47%	-11.37%
AT&T	87.91%	10.48%	10.48%	10.86%	10.86%	7.08%
MCI WorldCom	17.38%	-62.71%	10.17%	-49.48%	-2.21%	-5.55%
Citizens Communications	79.02%	8.63%	8.63%	-0.69%	-0.97%	-2.22%
Western Wireless	50.36%	16.15%	16.15%	1.71%	2.03%	9.32%
Sprint	43.57%	10.92%	10.92%	0.23%	-1.43%	-2.44%
Telephone & Data Systems	23.63%	11.69%	11.69%	35.89%	2.33%	6.25%
Level 3 Communications	25.88%	-6.39%	-6.39%	-5.15%	-5.15%	-122.78%
Bell South	15.31%	26.33%	26.33%	5.18%	5.18%	16.14%
Alltel	23.67%	22.83%	22.83%	9.90%	10.09%	27.81%
SBC Communications	10.60%	22.53%	22.53%	5.12%	5.12%	15.48%
Cincinnati Bell	40.86%	7.67%	7.67%	-6.15%	-6.14%	-18.36%
Centurytel	65.65%	16.46%	16.46%	4.98%	4.98%	12.54%
Number of Companies: 18	**36.87%**	**6.06%**	**10.11%**	**2.91%**	**3.69%**	**-0.95%**

