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The Correlation Between Financial Fraud and Economic Downturn

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The Correlation between Financial Fraud and Economic Downturn

Karen Alyse Hyink

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Abstract

Throughout the 20th century, researchers studied financial fraud in order to better understand the factors, motives and environments that increase the occurrences of fraud. By studying these historical trends, modern governmental agencies and public organizations are able to more effectively detect and prevent financial fraud.

Economic climate directly influences the occurrence of fraud; specifically, it is during periods of economic downturn when organizations are more vulnerable to fraudulent attacks. While it has always been assumed that recessionary periods lead to an increase in fraudulent activities, the direct correlation between the two has been greatly understudied by researchers. This thesis is important in part because it helps reduce that gap in research. It also confirms the theory that financial fraud increases during periods of economic downturn.

In Chapters 1 and 2, fraud research by notable scholars Donald R. Cressey and W. Steve Albrecht are explored. Keeping in mind the research objective to observe changes in fraudulent activity in years of economic downturn vs. years of economic growth and stability, Chapters 3 and 4 provide detailed analyses of fraud statistics found in yearly governmental publications. Statistics on investigations, civil and administrative proceedings, criminal proceedings and monetary penalties are also compiled and analyzed. Chapter 5 concludes the research and paper with interesting results. The findings clearly show a 2-3% average increase of fraudulent activities during periods of economic downturn when compared to years of economic growth or stability, affirming the assumption that fraud increases during recessionary periods.

The Correlation between Financial Fraud and Economic Downturn

Karen Alyse Hyink

To my parents, my sister and to Amy for all their support and kindness.

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Chapter I

INTRODUCTION

The current recession has caused great suffering and economic hardship on both individual and national levels. The collapse of Lehman Brothers and insurance giant AIG, as well as the fiscal irresponsibility and questionable lending practices of firms such as Citi, Ford, GM, Freddie Mac and Fannie Mae, may have helped usher in this period of economic downturn. On-going double-digit unemployment, a lessening in consumer confidence, big corporate bailouts, a rapidly increasing national deficit, public uncertainty and distrust have all contributed to the unusually slow recovery.

Literature suggests that there is a correlation between financial fraud and periods of economic downturn, namely, that the potential for financial fraud increases during periods of economic downturn. Recessions and depressions create the perfect scenario in which to commit fraud, as all three factors are not only present but exacerbated: opportunity, rationalization and pressure. Resources allocated for controls and auditing purposes are lessened. Employees already feeling the strain from downsizing and newly redistributed responsibilities have little time available for investigations. The climate of an economic downturn initiates desperation, panic and worry, creating an environment where people feel more pressure to commit fraudulent acts and are more likely to rationalize unethical behavior.

This paper examines the hypothesis that financial fraud increases during periods of economic downturn. It is organized into five chapters. Chapter 1 discusses the importance of studying fraud and provides examples of fraud in recent history. This chapter also defines fraud

and states ways fraud can be detected and measured. Important economic concepts – economic downturn, recession, and depression – are defined as well.

Fraud detection literature is reviewed in Chapter 2 and includes a detailed examination of the Securities and Exchange Commission reports. Additionally, selections from Donald Cressey, the “Big 4” accounting firms, and W. Steve Albrecht focusing on fraud are discussed, particularly with regard to their importance in creating a correlation between financial fraud and economic downturn.

Chapter 3 discusses the research methods and data collection activities. These includes primary and secondary sources, and methods for extracting, compiling and reviewing data, details on the sample selection and the methods of analyzing the sample.

Chapter 4 analyzes the research results and explains the findings. Finally, Chapter 5 summarizes the paper’s principal findings and offers suggestions for further research. Supplementary information, such as tables used in the extraction and compiling process, is provided in the appendix.

The Importance of Studying Fraud, and a Synopsis of Financial Fraud in Recent History

The impact of fraud is far-reaching. In order to illuminate the impact financial fraud has on the public and to depict the devastation that financial criminals can inflict on both an individual’s and a company’s economic well-being, two high-profile cases of recent years: Enron and WorldCom are discussed.

Enron was a seemingly affluent energy company. At the height of its prosperity, Enron was considered a “blue chip stock”, making its demise even more devastating. Sociologist Gary

Giroux has studied financial fraud and considers the Enron scandal to be “a microcosm of an entire scandal environment.” He states, “Enron had it all: gigantic executive compensation incentive packages; management dedicated to meeting quarterly earning forecasts to maintain the compensation— often by accounting manipulation; a rubber-stamping board of directors; a CFO enriching himself through related-party partnerships...; an accommodating auditor.” (1209)

Giroux is correct; so many things were wrong with this situation that it is hard to fathom. Significantly contributing to the scandal was the creation and use of hundreds of controversial special-purpose entities. This off-balance sheet scheme hid the company’s multi-billion-dollar losses, making the company seem more successful than it actually was. The fraudulent use of these special-purpose entities to conceal losses and manipulate financial statements exposed the company to criminal liability. Enron filed for bankruptcy in 2001. Enron stock, which had once traded at over \$90 per share, was worth mere pennies. Investor confidence was shattered and billions of dollars of market capital had evaporated. (Dragomir 37)

The Enron scandal had other ramifications as well. The impeccable reputation of accounting firm Arthur Andersen was irrevocably damaged. Arthur Andersen had provided both accounting services and auditing services to Enron, creating a conflict of interest that both congressional leaders and the general public believed led them to ignore Enron’s unethical behavior. In the course of a few months, this high-profile accounting firm was bankrupt and had disbanded. (Fox 1089-1103)

Another case of financial statement fraud was committed by telecommunications company WorldCom. WorldCom grew large through the acquisitions of other telecommunication companies, namely MCI. WorldCom recorded improper expenses of

approximately \$11 billion dollars (Giroux 10-14). When this was discovered by KPMG in 2002, WorldCom filed for bankruptcy. The CFO was charged with fraud.

Prior to Enron, the federal government did little to develop more elaborate procedures for detecting and preventing financial fraud. These scandals encouraged the U.S. Government to enact the Sarbanes-Oxley Act (SOX) on July 30, 2002. The Sarbanes-Oxley Act has six key provisions. First, the CEO and CFO must affirm, in writing, that the organization's financial statements are accurate. Second, SOX established the Public Company Accounting Oversight Board. This board monitors auditing firms and helps in creating and enforcing auditing standards. Third, the audit committee of the board of directors is responsible for the hiring, terminating, compensating and monitoring of the auditing firm their organization chooses to utilize. Fourth, an auditing firm can no longer audit a company's financial reports and offer other financial services, such as consulting or internal auditing. This helps eliminate any conflicts of interest that could arise. Fifth, an organization must now include an "internal control report" in its annual report. Sixth, severe penalties, such as 20 year imprisonment sentences, are established. Although evidence tampering has always warranted severe criminal penalties, under this Act, management caught destroying documents that could be used in an investigation could face even harsher sentences (Garrison, Noreen and Brewer 24-27). In passing this legislation, congress anticipates acts of fraud will be significantly reduced.

