Pace University

eMBA Cycle 9 Module 6 Team 1

Corporate Governance and Forensic Accounting

Macroeconomic and Behavioral Factors

December 18, 2009

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Preface

This document illustrates macroeconomic, fiscal policy, legislative, and behavioral economics issues that may have factored in the fraud cases chosen for this study. We also attempted to determine whether select economic indicators correlate with financial performance indicators.

We will initially identify the 10 fraudulent firms selected for this analysis and group them into fraud categories. We then review related aspects of behavioral macroeconomics and develop a timeline of relevant macroeconomic, fiscal policy, and legislative events. A correlation analysis of macroeconomic indicators and firm financial performance completes our examination. We then discuss findings and conclusions.

Data for this analysis were obtained from the U.S. Federal Reserve (St. Louis),[1] CompuStat,[2] and CRSP.[3]

Company Selection

The following ten firms have been selected for this analysis:[4] from the healthcare sector ImClone ; from the technology sector Computer Associates , AremisSoft , and America Online ; from the energy sector Reliant Energy , Dynegy , and Westar Energy ; from the finance sector Capital City Bank and Hamilton Bankcorp. ; and from the food services sector Manhattan Bagel . Exhibit 1 categorizes the fraudulent activities that took place in these companies, and exhibit 2 illustrates their timeline:[5]

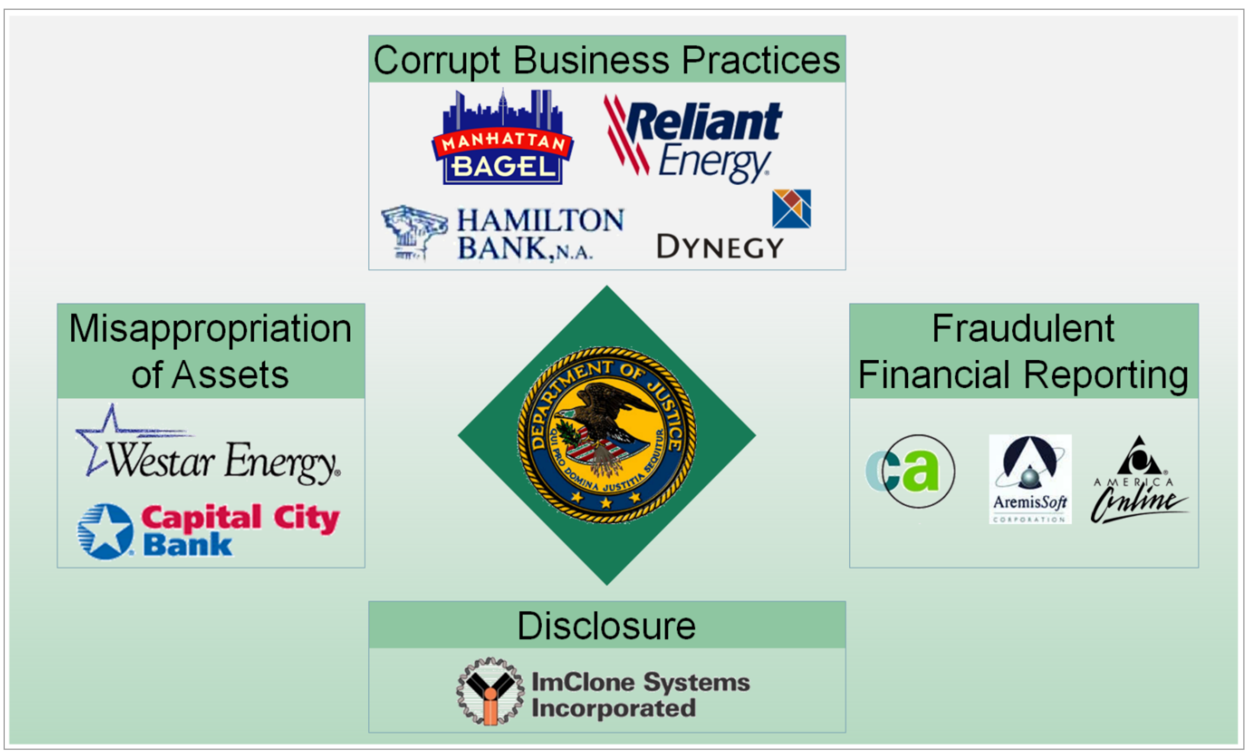

Exhibit 1: Fraud Categories

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1 http://research.stlouisfed.org/fred2/
2 http://wrds-web.wharton.upenn.edu/wrds/ds/comp/index.cfm
3 The Center for Research in Security Prices, http://wrds-web.wharton.upenn.edu/wrds/ds/crsp/index.cfm
4 Sources: U.S. Department of Justice, CompuStat, Lexis-Nexis, Team Analysis
5 Fraud categories adapted from Deloitte Financial Services Advisory

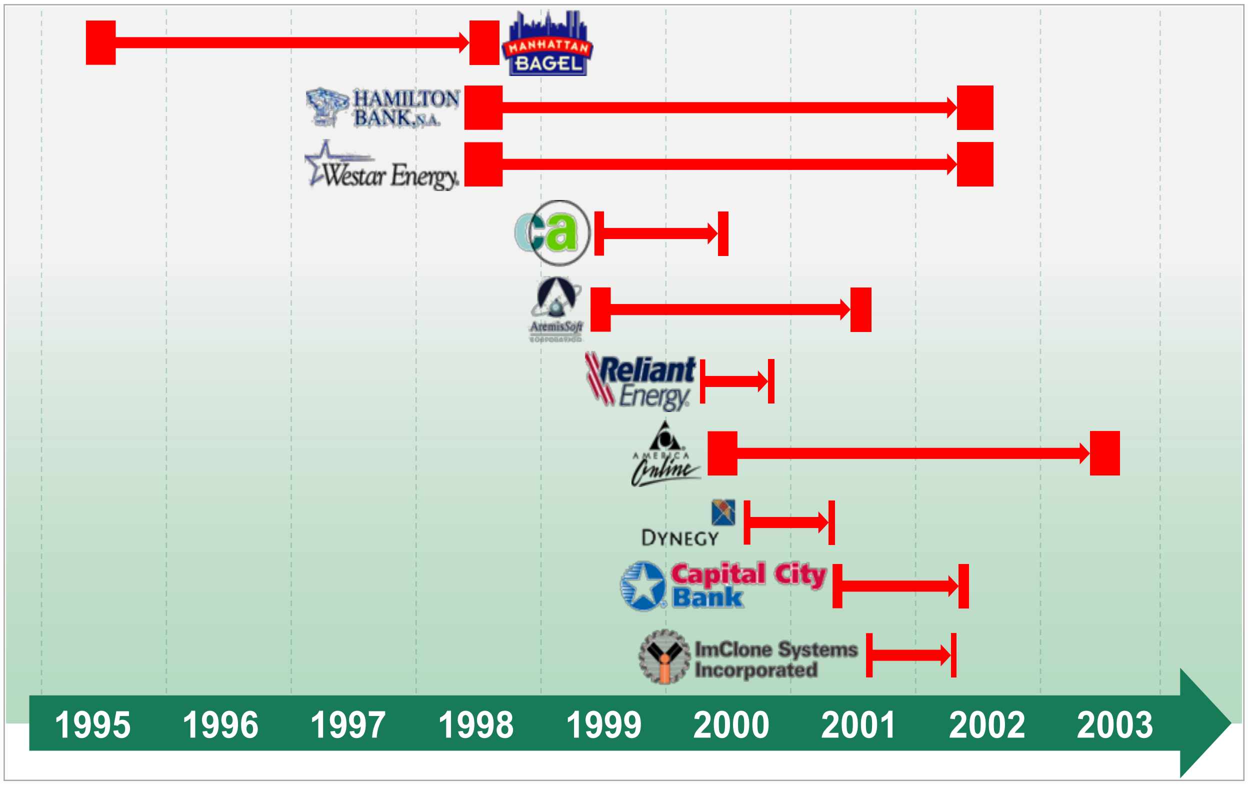

Exhibit 2: Fraud Timeline

Fraud Background

The sections that follow provide additional information about the frauds and involved actors.[6]

Misappropriation of Assets

- Westar Energy: Between 1998 and 2002, 2 executives misappropriated assets for personal benefit. The indictment lists, among other items, use of a company airplane, cash funds for relocation expenses and sign-on bonuses, life insurances, and the use of corporate legal resources for personal matters.
- Capital City Bank: Between April 2001 and March 2002, a bank manager along with a customer of the bank (incidentally, the CEO of Westar Energy, see previous bullet) committed money laundering, loan fraud, and record falsification for personal benefit.