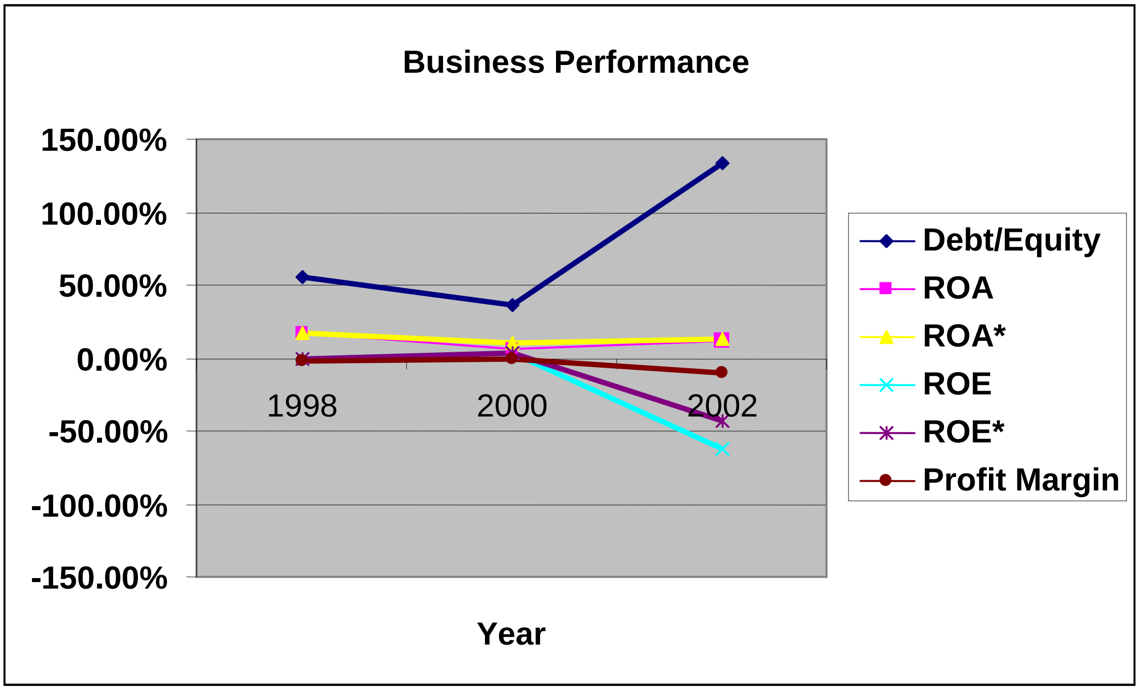
Exhibit 10

Company Info	2002					
Company Name	**Debt/Equity**	**ROA**	**ROA***	**ROE**	**ROE***	**Profit Margin**
	LT Debt / Market Cap	EBITDA / Total Assets	EBITDA* / Total Assets	Net Income / Market Cap	Income before EI / Market Cap	Income before EI / Sales
US Cellular	28.63%	14.24%	14.24%	-0.51%	-0.65%	-0.84%
Centennial Communications	472.83%	19.00%	19.00%	-31.68%	-31.68%	-15.00%
Time Warner Telecom	259.75%	8.32%	8.32%	-78.84%	-78.84%	-52.62%
Commonwealth Telephone	8.54%	29.07%	29.07%	6.31%	6.31%	17.82%
MCI WorldCom	5.69%	-3.09%	13.51%	-49.91%	-22.05%	-12.58%
IDT	3.18%	-2.52%	-2.52%	-21.23%	-10.94%	-10.21%
Allegiance Telecom	256.22%	-4.62%	-4.62%	-229.38%	-229.38%	-74.28%
Nextel Communications	167.58%	14.54%	14.54%	18.88%	18.88%	15.89%
Citizens Communications	224.49%	12.73%	12.73%	-27.29%	-32.88%	-30.83%
Talk America	65.50%	39.81%	39.81%	63.03%	43.98%	21.33%
Verizon Communications	41.34%	17.12%	17.12%	3.76%	4.23%	6.78%
AT&T	89.68%	9.69%	9.69%	-62.36%	4.59%	2.55%
Telephone & Data Systems	90.07%	10.16%	10.16%	-24.64%	-24.73%	-33.09%
Western Wireless	480.23%	12.82%	12.82%	-38.40%	-44.53%	-18.15%
Sprint	158.00%	16.33%	16.33%	4.94%	3.67%	1.76%
Qwest Communications	214.90%	8.03%	8.03%	-418.48%	-191.74%	-114.56%
Level 3 Communications	305.71%	1.88%	1.88%	-42.99%	-55.76%	-35.36%
Price Communications	0.00%	6.05%	6.05%	57.03%	57.03%	253.57%
AT&T Wireless	65.32%	7.85%	7.85%	-13.73%	-13.03%	-14.11%
Leap Wireless	0.00%	-5.34%	-5.34%	-259.74%	-259.74%	-107.49%
Bell South	21.83%	21.47%	21.47%	2.53%	4.81%	11.92%
Alltel	39.86%	20.92%	20.92%	5.99%	5.99%	11.58%
Cincinnati Bell	240.34%	15.29%	15.29%	-430.97%	-248.15%	-115.94%
SBC Communications	18.27%	19.02%	19.02%	5.57%	7.37%	17.32%
Centurytel	85.11%	14.52%	14.52%	19.07%	4.52%	9.59%
Number of Companies: 25	**133.72%**	**12.13%**	**12.80%**	**-61.72%**	**-43.31%**	**-10.60%**

Exhibits 8, 9, and 10 contain various metrics of business performance for each time period. These metrics are debt to market value of equity or market capitalization, return on assets, adjusted return on assets, return on equity, adjusted return on equity, and profit margin. Each calculation was based on year-end financial data obtained from the Compustat database. Market capitalization was calculated by multiplying average daily closing price with average shares outstanding for the year. Return on assets is simply EBITDA divided by average assets. Average assets was calculated by taking a simple average of year-end assets and previous year-end assets. The adjusted return on assets only applies to WorldCom. The adjustments made are described below. Return on equity was calculated by dividing net income by market cap. Adjusted return on equity was calculated by dividing income before extraordinary items by market cap. The last variable, profit margin, is simply income before extraordinary items divided by sales.

WorldCom's restated financials for 2000 and 2002 both contain large goodwill, PP&E, and intangibles impairment charges. The total amount of these impairment charges are 47.18 billion for 2000 and 5 billion for 2002. For adjusted return on assets and adjusted return on equity, these amounts were not deducted. By adding back these charges, WorldCom's numbers are more inline with the sector averages. For instance, WorldCom's return on assets for 2000 jumps from -62.71% to 10.17%.

Graph 2



Graph 2 reveals a sector that has struggled against high expenses and low demand. The average debt/equity ratio rose from 55.19% in 1998 to 133.72% in 2002. Meanwhile, ROE*, which does not even include extraordinary items and WorldCom's large impairment charges, fell from -1.19% to -43.31%. Profit margin fell from -2.25 to -10.6%. Only ROA* was somewhat constant during this period, falling from 16.51% to 12.8%.