Defining Financial Fraud

The three main types of fraud are asset misappropriation, corruption and financial statement fraud, with asset misappropriation being the most common. Asset misappropriation

occurs most frequently and usually involves the theft or misuse of assets or cash. Corruption encompasses a multitude of unethical acts such as bribery, market rigging and conflicts of interest. Financial statement fraud is the intentional misstatement of revenue, assets or liabilities (Colorado Society of Certified Public Accountants 1-3). Corruption and bribery occur less often than asset misappropriations, but cost companies more per fraudulent act. Finally, although financial statement fraud occurs least frequently, it is also the most expensive, costing a corporation an average of \$2 million dollars or more per incident. (Coenen 1)

Fraud is an interesting subject as it transcends various fields of study. Studies from a variety of social sciences have examined the nature and reasons underlying fraud. Sociologists differentiate between occupational and corporate crimes. Occupational crimes are seen as being committed by individuals, primarily for their own interests, while at the workplace. Corporate crimes refer to a person's place within the organization's hierarchy and are thus committed by corporate officers acting as agents on behalf of their corporations. (Henry 2-3)

The Association of Certified Fraud Examiners (ACFE) defines occupation fraud similarly as: "the use of one's occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization's resources or assets" (ACFE 2008 6). This type of fraud is tracked by the ACFE. It is a very expansive definition, which includes a wide range of employee and managerial misconduct. Categories studied by the ACFE include, but are not limited to: corruption, asset misappropriation and fraudulent statements.

Detecting Financial Fraud

By its very nature, fraud is clandestine, which makes detecting and measuring it troublesome. Accountants, management, auditors, certified fraud examiners and governmental agencies are all involved in activities designed to detect fraud. First, accountants and management have the opportunity to detect fraud in their daily duties. Basic controls have been put in place by corporations and governmental agencies to not only prevent fraud from happening but also to catch acts of fraud while they are still relatively minimal. Minor adjustments in procedures such as having two signatures on an invoice for an approval of payment instead of one, or separation of duties in the accounts payable process, help lessen the occurrence of fraud. The theory is that the more people who see and approve an invoice or process it for payment, the less chance the approvers and processors have to commit fraud. Second, auditors have an opportunity to detect fraud when they look for inconsistencies in the application of control procedures and irregularities in financial statements. Third, a type of specialized auditor is a forensic accountant. These accountants have undergone extensive training and certification in order to uncover the most concealed acts of financial fraud. Finally, government agencies such as the Federal Bureau of Investigation (FBI) and the Securities and Exchange Commission (SEC) have departments whose sole purpose is actively to investigate and prosecute all manners of financial crimes. They rely on tips from insiders, whistleblowers, concerned citizens and others witnessing suspicious behavior, when investigating possible fraud.

The Financial Crimes Section of the Federal Bureau of Investigation (FBI) investigates the following acts of corporate fraud: falsification of financial information, self-dealing by corporate insiders and obstruction of justice (FBI 2007 1-4). Falsification of financial

information includes topics such as “false accounting entries, bogus trades designed to inflate profit or hide losses and false transactions designed to evade regulatory oversight” (FBI 2006 3). Insider trading, kickbacks, backdating of executive stock options, misuse of corporate property for personal gain and tax violations committed by individuals related to self dealing are all considered to be under the category of self-dealing by corporate insiders. Obstruction of justice is defined as activity “designed to conceal any of the above-noted types of criminal conduct, particularly when the obstruction impedes the inquiries of the SEC, other regulatory agencies, and/or law enforcement agencies.” (FBI 2007 3)

The SEC investigates and reprimands individuals or organizations who engage in fraudulent activities. These activities include: express misrepresentations, “Ponzi” schemes, “switch” schemes, front money schemes, bucket shops, investment advice, investment trust, fraternal organizations, manipulation and broker-dealer cases. (SEC 1944 144-146)

According to the FBI, a Ponzi scheme is a type of investment fraud wherein the broker assures high returns that are not obtainable through traditional means (FBI “Common Fraud Schemes” 7). Instead of investing funds as promised, the broker uses deposits from new investors to pay dividends to existing investors.

A high-profile Ponzi scheme involving whistleblowers led to the investigation and prosecution of Bernie Madoff. Madoff was a prominent member of the securities industry who at one time even served as the vice president of the National Association of Securities Dealers (NASD). Madoff ran a seemingly lucrative hedge fund called Ascott Partners. His investors received unusually high returns on their investments. Many thought Madoff had a magical golden touch as an investor. As it turns out, he was running an enormous Ponzi scheme whereby

new investment funds were used to pay double-digit returns to other investors (Lenzner 1). In the end, it was Madoff's own sons who tipped off the authorities. Madoff pleaded guilty and is currently serving a 150-year prison term and has been ordered to pay restitution. This is of little comfort to the people who lost their life savings. It is estimated that the public lost over \$65 billion. (Lenzner 1)

The SEC has been given power by the U.S. Congress to enforce its various Acts and to conduct its own investigations. It enforces its Acts in several ways. First, the SEC can bring administrative proceedings against an accused party, normally a broker-dealer or those associated with him or her (SEC 1969 100-108). These violations are dealt with directly between the SEC and the defendant. The proceedings typically occur over less severe situations and minor infractions, and in turn result in suspension or expulsion from the stock exchange or registered securities association (SEC 1974 75-78). Second, the SEC can file an injunction with the federal district courts. The proceedings are normally called civil proceedings. In these cases the federal courts order the broker-dealer or business to pay back money it has obtained illegally or by fraudulent means (i.e., disgorge ill-gotten gains) and may restrict the defendant's future activities (SEC 1975 96-116). If the injunction is violated in any way, the defendant could be prosecuted. The other more serious cases resulting from SEC investigations can be referred to the Department of Justice (DOJ) for prosecution (SEC 1975 96-116). Statistics on these preceding cases and defendants have been compiled in the yearly SEC reports.

Measuring Financial Fraud

There is no universal method for measuring financial fraud, although it is most commonly measured by the amount of dollars lost, given either as an approximate total per year or the amount uncovered in a particular scheme. This method only measures monetary loss and does not consider the number of cases or the number of individuals committing fraud. This paper attempts to measure fraud using those parameters: by extracting and analyzing data on cases, individuals and other variables contained in the annual SEC reports.

It is assumed for the purpose of this thesis, that there is a correlation between fraud which has been detected within a certain period of time and the total amount of fraud that has been committed within that same period of time. When the amount of detected fraud within a specific time frame increases, so does the amount of total fraud being committed within that same time frame (UCR 1). By using yearly statistics on reported crimes, the level of fraud can be approximately measured in any given year (UCR 1). These same statistics but can also be compared and contrasted to other years to see if fraud increases, decreases or stays the same.

Economic Downturn, Recession and Depression

Before discussing the correlation between financial fraud and periods of economic downturn, it is helpful to define the terms. Financial fraud has been defined with some detail in the preceding paragraphs. Economic downturn is commonly associated with the terms recession and depression. The Farlex Financial Dictionary states that a recession is “a prolonged economic retraction. While there is no technical definition of a recession, this economic phenomenon is

conventionally defined as two or more consecutive quarters of negative GDP growth.

Recessions are marked by declines in productivity and investment and high unemployment” (1).