Corrupt Business Practices

- Manhattan Bagel: Executives and individuals outside of the company created sales to non-existing accounts to inflate revenues. Other charges relate to accounting practices and witness intimidation. The activities lasted from approximately 1995 to 1998.
- Dynegy: Between November 2000 and February 2001, an energy trader reported false information on trades to manipulate the market to predict future prices.
- Reliant Energy: From June to August 2000, traders reported false information to manipulate prices and avoid losses on trading positions; the company also withheld capacities from the market to create shortages and thus influence prices.

[6] Sources: Department of Justice, Lexis-Nexis newspaper search

- Hamilton Bankcorp: Executives of the bank conducted illegal trading from September 1998 to May 2002 to conceal losses that would have reduced their compensation.

Fraudulent Financial Reporting

- America Online: Between September 2000 and December 2003, executives of AOL and PurchasePro provided false information to conceal true financial conditions and altered book entries to manipulate the share price of PurchasePro, and inflate revenues. The indictment also lists forged contracts, side-deals, and record falsification.
- Computer Associates: Between July 1999 and May 2000, executives inflated licensing revenues to manipulate the company's stock price. Among other items, the indictment also lists perjury, providing false statements to the SEC, and obstruction of justice.
- AremisSoft Corporation: Between 1999 and June 2001, executives filed false reports with the SEC, inflated revenues, misrepresented the financial condition of the company, and illegally sold company shares for personal gain (Insider Trading).

Disclosure

- ImClone: Between October 2001 and January 2002, executives disclosed material information (enabling some individuals to avoid stocks losses) and committed perjury and obstruction of justice. The indictment also lists bank fraud. The case pertained to the FDAs denying of ImClone's application to approve the cancer drug Erbitux.

Macroeconomic Theory & History

This section discusses macroeconomic issues that may have contributed to fraudulent activities. We begin by exploring theories relating to behavioral economics. We then discuss the link between macroeconomics, national economic governance, and corporate governance. Subsequently, we identify macroeconomic, political, and fiscal policy events on a timeline.

Behavioral Macroeconomics

Mullainathan and Thaler[7] argued that classical economic theory was "'antibehavioral'" and that "empirical and experimental evidence" led to the realization that "unbounded rationality, … willpower, and … selfishness" are "unrealistic traits." They cite Herbert Simon's theories on "decision making and choice,"[8] which established a better understanding of bounded rationality. Bounded rationality means that "cognitive limits"[9] constrain individuals' knowledge and frame of reference, therefore influencing situational assessments such as the evaluation of alternatives and consequences. Mullainathan and Thaler thought that behavioral economics theory could explain decisions that deviate from expected or standardized behavior, and that the disciplines of psychology and prospect theory[10] are vital in economic theory to explain rational and irrational behavior. However, in a scenario where employees willfully or negligently commit fraud for personal gain (e.g. misappropriation of assets, disclosure, corrupt business practices) or to prevent undesired consequences for the firm or themselves (e.g. market or records manipulation), agency cost issues and business ethics need to be accounted for as well.

Agency cost is the conflict of interest that arises when a principal hires an agent to carry out a task, and the interest of the agent conflicts with the interest of the principal.[11] Agency costs can arise because of divergence of control, separation of ownership and differences in objectives.[12]

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[7] "Behavioral Economics," S. Mullainathan and R. H. Thaler, International Encyclopedia of Social & Behavioral Sciences, 2001
[8] "Models of bounded rationality," Herbert A. Simon, MIT press 1997
[9] Ibid
[10] Argues that humans weigh changes in outcomes and not the ultimate result, http://prospect-theory.behaviouralfinance.net/
[11] http://www.economist.com/research/Economics/alphabetic.cfm?letter=A
[12] http://en.wikipedia.org/wiki/agency-cost

Common actors include shareholders, management, board of directors, employees, investors, suppliers, customers and the government.[13] The agent (e.g. employee, manager) may or may not share the same incentives and objectives of the principal (e.g. shareholder, government). As a result, the outcome of a decision or action of an agent may not align with the expectations of the principal, on whose behalf the decision was made. Worse are scenarios in which agency cost issues are not the result of market-driven conditions or activities, but unethical behavior.

Ethics refers to matters that are "good" or "bad," "moral duty," and "principles."[14] Steve Krummeck[15] listed the following internal and external factors contributing to fraud issues in companies: materialism, self-preservation, a firm's disinterest to address fraud, absence of "internal controls," firm "culture" that is conducive to fraud, society's stance toward laws and ownership, an ineffective "criminal justice system" (because of staffing and training scarcity), and "sophistication of information technology." Darryl Legault[16] thought that the "workplace" is full of "dilemmas" and that managers are expected "to do the right thing." He then described the attributes of ethical behavior in business: proper use of authority, optimal use of "resources," professionalism, "integrity," impartiality, and nurturing "the greater good." The consequences of a business decision help assessing a firm's ethical behavior. If an agent's action did not cause a stakeholder detriment, we can assume that the decision was ethical. The primary stakeholder here is the principal, while secondary stakeholders include the community and family members.

George A. Akerlof,[17] similarly to Mullainathan and Thaler, argued that "psychological and sociological" perspectives ought to be incorporated with macroeconomic studies. Akerlof's goal: "[include] realistic assumptions grounded in psychological and sociological observation, [to generate] models that comfortably account for … macroeconomic phenomena." Akerlof's most relevant conclusions are:[18]

1. Low inflation caused by monetary supply policy causes high unemployment since workers do not consider inflation as an important factor in employment negotiations, where they would otherwise demand wage increases in excess of the inflation rate, which leads to an acceleration of expected and real inflation when firms reflect increases in their prices
2. Individuals' lack of "self-control" is causing them to defer savings[19] while believing that the future will be different; "procrastination" and a preference for near-term rewards (instead of "delaying gratification") is counterproductive and results in "undersaving"
3. It was empirically confirmed that share prices are more volatile than their returns, and others have also argued that investors are too sensitive to media reports for the "efficient market theory" to hold true; this matters because of the signaling power of asset prices

Akerlof stressed that of all economics disciplines, macroeconomics is the one that "should be behavioral" since an understanding of behavioral aspects helps explaining deviations of "real-world economies" from traditional economic theory that is based on the "general-equilibrium theory."