Exhibit 11

Correlation - R^2	1998	2000	2002
Debt/Equity	2.49%	0.01%	5.11%
ROA	30.88%	7.29%	0.84%
ROA*	30.88%	11.67%	0.17%
ROE	16.09%	0.02%	0.92%
ROE*	17.30%	3.69%	0.08%
Profit Margin	24.89%	0.56%	0.36%

Exhibit 12

P-Value	1998	2000	2002
Debt/Equity	50.62%	97.27%	27.73%
ROA	1.10%	27.84%	66.24%
ROA*	1.10%	16.53%	84.59%
ROE	7.96%	95.99%	64.91%
ROE*	6.82%	44.49%	89.60%
Profit Margin	2.51%	76.80%	77.71%

What is the relationship between these various metrics of business performance and governance? Using regression analysis, these metrics were compared to governance scores for each year. Exhibits 11 and 12 contain the R^2 and p-values from these regressions. The only variables that had any significance were return on assets, adjusted return on assets, and profit margin. However, these variables were only significant for 1998. None of the metrics for either 2000 or 2002 showed any significance.

Conclusion

The massive frauds perpetrated by a number of our country's largest and most respected companies have brought corporate governance to the forefront. As regulators and lawmakers try to prevent these frauds from happening again, they will certainly examine the policies by which corporations govern themselves. Corporate governance will be defined and redefined. New provisions and laws will be created. Existing policies will be modified.

However, can the Sarbanes-Oxley Act and future legislation prevent another fraud of this magnitude? This paper has shown that WorldCom had a strong corporate governance structure relative to both comparable companies in its industry and other public companies. Further, there are no consistent significant relationships between governance and equity and business performance in this sector. The data presented in this paper proves that corporate governance did not play a role in WorldCom's downfall. By implication, corporate governance has varying significance between different sectors and industries.

WorldCom's accounting fraud was an act of desperation. Years of low demand, high expenses, and intense competition put this company on the verge of bankruptcy. Corporate governance can easily break down when a company is in this state. When this happens, the best checks in place are the accountants and the SEC. In this case, Arthur Andersen, WorldCom's auditor, was complicit in the fraud, and the SEC did not have enough manpower or resources to catch on. Future corporate reform needs to target these external parties and their relationships rather than the internal provisions and policies of corporations.

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Appendix 1: Corporate-Governance Provisions

The following appendix is excerpted in part from Corporate Governance and Equity Prices by Gompers, Ishii, and Metrick [2003]. This appendix describes each of the provisions contained in the IRRC.

Antigreenmail – Greenmail refers to a transaction between a large shareholder and a company in which the shareholder agrees to sell his stock back to the company, usually at a premium, in exchange for the promise not to seek control of the company for a specified period of time. Antigreenmail provisions prevent such arrangements unless the same repurchase offer is made to all shareholders or approved by a shareholder vote. Five states have specific **Antigreenmail laws**, and two other states have "recapture of profits" laws, which enable firms to recapture raiders' profits earned in the secondary market. Laws governing recapture of profits are considered to be a version of Antigreenmail laws.

Blank Check - Preferred stock is stock over which the board of directors has broad authority to determine voting, dividend, conversion, and other rights. While it can be used to enable a company to meet changing financial needs, its most important use is to implement poison pills or to prevent takeover by placing this stock with friendly investors. Because of this role, blank check preferred stock is a crucial part of a "delay" strategy. Companies that have this type of preferred stock but require shareholder approval before it can be used as a takeover defense are not coded as having this provision in the data.

Business Combination laws impose a moratorium on certain kinds of transactions (e.g.,asset sales, mergers) between a large shareholder and the firm, unless the transaction is approved by the Board of Directors. Depending on the State, this moratorium ranges between two and five years after the shareholder's stake passes a prespecified (minority) threshold. These laws were in place in 25 states in 1990 and two more by 1998. It is the only state takeover law in Delaware, the state of incorporation for about half of the sample.