Farlex Financial Dictionary’s “two or more consecutive quarters” definition is unpopular with most economists for two main reasons. First, this definition does not take into consideration changes in other variables such as the unemployment rate or consumer confidence. Second, by using data obtained on a quarterly basis, this definition makes it difficult to track when a recession begins or ends. This may also lead to a recession going undetected (if the recession lasts 10 months or less). (Doyle 1)

In the United States, the Business Cycle Dating Committee of the National Bureau of Economic Research (NBER) is generally seen as the leading authority for dating U.S. recessions. The NBER provides an alternate way to determine if a recession is taking place. According to the NBER, significant declines in production, unemployment, and real income are indicators of a recession (NBER “Frequently Asked Questions” 1). A recession is measured by calculating peaks and troughs in the economy. The NBER states, “A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough. Between trough and peak, the economy is in an expansion... a recession is a broad contraction of the economy, not confined to one sector” (1). The NBER focuses primarily on domestic production and employment as principal indicators of economic activity. (1)

Because the economy is so thoroughly observed by the NBER, most academics, economists, businesses and governmental agencies defer to the NBER’s determination for the precise dating of a recession's beginning and ending. While most recessions do consist of two or more quarters of declining GDP, the NBER explains why it does not solely use GDP as an

indicator when determining a recession, “in examining the behavior of domestic production, we consider not only the conventional product-side GDP estimates, but also the conceptually equivalent income-side GDP estimates” (NBER “Frequently Asked Questions” 1). The NBER observes and chronicles changes in the economy on a monthly basis.

Changes in GDP can also be used to classify depressions. Depressions occur when economic downturn falls by more than 10 percent (Doyle 1). Differing from recessions, depressions linger and have a steeper decline in business activities. (Doyle 1)

The following years are generally accepted to be periods of economic downturn in the United States during the 20th century and early part of the 21st century: 1937-1938, 1945, 1948-1949, 1953-1954, 1957-1958, 1960-1961, 1969-1970, 1973-1975, 1980-1982, 1990-1991, 2001 and 2007-2009 (NBER “Cycles” 1). These years show a decline in GDP, business activity and industrial activity that are consistent with methods used by the NBER as being years of economic recession.

Chapter II

LITERATURE REVIEW

Deterring Financial Fraud: The SEC Approach

a) SEC Annual Reports

The SEC has issued annual reports since 1935. These reports mainly give insight into the current performances of publicly traded companies. The reports also offer information on current events and major developments in the financial world, SEC Acts and listings, legislation, enforcement, litigations, statistical data and a wide range of financial documents. This information is helpful in determining the state of the economy and discerning clues into the increase, decrease or stagnation of financial fraud. To determine if there is a sustainable pattern that occurs during times of economic downturn versus times of economic stability, a wide range of years needs to be examined. The SEC annual reports are particularly valuable for this purpose.

At approximately 200-350 pages each, the reports can be rather cumbersome, making it difficult to sort through and find information. Fortunately, most of the content up until 2004 was arranged in somewhat the same manner, although minor changes in nomenclature (with regard to investigations and fraud detection) occurred throughout the decades. The SEC annual reports through 2003 have a different format and a different name. Therefore, the contents of the annual reports will be divided into two parts: the annual reports prior to 2004 and the annual reports after 2004.

Chapters of particular interest contain the following words: controls, regulations, cases, litigation, civil proceedings, criminal prosecution, enforcement, statistics and complaints.

Information on financial fraud is most commonly found within three sections of these reports. First, the introduction usually takes the form of the "Letter of Transmittal" in earlier decades and later becomes the "Chairman's Letter of Transmittal" (which is addressed to the Speaker of the U.S. House of Representatives). This section occasionally gives quick and basic statistics on enforcement and litigation matters in the form of an easy-to-read chart. This format is useful to view when trying to gather as much information as possible in a short amount of time.

The second section relating to financial fraud is the section entitled "Enforcement". This chapter is usually located in the middle or at the end of the reports from the earlier decades, but was later placed in the very beginning of the report as attitudes on enforcement became of greater concern to the public and officials. This section contains information on the types of violations of SEC Acts that had been committed, names of big cases, amounts of money involved in these big cases, and occasionally, a total dollar amount defendants were required to "disgorge from illicit profits".

The statistics that sometimes reside in the Enforcement chapter are usually given in the Appendix. The Appendix is the third section of the SEC annual reports which were studied. The Appendix is always located at the very back of these reports. Interestingly, the "Enforcement" section of the Appendix was historically situated toward the middle or end of the Appendix. In later years, this section was moved to the very beginning of the Appendix, just as the chapter on Enforcement moved to the very beginning of the annual report. This may have reflected the changed importance of this information by both the public and government alike.

The "Enforcement" section within the Appendix of the SEC reports has statistical information on the number of injunctive actions; criminal proceedings; information on

administrative proceedings; the total number of new or opened cases; and the total number of defendants in those cases.

In 2004 the SEC completely changed the format, tone and focus of its annual report. The SEC changed the names of the reports in order to reflect the change in content. These annual reports became known as the Performance and Accountability Reports. The pre-2004 versions of these reports were scanned and uploaded in their entirety to the SEC website, where one could open and view the whole report via a PDF format. For the new reports, one can choose to open only one specific chapter of the reports or view the whole report online at once in a PDF format. With regard to tone and focus, more emphasis is now placed on goals, successes, concerns and accomplishments of the SEC. The structure of these reports has changed somewhat. Valuable yet brief information can still be found in the preface of these annual reports, known as the "Message from the Chairman". It is easy to find, as it is always in the same spot: the beginning. There is no longer an "Enforcement" subsection. This information is now housed in the "Performance Measure" section and does not provide statistics on fraud as integers, but instead gives them as percentages of the total number of cases, with the total number of cases not being provided. The appendix for statistical purposes is no longer present. The appendix now consists of letters from political figures and auditor reports. However, the chapter on complaints has grown exponentially to include the various types of complaints and how quickly the complaints were investigated and resolved, among other things.

To make its enforcement information more easily accessible to the public, the SEC also began publishing a new report in 2004 that coincides with its annual report, called Select SEC and Market Data. These reports give all the pertinent statistical data mentioned above that had

been presented in the annual reports, but are instead now housed in this brief, convenient side-report.

b) Enforcing SEC Acts

When the SEC suspects a possible violation of its Acts, it opens investigations. The number of new cases and pending cases at the fiscal year end are dutifully recorded in annual reports. Under "certain circumstances", formal orders of investigation are utilized (although the criteria for "certain circumstances" are not stated). When formal orders are issued, the commission may, "designate members of its staff as officers to issue subpoenas, take testimony under oath and require the production of documents." (SEC 1969 2)

To reiterate from Chapter 1, once investigations have been concluded, the SEC can reprimand violators of its Acts by filing injunctive actions, filing civil actions or cases, bringing administrative proceedings, ordering disgorgements, levying civil penalties and recommending criminal proceedings. Injunctive actions are actions wherein the SEC seeks injunctions. The SEC seeks injunctive actions, or injunctions, to prevent individuals or organizations from further participating in the securities and commodities field. The SEC could prevent violators from holding office in publicly-traded companies or suspend broker-dealers' licenses. If an injunction is broken, the violator could face fines or imprisonment. Civil actions and cases frequently seek injunctions against broker-dealers (SEC "Performance and Accountability" 26-27).

Administrative proceedings are heard by the Commission and an administrative law judge.