Behavioral economics theory along with sociology, psychology, and prospect/agency cost/ethical theory are useful considerations since they position the human dimension appropriately within the study of economics. Understanding the consequences of macroeconomic factors and individual decision-making improves our ability to predict the impact

[13] Ibid
[14] Merriam-Webster. http://www.m-w.com
[15] "The role of ethics in fraud prevention: A practitioners perspective," Business Ethics: A European Review, October 2000
[16] "Ethics and its place in business," Canadian Manager (n.b.: a magazine), Winter 1999
[17] "Behavioral Macroeconomics and Macroeconomic Behavior," The American Economic Review, June 2002
[18] Akerlof also explored how "reciprocity," "fairness," and "group norms" lead to above-average wages paid and causing "involuntary unemployment" for a portion of the employable population when they cannot find work at their desired pay rate, and economic aspects of minority poverty and personal identity in a "dominant culture." We omitted these themes as less relevant to our analysis.
[19] Akerlof cites "diet, exercise, quit smoking etc" but also refers to retirement savings and 401(k)'s

of fiscal policies and legislation. Yet, linking individual behavior with macroeconomics is not trivial due to the number of actors involved. One conceivable approach could be to investigate fraud cases individually, in their macro and microeconomic contexts during the period 5 years prior to and after the fraud took place, while simultaneously assessing socio-economic and behavioral dimensions of the perpetrators or enablers of the fraudulent activities.

Macroeconomics and Corporate Governance

In a 2008 paper, Alan Dignam and Michael Galanis[20] explored relationships between "trade and finance" and "corporate governance." They argued that the level of openness of an economy influences which shareholder model ("dispersed" vs. clustered) becomes dominant. Specifically, they thought that economies that are more open exhibit "dispersed" ownership in which "uncommitted shareholders [operate] at arm's length." Additionally, Dignam and Galanis proposed that changing global macroeconomic conditions, the rise of globalization, changes in "trade policy," and lessened capital movement restrictions have already and will continue to have substantial impact on national economic structures.[21]

Beginning in the late 19th century, "entrepreneurs" and "families" lost some control of their companies to ownership dilution, and "merger activity" furthered the control of managers who did not own stock in the firm. Because ownership structures changed, managers gained power to distribute "retained earnings," and used it to address "conflicts among … resource providers." This constituted a widespread power shift and removed aspects of control from some of the traditional "stakeholders." The Bretton-Woods agreements, on the other hand, had ensured that "currencies were fixed to the US dollar and [restricted] movement of capital across borders." The world enjoyed economic stability and national economic policies emphasized regional "demand-led growth."

The managerial "autonomy from shareholders" combined with national economic "demand management" led to a "virtuous cycle of cumulative growth." However, the collapse of Bretton-Woods[22] in the early 1970s[23] ended economic constancy in many countries. Because Bretton-Woods was abandoned, Dignam and Galanis continued to explain, national governments eliminated "exchange controls and financial regulations that restricted capital flows." Governments' focus shifted from employment and consumption to money supply and exchange rates. This caused them to lose "autonomy," depressed growth rates, and accelerated "real interest rates." And in a world driven by "macroeconomic elements," it became "difficult to create demand." Additionally, "the liberalization of trade from the late 1960s onwards" caused a zero-sum game. Low-demand exporting and high-demand importing economies trading with each other made it possible that overall growth rates cancelled out. These economic conditions, Dignam and Galanis concluded, are more complementary for models in which stock ownership is widely "dispersed" and "managerial governance" is strong. They also contributed to the need for regulation and controls.

The U.S. regulatory landscape, the authors noted, is seen as more difficult to navigate, when comparing to the UK, for example. From the 1930s on, U.S. legislative changes de-emphasized self-regulation and gave greater weight to government intervention with the intent to shield "the public investor" and weaken investment banks' influence in public companies. One result was a proliferation of "disclosure standards." By the 1970s, the governance focus of firms had shifted

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[20] "Corporate governance and the importance of macroeconomic context," Oxford Journal of Legal Studies, Alan Dignam and Michael Galanis, June 1, 2008

[21] The paper explores other topics that are beyond the scope of this study, e.g. differences between governance systems in Germany, France, U.S, UK, and their influences on economic performance; the main thesis is that governments lose control of corporate governance if economic systems move closer to becoming "insider systems," referring to the shareholder ownership model when "states, families, non-financial corporations, employees and banks [are used] as a source of funding and control"

[22] http://www.imf.org/external/about/histend.htm

[23] http://www.imf.org/external/about/histend.htm

to "the shareholder," in that management sought to "insulate" itself from external influence. Some of the "institutional" investors remained "passive" since "co-ordination at the firm level was difficult" and instead sought to change rules of the market "to favor shareholders over management." This created "an alternative corporate governance system" that "favoured [sic] institutional investors" in widely "dispersed" ownership models with "uncommitted … outsiders." Dignam and Galanis concluded:

> … macroeconomic conditions matter in corporate governance outcomes, and recognizing the interdependent relationship between micro-level corporate legal structure and macroeconomic factors, such as trade, capital controls and demand, alters our understanding of the way corporate governance systems operate and, in turn, how policy can be formulated.

An example used by Dignam and Galanis illustrates how the macroeconomic environment and a difference in governance requirements influence markets: "capital mobility" allows a firm to choose the market from which to raise funds. If the regulatory environment is too strenuous, the firm could offer its shares in London instead of New York.

Contemporary control frameworks and regulatory systems would be less relevant had structural ownership changes and simultaneous ownership dilution not shifted oversight power to managers. Also conducive to strong managerial power are the conditions created by the end of Bretton-Woods, which promoted capital movements across national barriers. As a result, national economic governance shifted from demand to exchange rates. Regulatory complexities also contributed to the capital flight and motivated managers and institutional investors to attempt weakening or circumventing existing rules. Understanding these factors and how they shaped today's markets empowers us to design governance and markets more effectively.

The Timeline

The following pages explore noteworthy events in the context of this study, as they have shaped markets and their actors. Select issues took place in the years leading up to the frauds and were included as they contributed to the economic/political climate of the 1990s and 2000s.[24]

Prior to 1994

- Beginning in the 1970s, U.S. Congress assumes a "close watch on monetary policy,"[25] leading to infrequent tests of the U.S. Federal Reserve's (the "FED") "independence"[26]
- Also in the 1970s, U.S. investment banks turn themselves into public companies[27] and "[shift] the ultimate financial risk from themselves to their shareholders"[28]
- Computer processing capacities grow by a factor of 13.2 from 1978 to 1993, due to semiconductor improvements made by Intel[29]
- U.S. administrations, beginning in the Reagan years (1981-1989), use money policies as political tools; defense spending during the Reagan administration creates "record peacetime deficits,"[30] which Republicans view as viable economic policy; President Reagan for example says, "Defense is not a budget issues. You spend what you need"[31]
- In 1987, The Treadway Commission issues recommendations designed to address an "alarming increase in fraudulent corporate financial reporting"; recommendations for public companies include implementing an internal controls structure that ensures

[24] We also included the year after the last fraud considered in this study
[25] "A history of macroeconomic policy in the United States" (John H. Wood, Routledge, 2009)
[26] Ibid
[27] http://www.fundinguniverse.com/company-histories/Salomon-Inc-Company-History.html
[28] Michael Lewis, "The end," portfolio.com, December 2008
[29] www.intel.com/pressroom/kits/core2duo/pdf/microprocessor_timeline.pdf
[30] "A history of macroeconomic policy in the United States" (John H. Wood, Routledge, 2009)
[31] Reagan Administration Budget Director David Stockman quoted in "A history of macroeconomic policy in the United States"

"discipline"; for example, by avoiding conflicts of interest and unrealistic performance objectives, and by ensuring audit committee independence[32]