Bylaw and **Charter** amendment limitations limit shareholders' ability to amend the governing documents of the corporation. This might take the form of a supermajority vote requirement for charter or bylaw amendments, total elimination of the ability of shareholders to amend the bylaws, or the ability of directors (beyond the provisions of state law) to amend the bylaws without shareholder approval.

Control-share **Cash-out laws** enable shareholders to sell their stakes to a "controlling" shareholder at a price based on the highest price of recently acquired shares. This works something like fair-price provisions (see below) extended to nontakeover situations. These laws were in place in three states by 1990 with no additions during the decade.

A **Classified Board** (or “staggered” board) is one in which the directors are placed into different classes and serve overlapping terms. Since only part of the board can be replaced each year, an outsider who gains control of a corporation may have to wait a few years before being able to gain control of the board. This slow replacement makes a classified board a crucial component of the Delay group of provisions.

Compensation Plans with changes-in-control provisions allow participants in incentive bonus plans to cash out options or accelerate the payout of bonuses should there be a change in control. The details may be a written part of the compensation agreement, or discretion may be given to the compensation committee.

Director indemnification **Contracts** are contracts between the company and particular officers and directors indemnifying them from certain legal expenses and judgments resulting from lawsuits pertaining to their conduct. Some firms have both “Indemnification” in their bylaws or charter and these additional indemnification “Contracts”.

Control-share Acquisition laws (see Supermajority, below).

Cumulative Voting allows a shareholder to allocate his total votes in any manner desired, where the total number of votes is the product of the number of shares owned and the number of directors to be elected. By allowing them to concentrate their votes, this practice helps minority shareholders to elect directors. Cumulative Voting and Secret Ballot (see below) are the only two provisions whose presence is coded as an increase in shareholder rights.

Directors’ Duties provisions allow directors to consider constituencies other than shareholders when considering a merger. These constituencies may include, for example, employees, host communities, or suppliers. This provision provides boards of directors with a legal basis for rejecting a takeover that would have been beneficial to shareholders. 31 states have **Directors’ Duties laws** allowing similar expansions of constituencies.

Fair-Price provisions limit the range of prices a bidder can pay in two-tier offers. They typically require a bidder to pay to all shareholders the highest price paid to any during a specified period of time before the commencement of a tender offer, and do not apply if the deal is approved by the board of directors or a supermajority of the target’s shareholders. The goal of this provision is to prevent pressure on the target’s shareholders to tender their shares in the front end of a two-tiered tender offer, and they have the result of making such an acquisition more expensive. Also, 25 states had **Fair-Price laws** in place in 1990, and two more states passed such laws in 1991. The laws work similarly to the firm-level provisions.

Golden Parachutes are severance agreements that provide cash and non-cash compensation to senior executives upon an event such as termination, demotion, or resignation following a change in control. They do not require shareholder approval. While the net impact on managerial entrenchment and shareholder wealth is ambiguous, the more important effect is the clear decrease in shareholder rights. In this case, the "right" is the ability of a controlling shareholder to fire management without incurring an additional cost.

Director **Indemnification** uses the bylaws, charter, or both to indemnify officers and directors from certain legal expenses and judgments resulting from lawsuits pertaining to their conduct. Some firms have both this "Indemnification" in their bylaws or charter and additional indemnification "Contracts".

Limitations on director **Liability** are charter amendments that limit directors' personal liability to the extent allowed by state law. They often eliminate personal liability for breaches of the duty of care, but not for breaches of the duty of loyalty or for acts of intentional misconduct or knowing violation of the law.

Pension Parachutes prevent an acquirer from using surplus cash in the pension fund of the target to finance an acquisition. Surplus funds are required to remain the property of the pension fund and to be used for plan participants' benefits.

Poison Pills provide their holders with special rights in the case of a triggering event such as a hostile takeover bid. If a deal is approved by the board of directors, the poison pill can be revoked, but if the deal is not approved and the bidder proceeds, the pill is triggered. Typical poison pills give the holders of the target's stock other than the bidder the right to purchase stock in the target or the bidder's company at a steep discount, making the target unattractive or diluting the acquirer's voting power. Poison pills are a crucial component of the "delay" strategy at the core of modern defensive tactics.