These proceedings can lead to cease and desist orders or the revocation or suspension of registrations. Both administrative proceedings and civil actions order disgorgements of ill-gotten

gains and impose civil penalties. Civil penalties are fines imposed due to violations of the SEC Acts.

From 1934 to 1981, the SEC published statistics on criminal proceedings. Cases showing sufficient cause were referred to the Department of Justice (DOJ). Recommendations for prosecution were presented to the U.S. Attorney General. These referrals and recommendations included detailed reports on the violations and defendants.

One recent example of the SEC asserting its authority occurred in 2009 with the recommended sanctions of Countrywide Financial CEO Angelo Mozilo on grounds of insider trading. According to the SEC's June 14th, 2009 press release, Mozilo "sold his Countrywide stock based on non-public information for nearly \$140 million in profit" (1). He and other executives also misled the public by "falsely assuring investors that Countrywide was a prime quality mortgage lender that had avoided excesses of its competitors" (1). The SEC's complaint seeks financial penalties, disgorgement of ill-gotten gains and permanent injunction against Mozilo to prevent him from further serving in the securities and financial sectors (1). There was no reference to the SEC recommending Mozilo to the DOJ for prosecution.

The SEC can also sanction companies and individuals through the Foreign Corrupt Practices Act (FCPA), enacted by Congress in 1977. This Act was created to deter U.S. companies from bribing foreign officials in order to secure business abroad (Baker 633-647). In addition to its anti-bribing measures, the FCPA also states that any foreign or domestic issuers trading in the U.S. stock exchanges must comply with U.S. financial reporting standards and have programs in place to facilitate internal controls. Rollo C. Baker's article in the American Criminal Law Review states that the SEC and DOJ are increasingly prosecuting individuals

under this Act. Baker states that, "over the last few years, we are seeing rapidly increased enforcement. Between 1978 and 2000, the SEC and the U.S. Department of Justice ("DOJ") averaged only three prosecutions per year combined. As of October 2009, the SEC and DOJ brought over 30 enforcement actions in 2009 alone." (1)

Cressey, The Big 4 and Albrecht: Emphasizing a Correlation between Fraud and Downturn

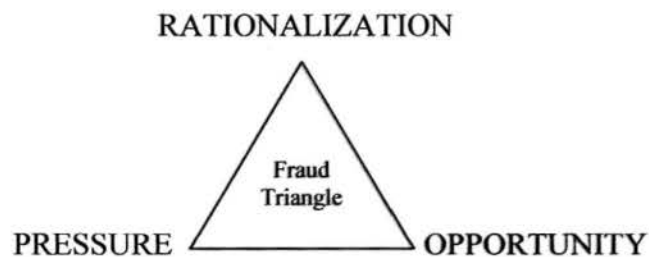
a) Cressey's Fraud Triangle

No published research from governmental agencies suggesting a direct correlation between financial fraud and economic downturn could be found. Due to this constraint, this paper focuses on models developed by Dr. Donald R. Cressey and Dr. W. Steve Albrecht with support from the "Big 4" accounting firms of KPMG, PriceWaterhouseCoopers, Deloitte and Ernst and Young. Dr. Donald R. Cressey is a criminologist who pioneered work in fraud research and who developed a model frequently referenced, The Fraud Triangle. Subsequent work by Dr. W. Steve Albrecht was influenced by the ideas of Cressey. The publications from the Big 4 focus upon the factors of Cressey's model and stress the relationship between financial fraud and economic downturn.

The three factors of opportunity, pressure and rationalization are all part of the fraud triangle, a term coined by Dr. Cressey (see Figure 1). Cressey interviewed approximately 200 incarcerated inmates for his research published in his book: Other People's Money: A Study in the Social Psychology of Embezzlement. He asked the embezzlers (whom he referred to as "trust violators") why they had not committed similar types of fraudulent acts at their previous positions. Of those who answered, most gave one or more of the following responses: "(a) There

was no need for it like there was this time, (b) The idea never entered my head, or (c) I thought it was dishonest then, but this time it did not seem dishonest at first” (Wells 7). Through these responses, Cressey concluded that opportunity, pressure and rationalization are all present when fraud is committed.

Figure 1 The Fraud Triangle



have been growing slowly...organizations may see an increase in asset misappropriation schemes, including skimming, check tampering and expense reimbursement.” (2)

The economic downturn not only increases fraud committed by employees, but several studies show that managerial fraud also increases. One of these studies: “Recession Drives More Managers to Commit Fraud”_was conducted by PriceWaterhouseCoopers in 2009. This study stresses the need for organizations to increase fraud detection and risk management systems during the current economic climate. PriceWaterhouseCoopers states that, “with increased incentives for fraud through financial hardship in the wake of the financial crisis combined with reduced numbers of staff focusing on fraud detection, and increasing numbers of middle management fraudsters, the conditions exist for companies to lose a lot of money over the coming year.” (2)

Management in particular is often under pressure to meet financial goals. The Journal of Business & Economic Research published an article in February of 2009 by Yung-I Lou and colleagues which stated, “When a firm sustains more financial pressure, we may identify more risks of material misstatement or fraud” (64). Lou further states, “When directors and supervisors sustain more financial pressure connected with a firm’s earnings, management has more incentive to manipulate financial statements, resulting in fraud” (64). Deloitte agrees with this assumption and further warns that, “management is often under pressure to meet short-term performance goals. With management’s own performance and compensation tied to operating or financial goals, management may drive its employees to achieve overly optimistic results—particularly in an economic slowdown.” (3)

The second element of the fraud triangle is opportunity. The perpetrator perceives the opportunity as means by which he or she can resolve non-sharable financial needs. This opportunity must be deemed a low personal risk and be kept secret. Opportunity, simply put, usually presents itself when there is a weakness in the system that an individual could exploit.

With companies downsizing, more employees are taking on multiple responsibilities. Frequent increases in work load, fewer employees to monitor the fortunate ones remaining, less time to complete tasks, and the general chaos of taking on new responsibilities, may result in internal controls being neglected. The workers remaining may not have the skill set or time to see to their new tasks properly. In these instances, the opportunity to commit fraud increases. Deloitte reiterates this idea stating that, "as organizations downsize, there may not be enough available employees for proper segregation of duties...breakdowns in an organization's system of internal controls are more likely to occur...fewer employees may lead to individuals assuming roles that are incompatible with their job function or to a decline in their accuracy of monitoring." (2)

The third side to the fraud triangle is rationalization. The perpetrator does not see what he or she is doing as being a fraudulent act. The criminal finds some way in his/her mind to rationalize his/her behavior as not being illegal. In fact, Cressey's 1973 study shows that most perpetrators do not have a criminal history. Cressey further concludes that they are victims of circumstance. A paper by Big 4 accounting firm PriceWaterhouseCoopers states that: "In difficult economic times the capacity for people to rationalize fraud and corruption increases." (PriceWaterhouseCoopers "Fraud in a Downturn" 3)

Although the fraud triangle is a useful tool in predicting environments in which fraud is more likely to occur, it does not address the capability of the perpetrator. David Wolfe and Dana Hermanson of The CPA Journal takes the concept of the fraud triangle a step further and insist that there is a fourth aspect to fraud: capability (1). Wolfe and Hermanson have dubbed this new model the “fraud diamond”. The theory behind the model is that “personality traits and abilities play a major role in determining whether fraud may actually occur despite the presence of the other three elements” (1). People with capability are much more dangerous than their less-capable counterparts. Wolfe and Hermanson further explain, “the right person for a fraud is smart enough to understand and exploit internal control weaknesses and to use position, function or authorized access to the greatest advantage... this knowledge is used to leverage the person’s responsibility over authorized access to systems or assets.” (2)

b) The Big 4

Fraud is a significant concern to global accounting firms. In the U.S., firms are regulated by the Public Accounting Oversight Board created under the Sarbanes-Oxley Act and are subject to strict auditing standards. The Big 4 publish warnings of the possible increase in fraud due to the economic downturn.