- Throughout the 1990s/2000s, the New York Stock Exchange (and other Exchanges) expand electronic trading capabilities enabled by technological advances[33] [34]
- In 1992, "The Committee of Sponsoring Organizations of the Treadway Commission" publishes a standard for internal controls, describing a framework for objectives, risk, performing mitigating actions, delivering reports, and ensuring supervision[35]
- During the Clinton administration, beginning in 1993, a lenient attitude toward regulation of financial markets prevails; several White House advisors, along with the then-chairman of the FED Alan Greenspan, believe that government should refrain from "interventions in the market"[36]

1994

- The North American Free Trade Agreement (NAFTA) creates a free trade zone in the Americas, designed to stimulate international trade between member countries[37]
- The FED raises interest rates several times "for fear of inflation"[38] [39]
- Newt Gingrich is elected Speaker of the House of Representatives[40] after the Republicans capture "both houses of Congress" during midterm elections;[41] Under Gingrich, the Republicans will manage to pass significant "legislative initiatives"[42]

1995

Fraudulent activities began in this year:

- *Manhattan Bagel (Corrupt Business Practices)*

Notable Events

- The U.S. helps solving the Mexican Peso crisis by providing an emergency package through foreign exchange loans, worth $50bn[43]; Mexico's GDP had fallen by 6%[44]
- The FED continues to raises interest rates throughout the year[45]
- Netscape Communications IPO' is considered the launch of the "dot com bubble"[46]

1996

Notable Events

- Bill Clinton and Al Gore are re-elected to the White House[47]
- The Glass-Steagall Act becomes "obsolete" through a new interpretation of a previously identified "loophole;" banks can increase their engagement in securities businesses[48]

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[32] Summary provided by the American Institute of Certified Public Accountants: http://fvs.aicpa.org/Resources/Antifraud+Forensic+Accounting/CPAs+in+Business+and+Industry+and+Government/Programs+and+Controls/The+Treadway+Commission.htm
[33] http://www.nyse.com/about/history/timeline_technology.html
[34] "Exchange Mergers and Electronic Trading," Jack Clark Francis, Arie Harel, and Giora Harpaz, The Journal of Trading, Winter 2009
[35] http://www.coso.org/audit_shop.htm
[36] Economist Joseph Stieglitz interview: http://www.pbs.org/wgbh/pages/frontline/warning/interviews/stiglitz.html#clinton
[37] http://www.naftanow.org
[38] http://www.federalreserve.gov/fomc/19940204default.htm
[39] http://timeslinesdb.com
[40] http://www.infoplease.com/year/1994.html
[41] http://www.usatoday.com/news/washington/2003-01-19-gop-revolution-usat_x.htm
[42] "Ten years after the Gingrich revolution," Joseph Perkins, The San Diego Union – Tribune, September 17, 2004
[43] http://www.infoplease.com/year/1995.html, http://frank.mtsu.edu/~berc/global/oldissues/summer95/p2.html
[44] http://timelinesdb.com
[45] http://timelinesdb.com
[46] http://www.historyofscience.com/G2I/timeline/index.php?id=1339
[47] http://www.infoplease.com/year/1996.html
[48] http://www.pbs.org/wgbh/pages/frontline/shows/wallstreet/weill/demise.html

- President Clinton signs The Personal Responsibility and Work Opportunity Reconciliation Act[49] to promote "transitions" from poverty to employment, and a separate bill that raises the minimum wage by 90 cents[50]
- California signs The Electric Utility Industry Restructuring Act[51] into law, which stimulates competition[52] and shifts risk to the consumer while giving providers more leverage[53]
- Pres. Clinton orders changes to regulations to "streamline" approval of cancer drugs[54]

1997

<u>Notable Events</u>

- President Clinton uses a "line item veto" on a component of a budget bill; it would have allowed financial institutions that "relocate funds … overseas" to lower their taxes[55]
- The Taxpayer Relief Act and Balanced Budget Act are signed into law,[56] with the intent to balance the Federal budget and provide "tax breaks" for individuals and corporations[57]
- Scholes and Merton are awarded the Nobel Prize in Economics for "their work on valuing stock options and other investments"[58]

1998

Fraudulent activities began in this year:

- *Hamilton Bankcorp (Corrupt Business Practices)*
- *Westar Energy (Misappropriation of Assets)*

Fraudulent activities ended in this year:

- *Manhattan Bagel (Corrupt Business Practices)*

<u>Notable Events</u>

- The near-failure of Long-Term Capital Management, a hedge fund co-founded by Scholes and Merton,[59] prompts intervention by the U.S. Government[60]
- MCI and Worldcom complete their merger after obtaining FCC approval[61]
- Major Wall Street brokerages agree to a $1bn settlement with antitrust regulators relating to NASDAQ investments and price rigging[62]
- The U.S. Supreme Court rules the President's veto of line items in bills unconstitutional[63]
- Falling interest rates (Fed Funds rate lowered by 0.88% between January and December)[64] stimulate venture capitalist investments in technology companies[65]
- The U.S. Federal budget is balanced for the first time since 1968[66]

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[49] http://www.acf.hhs.gov/programs/cse/pubs/1996/news/prwora.htm
[50] http://timelinesdb.com
[51] http://www.eia.doe.gov/cneaf/electricity/california/assemblybill.html
[52] http://www.ferc.gov/industries/electric/indus-act/wec/chron/chronology.pdf
[53] New York Times, "The Nation: Market knows best; Does energy deregulation still make sense," May 12, 2002
[54] http://www.nytimes.com/1996/03/30/us/president-orders-faster-approval-of-cancer-drugs.html
[55] http://www.infoplease.com/ipa/A0005978.html
[56] http://timelinesdb.com
[57] http://www.filetax.com/97taxact.html
[58] http://timeslinesdb.com
[59] http://www.sjsu.edu/faculty/watkins/ltcm.htm
[60] Cato Institute, Kevin Dowd, "Too Big to Fail? Long-Term Capital Management and the Federal Reserve"
[61] http://news.bbc.co.uk/2/hi/business/171675.stm
[62] http://timeslinesdb.com
[63] http://caselaw.lp.findlaw.com/scripts/getcase.pl?court=US&vol=000&invol=97-1374
[64] http://research.stlouisfed.org/fred2/series/FEDFUNDS
[65] http://timelines.com/1998/interest-rates-begin-to-fall

1999

Fraudulent activities began in this year:

- *Computer Associates (Fraudulent Financial Reporting)*
- *AremisSoft Corporation (Fraudulent Financial Reporting)*

Notable Events

- Chairwoman of the CFTC, advocating the regulation of derivatives, resigns after White House free-market economists effectively prevented OTC[67] derivatives regulation[68]
- The Glass-Steagall Act is repealed and banks are now allowed to "operate … insurance and investment brokerages"[69]
- Fannie Mae "eases" lending standards to stimulate bank loans to those who do not meet requirements for "conventional loans;" this fuels "growth" in subprime lending[70]
- President Clinton veto's a Republican $792bn tax cut proposal[71]
- The U.S. enjoys a $14bn budget surplus[72]
- Texas deregulates electricity markets to increase competition[73]

2000

Fraudulent activities began in this year:

- *Reliant Energy (Corrupt Business Practices)*
- *Dynegy (Corrupt Business Practices)*
- *America Online (Fraudulent Financial Reporting)*

Fraudulent activities ended in this year:

- *Computer Associates (Fraudulent Financial Reporting)*
- *Reliant Energy (Corrupt Business Practices)*