Under a **Secret Ballot** (also called confidential voting), either an independent third party or employees sworn to secrecy are used to count proxy votes, and the management usually agrees not to look at individual proxy cards. This can help eliminate potential conflicts of interest for fiduciaries voting shares on behalf of others, and can reduce pressure by management on shareholder-employees or shareholder-partners. Cumulative Voting (see above) and Secret Ballots are the only two provisions whose presence is coded as an increase in shareholder rights.

Executive **Severance** agreements assure high-level executives of their positions or some compensation and are not contingent upon a change in control, unlike Golden or Silver parachutes.

Silver Parachutes are similar to Golden Parachutes in that they provide severance payments upon a change in corporate control, but differ in that a large number of a firm's employees are eligible for these benefits.

Special Meeting limitations either increase the level of shareholder support required to call a special meeting beyond that specified by state law or eliminate the ability to call one entirely. Such provisions add extra time to proxy fights, since bidders must wait until the regularly scheduled annual meeting to replace board members or dismantle takeover defenses. This delay is especially potent when combined with limitations on actions by written consent

Supermajority requirements for approval of mergers are charter provisions that establish voting requirements for mergers or other business combinations that are higher than the threshold requirements of state law. They are typically 66.7, 75, or 85 percent, and often exceed attendance at the annual meeting. In practice, these provisions are similar to **Control-Share Acquisition laws**. These laws require a majority of disinterested shareholders to vote on whether a newly qualifying large shareholder has voting rights. They were in place in 25 states by September 1990 and one additional state in 1991.

Unequal Voting rights limit the voting rights of some shareholders and expand those of others. Under time-phased voting, shareholders who have held the stock for a given period of time are given more votes per share than recent purchasers. Another variety is the substantial shareholder provision, which limits the voting power of shareholders who have exceeded a certain threshold of ownership.

Limitations on action by **Written Consent** can take the form of the establishment of majority thresholds beyond the level of state law, the requirement of unanimous consent, or the elimination of the right to take action by written consent. Such requirements add extra time to many proxy fights, since bidders must wait until the regularly scheduled annual meeting to replace board members or dismantle takeover defenses. This delay is especially potent when combined with limitations for calling special meetings (see above).

Appendix 2 – Company Start and End Dates

Company Start and End Dates

Company Name	Ticker	Start Date	End Date
Verizon Communications	VZ	7/3/2000	12/31/2002
SBC Communications	SBC	1/1/1998	12/31/2002
Bell South	BLS	1/1/1998	12/31/2002
Sprint	FON	1/1/1998	12/31/2002
Nextel Communications	NXTL	1/1/1998	12/31/2002
Alltel	AT	1/1/1998	12/31/2002
AT&T	T	1/1/1998	12/31/2002
MCI Worldcom	WCOM	9/14/1998	12/31/2002
Qwest Communications	Q	1/1/1998	12/31/2002
Centurytel	CTL	1/1/1998	12/31/2002
Telephone & Data Systems	TDS	1/1/1998	12/31/2002
Citizens Communications	CZN	1/1/1998	12/31/2002
Western Wireless	WWCA	1/1/1998	12/31/2002
US Cellular	USM	1/1/1998	12/31/2002
Level 3 Communications	LVLT	4/1/1998	12/31/2002
Centennial Communications	CYCL	1/1/1998	12/31/2002
Cincinnati Bell	CBB	1/1/1998	12/31/2002
Commonwealth Telephone	CTCO	1/1/1998	12/31/2002
Price Communications	PR	1/1/1998	12/31/2002
IDT	IDTC	1/1/1998	12/31/2002
Talk America	TALK	1/1/1998	12/31/2002
Time Warner Telecom	TWTC	5/12/1999	12/31/2002
Bell Atlantic	BEL	1/1/1998	6/30/2000
GTE	GTE	1/1/1998	6/30/2000
Allegiance Telecom	ALGX	7/1/1998	12/31/2002
Aliant Communications	ALNT	1/1/1998	7/1/1999
Airtouch Communications	ATI	1/1/1998	6/29/1999
AT&T Wireless	AWE	4/27/2000	12/31/2002
Frontier	FRO	1/1/1998	9/28/1999
Leap Wireless	LWIN	9/24/1998	12/10/2002
Vanguard Cellular	VCELA	1/1/1998	5/3/1999