KPMG mentions in both its 2009 Forensic Fraud Survey and in its publication: “Recession and Fraud Double Whammy” that fraud is more likely to occur during periods of economic downturn. In the 2009 Forensic Fraud Survey, KPMG reviews the fraud triangle and the conditions in which fraud is more likely to occur; and suggests that, “periods of economic downturn can bring about elevated conditions for fraud and misconduct. In the current environment these increased risks may manifest themselves in the financial statements” (5).

PriceWaterhouseCoopers provides two publications, each advising of the possible increase in fraud during economic downturn. These, aforementioned, publications: "Recession Drives More Managers to Commit Fraud" and "Fraud in a Downturn: A Review of how Fraud and other Integrity Risks Affect Business" emphasize the frequency in which managers, in particular, commit fraud.

As mentioned previously, Deloitte published its survey: "Financial fraud: Does an economic downturn mean an uptick?" in 2008. In July of 2008 Deloitte asked more than 1,500 participants a series of questions concerning the potential impact of the economic downturn on their organizations' fraud control effectiveness. Eighty percent who responded believed that the economic downturn could significantly affect their organization (1). The second page of the publication states that "the three common factors driving fraudulent activity are financial pressure, opportunity and rationalization" (2). These are the same three factors stated in Cressey's fraud triangle. The publication provides in depth analysis on each factor, citing examples of how fraud could be increased during times of economic downturn. The publication further explains the types of financial statement fraud, including: revenue recognition, improper disclosures and manipulation of reserves or expenses. Helpful tips to combat, control and investigate fraud are also mentioned in subsequent pages.

Ernst & Young mentions incentives, motives, etc. but does not mention the fraud triangle by name; the firm merely alludes to the fraud triangle's attributes. In its "European Fraud Survey", Ernst & Young states that "not only does a downturn expose more fraud as the masking effect of economic growth is withdrawn, but as pressure intensifies on management to maintain income and earnings, the incentive to commit fraud increases." (1)

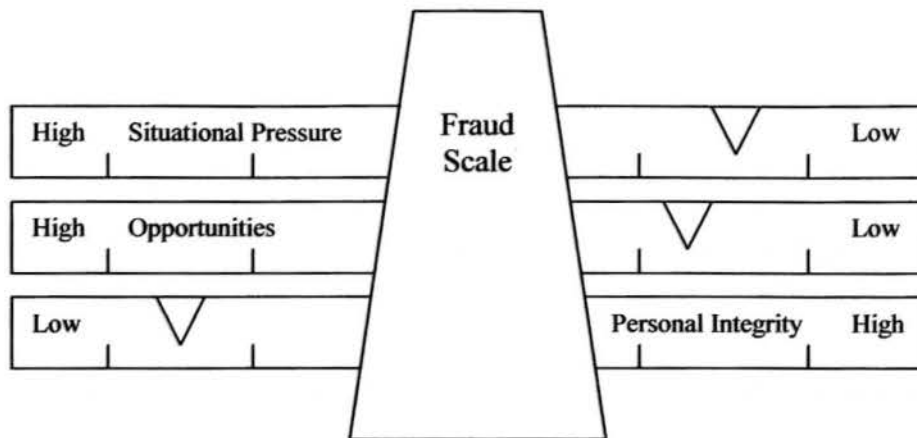
c) Albrecht's Fraud Scale

Where Cressey viewed fraud from the viewpoint of a sociologist, Albrecht researches fraud from an accounting perspective. Both viewed fraud in similar ways, but the focus of the research pertained to their respective professions. Instead of interviewing inmates, Albrecht and his associates, Keith Howe and Marshall Romney, developed a system of questionnaires to collect information on the fraudulent acts that had been committed, focusing largely on demographics and background information. These questionnaires were completed by the auditors of companies who were victims of the frauds. Once Albrecht and his associates had reviewed 212 cases of fraud via their questionnaires they observed that most of the perpetrators were motivated by one of nine specific things. The nine motivating factors were: "(1) living beyond their means, (2) a desire for personal gain, (3) high in personal debt, (4) a close association with customers, (5) feeling pay was not commensurate with responsibility, (6) a wheeler-dealer attitude, (7) strong challenge to beat the system, (8) excessive gambling habits, and (9) undue family or peer pressure" (Wells 16). High personal debt or financial problems were overwhelmingly the highest motivators. Albrecht also noted that there was a correlation between the perpetrators and the size of fraud they had committed. The larger frauds were committed by those who were interested in "beating the system". They used their ill-gotten wealth to buy expensive homes, cars, vacations and other flashy material objects. Those committing small acts of fraud did not. Those committing the small acts of fraud usually were motivated by the belief that their pay was not adequate. (Wells 14-18)

Similar to the findings of Cressey, Albrecht's research found three factors that influence occupational fraud: "situational pressures", "opportunities to commit fraud" and "personal integrity". Situational opportunities are the immediate problems employees are currently facing, such as personal financial troubles. Opportunities deal greatly with the lack of internal controls. If the opportunity easily exists, the employee is more likely to take advantage of it. Personal integrity refers to a person's own morals and values and whether or not they can ethically justify engaging in illegal acts. (Wells 6-18)

The findings of his research led Albrecht to formulate a fraud scale. The scale helps to measure when fraud may likely occur. There are three parts to the scale, representing the three factors Albrecht has observed (see Figure 1). The top of the scale is situational pressures, the middle section is opportunities and the bottom section is personal integrity. The left side of the scale represents times when fraud is more likely to occur, while the right side shows that fraud will not likely take place. The left side of the scale for both pressure and opportunities reads "high" where the same left side for personal integrity reads "low". The opposite is true for the right side, which shows pressure and opportunity reading "low" and personal integrity reading "high". The purpose of this is to show when two of the factors occur at the same time, the scale may lean the same way, and depending on which way the scale is tipping, fraud is either more or less likely to occur. For example, when personal integrity is low and opportunity is high, the scale tips towards the left, indicating that fraud is highly anticipated. This can also be illustrated for the right side. When opportunity and pressure are low and integrity is also low, the scale will tip to the right, showing that the likelihood of fraud occurring is not present. (Wells 12-16)

Figure 2 The Fraud Scale



Cressey's fraud triangle and Albrecht's fraud scale describe the environments in which an individual is most likely to commit fraud. It does not address the state of the economy or how the environment created by the economy could potentially impact the factors. Publications by the Big 4 demonstrate this relationship, linking Cressey's and Albrecht's findings to the state of the economy. The theory that fraud increases during time of economic downturn is corroborated by these publications.