Notable Events

- Alan Greenspan is re-nominated by President Clinton as Chairman of the FED[74]
- The Commodity Futures Modernization Act stipulates that credit default swaps and trades on "electronic energy commodity markets" are exempt from regulation[75]
- The FED lowers interest rates several times during a period of 2 years beginning in 2000, "encouraging easy-lending practices"[76]
- President George W. Bush is elected, although the election was briefly contested[77] [78]
- America Online and Time Warner merge[79] after obtaining FTC approval[80]
- The human genome is deciphered, promising major breakthroughs in medicine[81]
- The "dot-com bubble"[82] bursts: companies run out of funding,[83] causing a market crash [84]

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66 http://www.infoplease.com/year/1998.html
67 OTC = Over the counter
68 pbs.org, Frontline 'The Warning', and http://www.arnoldporter.com/professionals.cfm?u=BornBrooksleyE&action=view&id=557
69 http://www.cfr.org/publication/18709/
70 http://www.cfr.org/publication/18709/
71 http://timeslinesdb.com
72 http://www.infoplease.com/spot/99us1.html
73 www.capptx.com/files/HistElectricDereg_TX.pdf
74 http://www.nytimes.com/2000/01/05/business/greenspan-named-to-a-fourth-term-as-fed-chairman.html
75 http://www.cfr.org/publication/18709/
76 http://www.cfr.org/publication/18709/
77 http://www.infoplease.com/year/2000.html
78 http://timeslinesdb.com
79 http://www.infoplease.com/year/2000.html
80 http://www.nytimes.com/2000/12/14/business/ftc-action-on-big-merger-set-for-today.html
81 http://www.infoplease.com/year/2000.html

2001

Fraudulent activities began in this year:

- *ImClone (Disclosure)*
- *Capital Citi Bank (Misappropriation of Assets)*

Fraudulent activities ended in this year:

- *Dynegy (Corrupt Business Practices)*
- *AremisSoft Corporation (Fraudulent Financial Reporting)*

Notable Events

- Terrorists crash four planes in New York, Pennsylvania, and Washington D.C.[85]
- The U.S. begins its military campaign in Afghanistan[86]
- President Bush signs a $1.3t tax cut bill into law
- Dynegy ends its talks with Enron about a merger;[87] Enron declares bankruptcy[88] [89]
- By December, the FED lowered interest rates for the 11th time in this year[90]

2002

Fraudulent activities ended in this year:

- *Hamilton Bankcorp (Corrupt Business Practices)*
- *Westar Energy (Misappropriation of Assets)*
- *ImClone (Disclosure)*
- *Capital Citi Bank (Misappropriation of Assets)*

Notable Events

- The Sarbanes-Oxley Act (SOX) is signed,[91] requiring public companies to ensure "corporate responsibility," along with required executive certification of financial reports[92]
- The U.S. Fed lowers the discount rate to 0.75% (less than inflation rate of 1.6%)[93]
- Worldcom files for bankruptcy protection[94]

2003

Fraudulent activities ended in this year:

- *America Online (Fraudulent Financial Reporting)*

Notable Events

- The U.S. begins the war in Iraq[95]
- President Bush signs the Jobs and Growth Tax Relief Reconciliation Act into law,[96] benefitting mainly "married couples with children, investors, high-income folks and small business" and containing expiration clauses[97]

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[82] http://timelines.com/2000/3/10/dot-com-bubble-reaches-peak
[83] http://www.webopedia.com/quick_ref/timeline.asp
[84] http://www.infoplease.com/year/2000.html
[85] http://www.infoplease.com/year/2001.html
[86] http://www.usatoday.com/news/sept11/2001/11/09/cover.htm
[87] http://www.nytimes.com/2001/12/01/business/enron-struggles-to-find-financing-to-remain-in-business.html?pagewanted=all
[88] http://en.wikipedia.org/wiki/Enron
[89] http://timelines.db.com
[90] http://timelinesdb.com
[91] http://www.sarbanes-oxley-forum.com/
[92] "The Sarbanes-Oxley Act of 2002," n.d., presentation provided during lecture on October 4, 2009
[93] http://www.usinflationcalculator.com/inflation/historical-inflation-rates/
[94] http://timeslinesdb.com
[95] http://www.infoplease.com/year/2003.html

- Because of the $350bn tax cut, the Federal Budget Office projects a budget deficit of nearly $6t within 10 years[98]
- The U.S. begins significant rebuilding efforts in Iraq, funded by more than $60bn of spending approved by the U.S. Government[99]

2004

Notable Events

- The FED lowers the net capital reserve requirements for investment banks, which allows them to leverage their balance sheets at a much higher ratio than before; instead of a 12:1 ratio, investment banks are allowed "unlimited" leverage, and it is later determined that by 2007, on average, the leverage ratio had increased to 30:1[100]
- Alan Greenspan is re-nominated by President Bush as Chairman of the FED[101]
- Basel 2, a "capital-adequacy framework for banks" is finalized[102] to provide guidance for banks how to "align" risk and "capital requirements"[103]
- The FED raises interest rates several times during this year[104]
- The U.S. Congress extends 3 tax cuts and President Bush signs a $136bn tax cut bill benefitting corporations[105]
- Worldcom returns from bankruptcy protection as MCI[106]
- The U.S. Congress extends the Bush tax cuts[107]
- George W. Bush is re-elected as President of the United States[108]

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96 http://timeslinesdb.com
97 http://www.smartmoney.com/personal-finance/taxes/what-the-bush-tax-cut-means-for-you-14345/
98 http://www.infoplease.com/year/2003.html
99 http://www.infoplease.com/year/2003.html
100 http://www.cfr.org/publication/18709/
101 http://timelinesdb.com
102 http://timelinesdb.com
103 http://www.bis.org/publ/bcbsca.htm
104 http://timelinesdb.com
105 http://timelinesdb.com
106 http://timeslinesdb.com
107 http://www.infoplease.com/year/2004.html
108 http://www.fec.gov/pubrec/fe2004/tables.pdf

Macroeconomic Timeline

The timeline overview in exhibit 3 highlights select events discussed in the previous section.