Chapter III

METHODS OF STUDY

Researching and Sources

Information for this paper was gathered from various sources: books, periodicals, publications from financial institutions, surveys and publications from professional organizations and professional accounting firms, reports from governmental agencies and both professional and peer-reviewed journals.

The secondary sources include academic books and mainstream publications. Although these publications help significantly in the comprehension of ideas and theory, no statistical information was taken from any of these works. They were beneficial in compiling information for the Literature Review section of this paper and were extremely productive in providing material for the paragraphs on Cressey's fraud triangle.

Primary source material was gathered from the websites of professional organizations and accounting firms. Information was taken from many professional organizations, but the primary focus is mainly on publication and surveys from Deloitte, PriceWaterhouseCoopers, Ernst and Young, and KPMG. These sources are crucial in order to gain insight into what is happening in real world scenarios. These organizations observe on a daily basis what is occurring – in a practical manner. Once again, although these publications from professional organizations are significant to this paper, no data regarding fraud statistics were utilized from them, mainly because they did not contain any consistent statistics on measuring fraud which pertain to this paper.

Primary source material was also gathered from publications of the following organizations: the NBER, the ACFE, the FBI and the SEC. Unlike the secondary sources and the publications from professional organizations, pertinent data and statistics were able to be extracted for analysis from the governmental agencies and the ACFE. The ACFE is not a governmental agency but works closely with the DOJ and FBI to publish biannual reports on fraud.

Data Extraction and Compilation

All six of the ACFE Reports to the Nation from 1996-2010 (1996, 2002, 2004, 2006, 2008 and 2010), all eight FBI Financial Crimes Reports to the Public from 2002-2009 (2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009), and all 41 SEC annual reports from 1969-2009 were examined. These three organizations' publications were chosen due to their statistical content, which is easy to measure and relates directly to financial fraud. The ACFE and FBI reports were studied in their entirety. Only sections pertaining to enforcement, litigations and violations were read in the SEC reports (this includes sections in the introduction and appendix). The following statistics were extracted from each ACFE report and compiled into spreadsheets: the total number of cases the ACFE investigated; which percent of those cases were due to asset misappropriation; which percent was corruption; the percentage that was financial fraud misstatements; and the total approximate dollars lost in billions by fraud each year (see Appendix Table 24). Statistics on corporate pending cases were available from the FBI reports from 2002-2009. The other six categories tracked (indictments, convictions, restitution, recovery, fines and seizures) were only stated in reports from 2005-2009. The SEC reports

housed an incredible amount of information relevant to financial fraud, but only five areas met the specified criteria detailed below in the section entitled “The SEC categories and subcategories”.

All data were extracted with the utmost care. The publication title, year of publication and page numbers were meticulously recorded for every piece of data. Footnotes chronicle any oddities or concerns about the information. Data were triple checked to ensure accuracy. Special diligence was given to eliminating all data entry errors, transposition, computer issues and any other errors that could contribute to inexactness. These spreadsheets are located in the appendix.

Reviewing Data; Formulating and Applying Criteria

Data were extracted directly related to financial fraud. Three criteria were required when choosing which data would be analyzed. First, the data must have been presented in the same manner in each yearly/biyearly report. This was done to save time attempting to figure out how items were computed differently. For example, some SEC statistics on cases in 2002 were given as integers. In later years, the same statistics were given as percentages (with no reference to the total number of cases, making converting the data back to integers troublesome). Second, the same types of data must have been present in at least 10 consecutive annual/biannual reports. This number was decided somewhat arbitrarily as it is a round number and easy to work with. The underlying reason, however, was that lengthy periods of time are needed to detect emerging patterns. Ten years allows a sufficient amount of time for detection. Third, the data must have encompassed at least one period of economic downturn and one period of economic growth or

stability. The same data had to be observed in both economic environments – downturn and growth/stability – so that the two could be compared and contrasted. Without occurring in both climates, this could not be achieved.

Selecting the Sample: the SEC Categories and Subcategories

All data were evaluated by the above-mentioned criteria. The data collected from the ACFE and FBI reports at first seemed promising, but ultimately were deemed not useful to this study due not only to the data specification, but also did not meet the 10-year time requirement.

Within the SEC reports, there are five areas (also called categories) that met the required conditions. They include: (1) possible violations of SEC Acts, (2) injunctive actions, (3) civil and administrative proceedings, (4) disgorgements and civil penalties, and (5) criminal proceedings.

Fifteen more specific statistical subcategories are contained within the five categories:

Category 1: Possible violations of SEC Acts

Subcategories include:

- formal orders of investigation; and
- new SEC cases.

Category 2: Injunctive actions

Subcategories include:

- the number of injunctive actions or cases;
- the number of defendants in these actions; and
- the number of indictments granted in injunctive actions.

Category 3: Civil actions and administrative proceedings

Subcategories include:

- the number of civil cases or actions;
- the number of defendants in such cases;
- the number of administrative proceedings; and
- the number of defendants in such proceedings.

Category 4: Disgorgements and civil penalties

Subcategories include:

- disgorgements; and
- statistics on civil actions

Category 5: Criminal proceedings

Subcategories include:

- the number of cases referred to the DOJ;
- the number of individuals recommended for prosecution;
- the number of indictments; and
- the number of defendants indicted (SEC 1990 1-158)

These subcategories are used as indicators in the measure of financial fraud. It is assumed that when the number of new cases, formal orders, injunctive actions, civil actions, administrative proceedings, etc. increases, the number of financial fraud has potentially increased as well. The logic being, when more cases are investigated, more defendants indicted, and more fines levied, the more fraud is occurring (UCR 1). Data extracted from the above, serving as

fraud indicators, are analyzed independently, isolating the years of economic downturn from the years of economic growth/stability.

Fifteen subcategories are cumbersome to analyze. However, omitting data that would potentially strengthen or weaken the study would be negligent, and thus all 15 are included.

Selecting Periods of Economic Downturn and Periods of Economic Growth/stability

As previously stated, the following years are generally accepted to be periods of economic downturn in the United States during the 20th century and early part of the 21st century: 1937-1938, 1945, 1948-1949, 1953-1954, 1957-1958, 1960-1961, 1969-1970, 1973-1975, 1980-1982, 1990-1991, 2001 and 2007-2009 (NBER "Cycles" 1). To reiterate, these years show a decline in GDP, business activity and industrial activity that is consistent with methods used by the NBER as being years of economic recession. This leaves 1934-1936, 1939-1944, 1946-1947, 1950-1952, 1955-1956, 1959, 1962-1968, 1971-1972, 1976-1979, 1983-1989, 1992-2000 and 2002-2006 as years of economic growth or stability years. In order to observe the correlation between financial fraud and economic downturn, all periods of economic downturn must be isolated from periods of economic growth or stability.

To reiterate, every SEC Annual report from 1969 to 2009 was individually studied. These years were chosen for two reasons. First, the span of 41 years gives a sufficient amount of time to detect patterns in the economy and to detect patterns within categories. Second, The 35th Annual Report for the Fiscal Year Ended June 30, 1969 contains standard and basic statistics for all the years between the years 1934-1969. Therefore, there was no need to view each year individually. However, various SEC annual reports from the 1930s, 1940s and 1950s were

viewed solely to determine how the reports and their contents may have changed over the years. A few minor things had changed, one of which was the month used as the fiscal year end. From 1935-1976 the fiscal year ended on June 30th. From 1977 and onward, the Fiscal year has ended on September 30th. This is a minor matter but still worth noting.