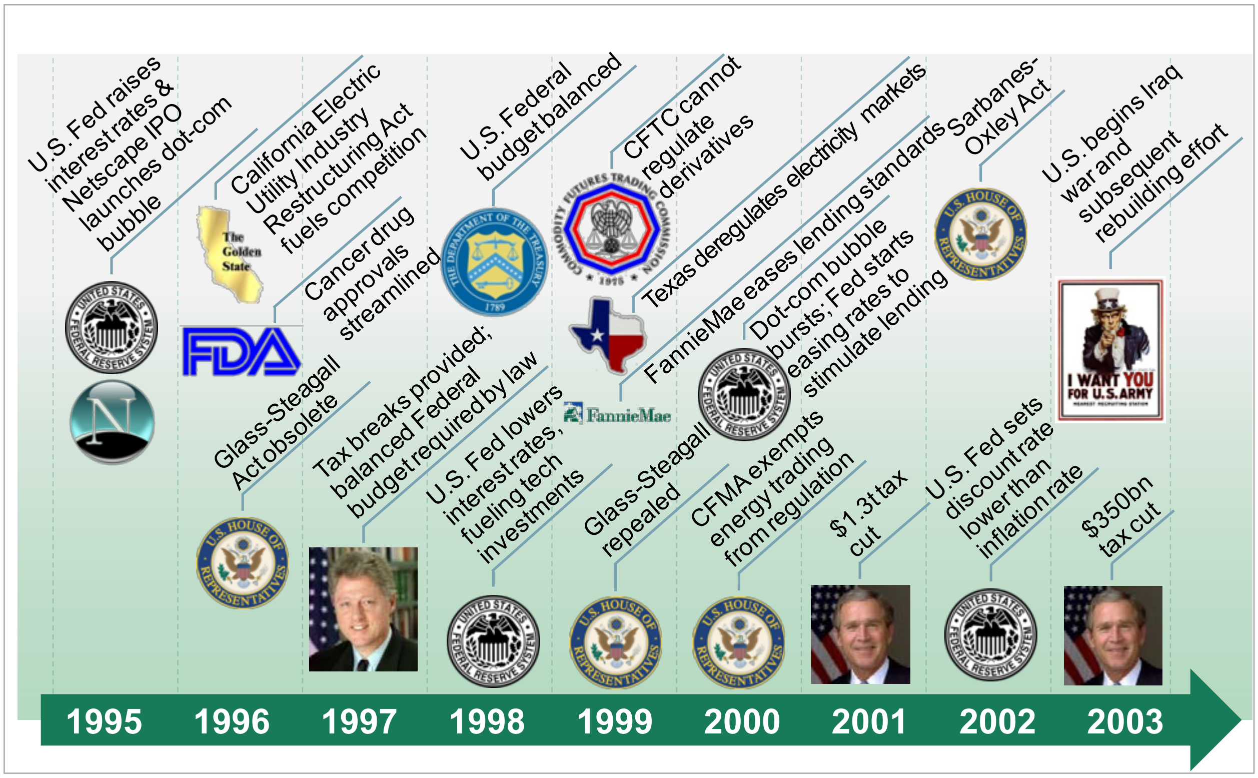

Exhibit 3: Macroeconomic Timeline

The fraud cases previously grouped by type[109] can also be grouped by sector and related macroeconomic, fiscal policy, and legislative events, as shown in table 1:[110]

Sector	Event	Companies
Energy	▪ California and Texas deregulate energy markets to stimulate competition ▪ Energy commodities trading is exempted from regulation	▪ Westar Energy ▪ Dynegy ▪ Reliant Energy
Technology	▪ Technology sector investments are fueled by low interest rate targets set by the Fed (contributing to the dot-com bubble) ▪ Derivatives regulation avoided, furthering a shift in risk	▪ AOL ▪ Computer Associates ▪ AremisSoft
Healthcare	▪ FDA accelerates approval of cancer drugs ▪ Derivatives regulation avoided, furthering a shift in risk	▪ ImClone
Finance	▪ Derivatives regulation avoided, furthering a shift in risk ▪ Glass-Steagall Act repealed, creates markets for banks ▪ FannieMae adjusts standards to stimulate subprime bank lending	▪ Hamilton Bankcorp ▪ Capital City Bank

Table 1: Sectors, Events, Companies

[109] Misappropriation of assets, disclosure, fraudulent financial reporting, or corrupt business practices
[110] We did not identify relevant legislative/macroeconomic events for the fourth industry represented in this analysis (food services)

Indicators 1995-2003

Exhibit 4 illustrates select macroeconomic indicators during the years 1993-2003[111] on a timeline along with the fraudulent cases considered in this study.

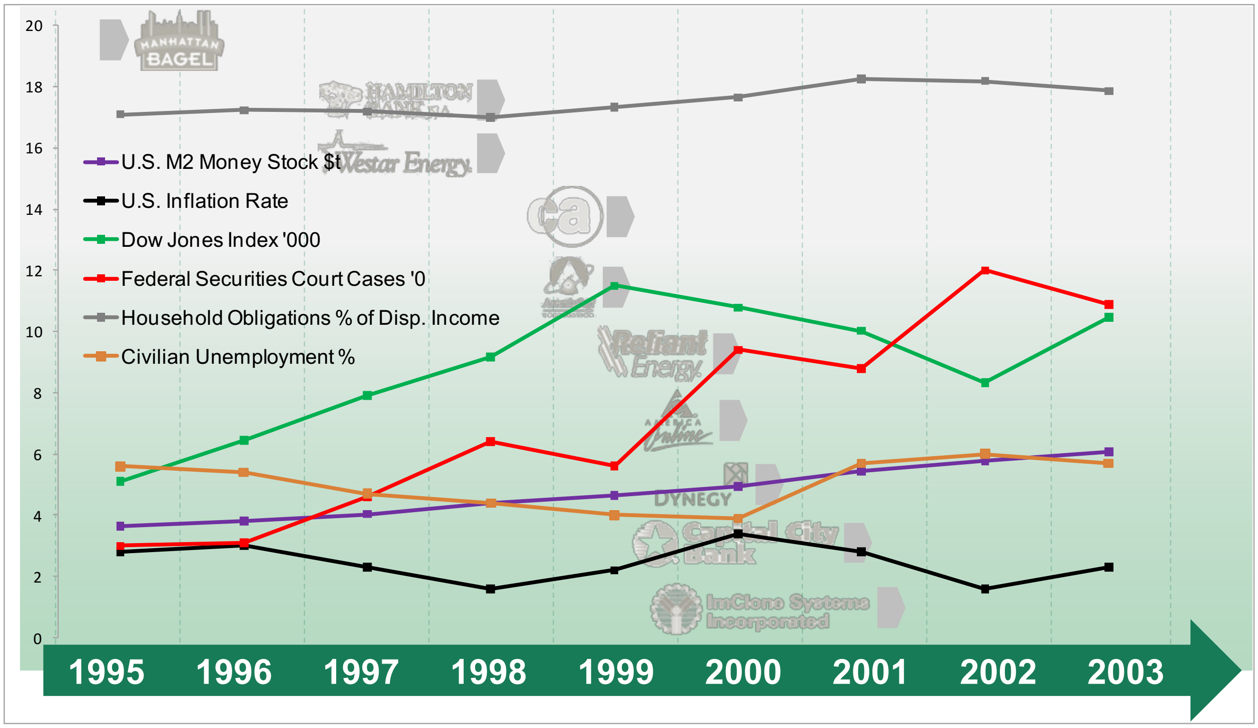

Exhibit 4: Macroeconomic Indicators

Discussion

Observations from exhibit 4 are limited by the number of cases considered in the study, and the short period of time analyzed.

A cluster of fraud cases occurred during the years1999 to 2001, preceded by respectable growth of the Dow Jones index and suggesting good economic conditions. Unemployment fell during the years 1995-2000 while the market prospered (note Dow Jones index), which arouses curiosity why individuals would commit fraud in a flourishing economy (note the rise in securities court cases).

Although litigation of securities cases in Federal courts increased during the years 1999-2001, we cannot be sure if more fraud *occurred* or if more fraud was *uncovered*. In 2002, the Dow Jones index and the number of securities cases litigated in Federal court evolved inversely. This suggests that the introduction of SOX in 2002 influenced market performance and contributed to the increase in fraud detection.

Lastly, household debt remained relatively steady throughout the period, with a slight uptick beginning in 1999. This points to money supply policies fueling cheap borrowing.

[111] Sources: Yahoo! Finance, FRED database of the St. Louis Federal Reserve, www.usinflationcalculator.com, uscourts.gov; figures represent values at year end and have been adjusted to scale to allow for a better visualization (moved decimal point)

Correlation Analysis

This section provides a view on select macroeconomic indicators obtained from the St. Louis Federal Reserve,[112] which we contrasted with financial performance indicators obtained from CRSP.[113] For the 10 fraudulent firms chosen for the study, we also used a control group of 10 companies[114] from the same industry (SIC code) and of the same size (employee count).

Definitions and Limitations

1. Observations for each company are limited to the years during which fraud occurred
2. Fraudulent activities in the selected firms were not committed in the same time period
3. This analysis is limited to 8 fraudulent companies, and each non-fraudulent match
4. 3 fraudulent companies exhibited ownership and ticker symbol changes, which distorted industry associations and limited access to historical data[115]
5. The analysis contrasts macroeconomic indicators with firm-level performance indicators

M2 Money Stock and Firm Share Price Returns

Hypothesis: An increase in the money supply makes borrowing cheap, which increases risk taking and leads to fraud to maximize returns

Test: Determine the correlation coefficient for monthly stock returns and monthly changes in M2 money supply, for fraudulent and non-fraudulent firms

Result:

Correlation of Firm Returns With Change in M2 Money Supply			
Fraudulent		***Non-Fraudulent***	
AOL	0.109766374	Qwest	0.138425572
Computer Associates	-0.07203049	Symantec	-0.217589478
Manhattan Bagel	0.179274708	Starbucks	0.225914722
Dynegy	-0.02895572	American Electric Power	0.115336958
ImClone	0.25976614	ArQule	0.170238793
AremisSoft	0.193735564	Accelrys	-0.009841997
Westar Energy	0.13066829	Wisconsin Electric Power	-0.019662046
Capital City Bank	0.026522062	First Place Financial	-0.321852807
Average	0.099843366		0.010121215
Median	0.120217332		0.05274748

Table 2: Correlation Coefficients M2 Money Stock and Returns

Discussion: No fraudulent match exhibits a correlation coefficient higher than 0.26 (ImClone = 0.2597). The average correlation coefficient of the 10 fraudulent picks is marginally higher (0.09) than the coefficient of the non-fraudulent companies

[112] http://research.stlouisfed.org/fred2/
[113] http://wrds-web.wharton.upenn.edu/wrds/index.cfm
[114] Matches (non-fraudulent firms in parentheses): AOL (Quest), Computer Associates (Symantec), Manhattan Bagel (Starbucks), Dynegy (American Electric Power), ImClone (ArQule), AremisSoft (Accelrys), Westar Energy (Wisconsin Electric Power), Reliant Energy (CenterPoint Energy), Capital City Bank (FirstPlace Financial), Hamilton Bankcorp. (Placer Sierra Bancshares)
[115] No comparison data could be obtained for Reliant Energy and Hamilton BankCorp. These issues were likely caused by the initial selection of the non-fraudulent match and discovered too late into the project to be corrected. In the case of AremisSoft, a predecessor of the company's non-fraudulent match is used.

(0.01). Overall, the correlation between returns in fraudulent and non-fraudulent companies selected for this study and the money supply is weak.[116]

As the fraudulent firms' returns are closer aligned with the M2 money supply, this suggests that affordable borrowing (as a result of monetary policy) leads to higher returns in fraudulent firms. These returns, at least in part, would have to be attributed to the fraudulent activities. We can conclude that fraud does not decrease when lending is cheap.

The results from above correlation analysis can be set in context with the fraud type mappings (see table 3):

Fraud Type Mappings		
AOL	0.109766374	Fraudulent Financial Reporting
Computer Associates	-0.07203049	Fraudulent Financial Reporting
AremisSoft	0.193735564	Fraudulent Financial Reporting
Manhattan Bagel	0.179274708	Corrupt Business Practices
Dynegy	-0.02895572	Corrupt Business Practices
ImClone	0.25976614	Disclosure
Westar Energy	0.13066829	Misappropriation of Assets
Capital City Bank	0.026522062	Misappropriation of Assets

Table 3: Fraud Type Mappings

In this sample of companies, the range of correlation coefficients indicates that in companies where executives misappropriated assets, the correlation coefficients exhibit a greater consistency. This means that the returns of Westar Energy and Capital City Bank moved very similarly to the M2 money supply. The spread of correlation coefficients is higher in companies indicted for fraudulent financial reporting and corrupt business practices. The disclosure category does not allow further conclusions due to a lack of comparative observations.

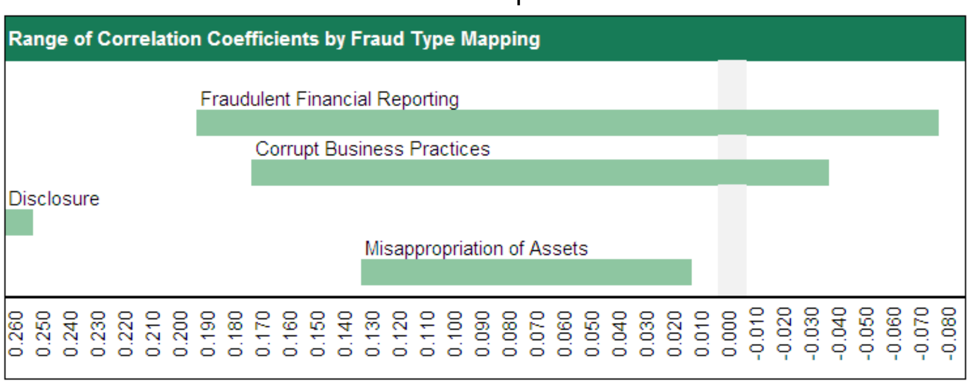

Exhibit 5: Range of Coefficients

[116] The average correlation coefficient is used here since the correlation coefficients are determined for a different time period for each firm, as the fraudulent activities did not coincide

Disposable Personal Income and Firm Share Price Returns

Hypothesis: As disposable personal income (DPI) changes, fraudulent activities may be committed to improve returns, and by extension personal compensation

Test: Determine if returns in fraudulent companies correlate with changes in DPI

Result:

Correlation of Firm Returns With Change in DPI			
Fraudulent		***Non-Fraudulent***	
AOL	-0.02934599	Qwest	-0.020192354
Computer Associates	-0.03288522	Symantec	0.256296932
Manhattan Bagel	-0.20884387	Starbucks	-0.102505589
Dynegy	0.150165473	American Electric Power	0.001294436
ImClone	-0.33618341	ArQule	-0.249881887
AremisSoft	0.284716192	Accelrys	0.402728695
Westar Energy	-0.0331531	Wisconsin Electric Power	-0.06312126
Capital City Bank	0.145761689	First Place Financial	0.129228749
Average	-0.00747103		0.044230965
Median	-0.0311156		-0.009448959

Table 4: Correlation Coefficients Returns and DPI

Discussion: Half of the coefficients of the fraudulent firms indicate an inverse relationship between returns and DPI. 40% of the non-fraudulent picks exhibit the same. This suggests that employee commitment influences returns. When DPI is high, employee performance reduces returns. When DPI is low, performance increases returns, affecting compensation. This is true for fraudulent and non-fraud firms.

Household Debt and Number of Securities Cases Tried in Federal Court

Hypothesis: Debt correlates with the number of cases in litigation, since a rise in personal debt contributes to a rise in securities fraud[117]

Test: Determine the correlation of the number of court cases with the percentage of average household debt

Result: The correlation between percentage of household debt and number of cases tried in Federal court is 0.8 for the years 1994-2003.

	% HH debt	Cases
% HH debt	1	
Cases	0.803374083	1

Table 5: Household Debt

Discussion: The coefficient suggests a strong correlation. As debt increases, more securities litigation takes place. Although, r^2 equals 0.64, indicating that the model does not provide a high confidence level, likely caused by the low number of observations.

[117] This correlation is detached from the 10 cases selected for this study, and uses data for the entire U.S. population (obligations) and the complete U.S. Federal Courts system (cases)

When performing the same analysis for the years 1988-1993, the coefficient equals -0.02. The data exhibit a modest increase in debt from 1980-1990, with a substantial drop in 1991 (followed by continued moderate decreases).