The SEC was created in 1934 and the last SEC annual report was the fiscal year ended in 2009. For this reason, the period of time selected for observation was 1934 to 2009. Data were extracted from two areas that encompassed this whole time period: the number of injunctive actions/cases initiated and the number of defendants in injunctive actions/cases. The other 13 subcategories have their own individualized periods of time. It was necessary to extract the data as they were given; therefore, the periods of time for the remaining 13 subcategories were examined independently.

Table 1 contains the name of the subcategory; the time period the data were observed; the number of years in that time period; the number of years that were downturn years; and the number of years that were growth/stability years. Formal orders of investigations and new cases each shared the same time period, 1969-2009. The years of 1972 through 1974 were omitted for formal orders of investigation due to no data being stated within the SEC annual reports. The number of injunctive cases and the number of defendants in those injunctive cases were observed from 1934-2009. The number of injunctions granted was studied from 1934-1980. The number of civil actions, defendants or respondents in civil actions, administrative proceedings, and defendants or respondents in administrative proceedings all share the same time period: 1983-2009. The amounts of disgorgements were recorded from 1982-2009, and civil penalties were tracked from 1986-2009. From 1934-1981, the number of cases referred to the DOJ was

analyzed. The total number of persons recommended for prosecution was recorded from 1934-1971. Finally, the number of cases in which indictments had been obtained and the number of defendants indicted were examined during the years from 1934-1982. Any data outside these time periods were not published in SEC annual reports.

Table 1 Subcategories

Subcategory	Time Period	Total Years	Downturn Years	Growth/Stability Years
Formal orders of investigation	1969-2009 ¹	38	12	26
Number of new cases during the fiscal year	1969-2009	41	14	27
Number of injunctive cases/actions initiated	1934-2009	76	25	51
Number of defendants in injunctive cases	1934-2009	76	25	51
Number of injunctions granted in injunctive cases	1934-1980	47	17	30
Number of civil actions	1983-2009	27	6	21
Number of defendants/respondents in civil actions	1983-2009	27	6	21
Number of administrative proceedings	1983-2009	27	6	21
Number of defendants in admin. proceedings	1983-2009	27	6	21
Amount of disgorgements in U.S. dollars	1982-2009	28	7	21
Amount of civil penalties in U.S. dollars	1986-2009	24	6	18
Number of cases referred to the DOJ	1934-1981	48	18	30
Total number of persons recommended for prosecution	1934-1971	38	13	25
Number of cases indictments had been obtained	1934-1982	49	19	30
Number of defendants indicted	1934-1982	49	19	30

¹ Omitting years 1972, 1973 and 1974

Methods of Analysis

Each of the 15 subcategories is analyzed individually in four ways. First, the total number of years of each period is given, along with the number of years within that period that are economic downturn years, and the number of years that are economic growth/stability years. Each of the downturn and growth/stability periods is given as a percentage of the total number of combined years. (This analysis will be omitted if the previous subcategory shares the same time period.)

Second, the total number of the variables is stated (variables being the statistics the subgroups provide, e.g., number of cases, defendants, indictments, dollars disgorged, etc.). The total number of the variable is then divided into two areas: the totals during years of economic downturn (all the years of economic downturn are combined into one total) and years of economic growth/stability (all the years of economic growth/stability combined into one total). This is again expressed as a percentage.

Third, the average variable per year of the total combined years is given in order to create a baseline with which to compare and contrast the averages of the economic downturn and economic growth/stability years. All averages are calculated by taking the respective totals and dividing by the respective number of years in the time frame. The averages per year of both the economic downturn and economic growth/stability years are given separately, as well as their percentage above (+) or below (-) the baseline. The difference between the economic downturn and economic growth/stability years is stated (all numbers for this step in the analysis are calculated by using the absolute value of each number).

Finally, the average per year of the economic downturn years is divided by the average per year of the economic growth/stability years to create a percentage (if the average per year is higher during years of economic growth/stability, then the average per year of economic growth/stability years is divided by the average per year of the economic downturn years). This analysis shows if the occurrence of illegal activity is higher, lower or the same for the variable during periods of economic downturn.

All whole numbers are rounded to two decimal places with the exceptions of disgorgements and civil penalties which are rounded to three decimal places. All percentages are rounded to two decimal places. All raw data that were analyzed are referenced throughout the text and contained in the appendix. All computations were meticulously checked, manually, to eliminate miscalculations that would potentially contaminate the results.

Chapter IV

RESULTS

Possible Violations of SEC Acts

a) Formal Orders of Investigation, 1969-2009 (omitting 1972, 1973 and 1974)

The years between 1969-2009, 1972, 1973 and 1974 have been omitted due to no statistical data being given for these years in the SEC reports. As such, there are 38 years total in this time span (not including the omitted years of 1972, 1973 and 1974). Twelve years were years of economic downturn; 26 were years of economic growth or stability. Expressed as a percentage, the economic downturn years were 31.58% of the total years with the remaining balance of 68.42% being years of economic growth or stability. During this time frame, there were a total of 7,936 formal orders of investigation. Of these 7,936 formal orders, 2,632 occurred during years of economic downturn while 5,304 occurred during years of economic growth or stability—33.17% and 66.83%, respectively. The year with the single highest number of formal orders was an economic downturn year, 2009 with a total of 496. The single lowest number occurred in an economic growth/stability year, 1988, which had a total of 68 formal orders of investigation.

Also during this time period, the average total number of formal orders per year was 209. During the years of economic downturn, this figure rose to 219, while the economic growth/stability years averaged 204 per year. This is a difference of 15 formal orders per year. When 209 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 4.78% above the baseline; the growth/stability years' average is 2.39% below the baseline. This is a difference of 7.17% (see Table 2). When comparing the two directly against

each other (dividing 219 by 204), the rate of formal orders is 7.35% higher in years of economic downturn than in years of economic growth or stability (see Table 5).

Table 2
The Average Number of Formal Orders of Investigation per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of formal orders per year	209	219	204	15
Percentage above/below baseline	N/A	+4.78%	-2.39%	7.17%

c) Number of New Cases During the Fiscal Year, 1969-2009.

There are 41 years total between the time frame of 1969 to 2009. Fourteen of these years were years of economic downturn; 27 were years of economic growth or stability. Expressed as a percentage, the economic downturn years were 34.15% of the total years with the remaining balance of 65.85% being years of economic growth or stability. During this time period there were a total of 19,974 new investigations into the possible violation of SEC Acts. Of these 19,974 new cases, 6,905 occurred during years of economic downturn while 13,069 occurred during years of economic growth or stability—34.57% and 65.43%, respectively. The year with the single highest number of new cases was an economic growth/stability year, 2004, with a total of 973. The single lowest number occurred in an economic downturn year, 1982, which had a total of 295 new cases.

Also during this time period, the average total number of new cases per year was 487. During the years of economic downturn, this figure rose to 493, while the economic growth/stability years averaged 484 per year. This is a difference of nine new cases per year. When 487 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 1.23% above the baseline; the growth/stability years' average is 0.62% below the baseline. This is a difference of 1.85% (see Table 3). When comparing the two directly against each other (dividing 493 by 484), the rate of new cases is 1.86% higher in years of economic downturn than in years of economic growth or stability (see Table 5).