	% HH debt	Cases
1988	17.13	21
1989	17.39	54
1990	17.43	43
1991	16.69	43
1992	16.38	48
1993	16.28	40

Table 6: Household Debt 88-93

The negative correlation suggests that, as debt decreased, the number of cases tried increased. However, a considerable limitation in this analysis is the low number of only 6 observations.[118]

Taken together, these results could mean that it is not relevant what the average percentage of household debt in society is, as the number of securities cases litigated in the U.S. federal court system increases either way. It would be advisable, however, to repeat this analysis with more observations in an expanded study.

[118] R^2 equals 0.000394419, which reduces our confidence in the model

Recommendations

Behavioral economics, along with sociology, psychology and other theories, positions the human dimension appropriately within the study of economics. This improves our ability to predict fiscal policy and legislative consequences, while reconciling macroeconomic behavior and individual decision-making. Yet, linking these dimensions is not trivial due to the number of variables and actors involved.

Since the late 19th century, structural ownership changes and simultaneous ownership dilution began shifting power to managers who are mainly motivated by compensation. The end of Bretton-Woods motivated capital movements because of falling national barriers and weakened national economic governance. The resulting economic climate is complementary to lessened shareholder control and strong managerial power. These issues contributed to today's need for governance, control, and regulatory frameworks. The complex U.S. regulatory landscape that began forming in the 1930s[119] continues to cause capital flight. It also causes managers and institutional investors to pursue divergent actions to weaken or circumvent existing market and governance rules.

In the U.S., a shift in attitude toward risk took place between the 1970s and 1990s. Financial speculation became increasingly sophisticated, and investment banks transferred some of their business risk to shareholders, while expanding trading capabilities using information technology (IT). The technology sector experienced a boom in the 1990s for two reasons. First, low U.S. Federal Reserve interest targets fueled investments. Second, the Internet's rise and Moore's Law (states that computer processing speeds accelerate continuously[120]) created sizable demand for IT. Exhibit 5 places relevant macroeconomic, political, and fiscal factors on a timeline, along with the fraudulent cases discussed throughout this study.

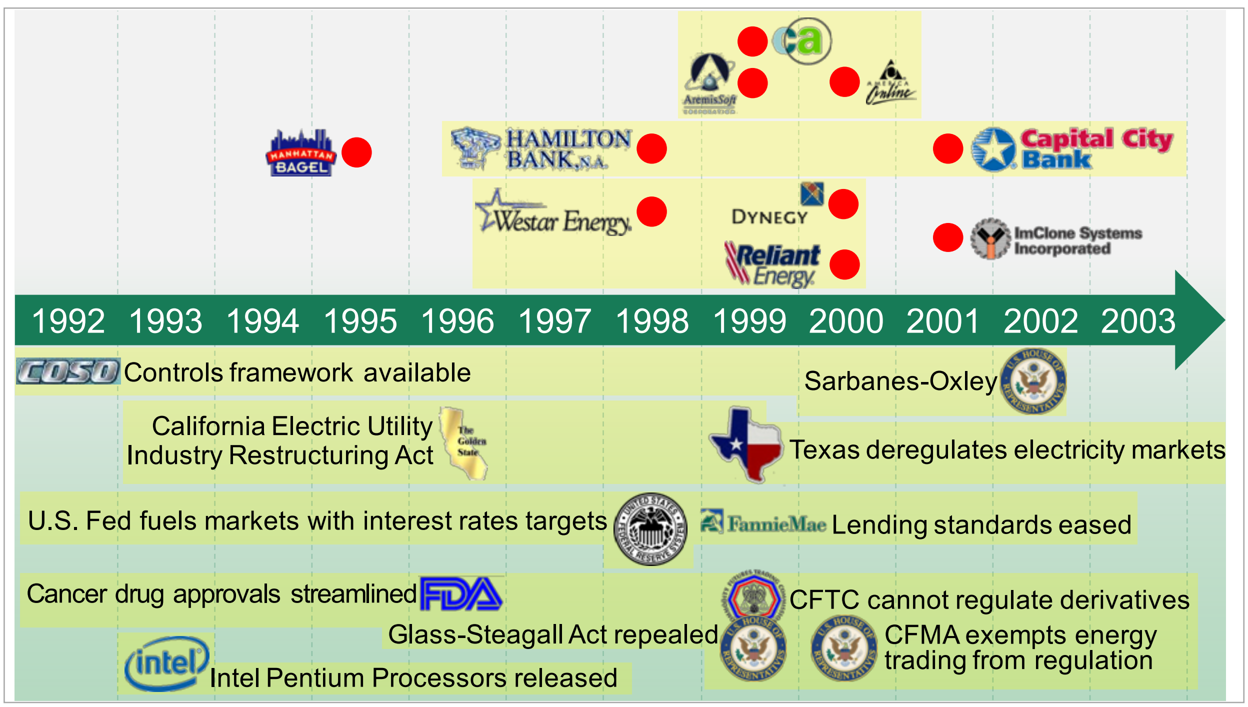

Exhibit 5: Fraud and Macro Factors

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119 "Corporate governance and the importance of macroeconomic context," Oxford Journal of Legal Studies, Alan Dignam and Michael Galanis, June 1, 2008

120 http://www.intel.com/technology/mooreslaw/

A rise in corporate fraud in the 1980s resulted in the formation of the Treadway Commission (1987), although the usefulness of the COSO framework (1992) seems questionable considering the increase of fraud cases in the 1990s. In the same decade, the U.S. government remained passive toward market regulation. The avoidance of derivatives regulation (1999) and repealing the Glass-Steagall Act (1999), for example, influenced many industry sectors and furthered the re-distribution of risk. In California (1996) and Texas (1999), state legislatures deregulated energy markets to stimulate competition. In addition, the federal government exempted energy commodities trading from regulatory oversight in 2000. In Finance and Energy, sub-standard oversight by the government and within firms created environments conducive to fraudulent activities because of the high stakes and potential for profits.

It was requested that we provide to your firm a case study analysis on corporate fraud that contributes to developing recommendations for clients that wish to avoid fraud. We suggest that the firm considers the following phased approach to account for macroeconomic and behavioral matters in said recommendations:

1. Review the client base and define the scope for the study (e.g. group by sectors, geographies, varying determinants of firm size)
2. Analyze the exposure to micro/macroeconomic factors by industry sector
3. Expand the source data to examine external factors over an extended period of time
4. Based on the findings from the previous steps, create a mapping that illustrates linkages between sectors and typical regulatory, economic, and legislative factors
5. Create a global Corporate Governance practice and assist clients with governance, regulatory compliance, and controls
6. In the process, assist clients in lobbying for strengthened corporate governance and sanctioning of illegal and unethical business in their industry, to level the playing field
7. Assist clients in incorporating business ethics into their businesses – and establish the firm at the forefront of a movement towards greater integrity in business

The new service offering will create a new revenue stream for the the client and should leverage competencies from existing practices:

- Corporate Finance (Financial Management, Budgeting & Reporting)
- Organization (Change Management)
- Information Technology (IT Strategy)
- Operations (Program Management)
- Strategy (Visions & Mission)

In phase 2, the firm should consider adding individual behavioral elements to its sector map. Organizational behavior theory, sociology, and psychology should be leveraged to analyze cause and effect relationships when managers with specific traits maintain leadership roles in firms that are subject to the external macroeconomic and industry factors identified in phase 1.