Table 3
The Average Number of New Cases per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of new cases per year	487	493	484	9
Percentage above/below baseline	N/A	+1.23%	-0.62%	1.85%

When the subcategories are combined, the possible violations of SEC Acts are 3.01% higher during periods of economic downturn, while the growth/stability years are 1.51% below the baseline. This is a difference of 4.52% (see Table 4).

Table 4
The Average Number of Possible Violations of SEC Acts Above (+)/Below (-) the Baseline

Expressed in Percentage Above(+)/Below(-) the Baseline for Its Subcategories

	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Formal orders of investigation	+4.78%	-2.39%	7.17%
New Cases	+1.23%	-0.62%	1.85%
Average increase/decrease	+3.01%	-1.51%	4.52%

When compared against each other, the economic downturn years are consistently higher with an average of 4.61% (see Table 5).

Table 5
The Ratio of Downturn Years to Growth/Stability Years Above/Below the Baseline for the Number of Possible Violations of SEC Acts

	Downturn Years	Growth/ Stability Years
Formal orders of investigation	+7.35%	N/A
New cases	+1.86%	N/A
Average increase/decrease	+4.61%	N/A

Injunctive Actions

a) Total Number of Injunctive Actions Initiated or Cases Instituted by the SEC, 1934-2009.

In the 76-year time frame from 1934 to 2009, 25 years were considered years of economic downturn. The remaining 51 were years of economic growth or stability. Expressed as a percentage, the economic downturn years accounted for 32.89% and the economic growth/stability years accounted for 67.11%. During this time frame there were a total of 9,001 actions or cases initiated. Of these 9001, 3,033 occurred during years of economic downturn while 5,968 occurred during years of economic growth or stability—33.70% and 66.30% of the total, respectively. The year with the single highest number of cases was a growth/stability year, 2005, with 312 cases. The single lowest number occurred in 1934, with seven cases. The year 1934 is also an economic growth/stability year.

Also during this time period, the average total number of cases was 118 per year. During the years of economic downturn, this figure rose 121, while the economic growth/stability years averaged 117 per year. This is a difference of four per year. When 118 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 2.54% above the baseline; the growth/stability years is 0.85% below the baseline. This is a difference of 3.39% (see Table 6). When comparing the two directly against each other (dividing 121 by 117), the rate is 3.42% higher in years of economic downturn than in years of economic growth or stability (see Table 10).

Table 6
The Average Number of Injunctive Actions or Cases per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of actions or cases per year	118	121	117	4
Percentage above/below baseline	N/A	+2.54%	-0.85%	3.39%

b) Total Number of Defendants in Injunctive Cases or Actions, 1934-2009

In the years 1934 to 2009, there were a total of 30,744 defendants, respondents or subjects in injunctive cases or actions. Of these 30,744, 10,388 were prosecuted during years of economic downturn while 20,356 were prosecuted during years of economic growth or stability. This is 33.79% and 66.21% of the total 30,744 defendants, respectively. The year with the single highest number was in an economic downturn year, 2009, with a total of 1,041. The single lowest number occurred in 1934, an economic growth/stability year, which had a total of 24.

Also during this time period, the average total number of defendants in injunctive actions was 405 per year. During the years of economic downturn, this figure increased to 416, while the economic growth/stability years averaged 399 per year. This is a difference of 17 per year. When 405 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 2.72% above the baseline; the growth/stability years' average is 1.48% below the baseline. This is a difference of 4.20% (see Table 7). When comparing the two directly against each other (dividing 416 by 399), the rate of defendants, respondents or subjects in civil actions

is 4.01% higher in years of economic downturn than in years of economic growth or stability (see Table 10).

Table 7
The Average Number of Defendants in Injunctive Actions or Cases per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of defendants per year	405	416	399	17
Percentage above/below baseline	N/A	+2.72%	-1.48%	4.20%

c) Total Number of Cases in which Injunctions were Granted, 1934-1980

In the 47-year time frame from 1934 to 1980, 17 years were considered years of economic downturn. The remaining 30 years were years of economic growth or stability. Expressed as a percentage, the economic downturn years were 36.17% of the total 47 years; the economic growth/stability years were 63.83%. During this time frame there were a total of 4,248 cases in which injunctions were granted. Of these 4,248 cases, 1,733 occurred during years of economic downturn while 2,515 occurred during years of economic growth or stability—40.80% and 59.20% of the total cases, respectively. The year with the single highest number of cases in which an injunction was granted was an economic downturn year, 1975, with a total of 453. The single lowest number occurred in 1934, which had a total of two cases. The year 1934 was an economic growth/stability year.

Also during this time period, the average total number of cases in which an injunction was granted per year is 90. During the years of economic downturn, this figure rose to 102, while the economic growth/stability years average 84 per year. This is a difference of 18 injunctions per year. When 90 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 13.33% above the baseline; the growth/stability years' average is 6.67% below the baseline. This is a difference of 20.00% (see Table 8). When comparing the two directly against each other (dividing 102 by 84), the rate of injunction being granted is 21.43% higher in years of economic downturn than in years of economic growth or stability (see Table 10).

Table 8
The Average Number of Cases in which Injunctions were Granted Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of injunctions per year	90	102	84	18
Percentage above/below baseline	N/A	+13.33%	-6.67%	20.00%

When the subcategories are combined, the injunctive actions are 6.20% higher during periods of economic downturn, while the growth/stability years are 3.00% below the baseline. This is a difference of 9.20% (see Table 9).

Table 9
The Average Combined Injunctive Subcategories Above(+)/Below(-) the Baseline

Expressed in Percentage Above(+)/Below(-) the Baseline for Its Subcategories

	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Injunctive actions or cases	+2.54%	-0.85%	3.39%
Defendants	+2.72%	-1.48%	4.20%
Injunctions granted	+13.33%	-6.67%	20.00%
Average increase/decrease	+6.20 %	-3.00%	9.20%

When compared against each other, the economic downturn years are consistently higher with an average of 9.62% (see Table 10).

Table 10
The Ratio of Downturn Years to Growth/Stability Years Above/Below the Baseline for the Injunctive Actions

	Downturn Years	Growth/ Stability Years
Injunctive actions or cases	+3.42%	N/A
Defendants	+4.01%	N/A
Injunctions granted	+21.43%	N/A
Average increase/decrease	+9.62%	N/A

Civil Actions and Administrative Proceedings

a) Total Number of Civil Actions, 1983-2009

In the 27-year time frame from 1983 to 2009, six years were considered years of economic downturn. This leaves the remaining 21 years to be years of economic growth or stability. Expressed as a percentage, the economic downturn years comprised 22.22% of the total years, with the remaining balance of 77.78% being years of economic growth or stability.

During this time frame there were a total of 5,948 civil actions. Of these 5,948 actions, 1,469 occurred during years of economic downturn while 4,479 occurred during years of economic growth or stability—24.70% and 75.30% of the total 5,948 actions, respectively. The year with the single highest number of civil actions was 2005 with a total of 335. The year 2005 was an economic growth/stability year. The single lowest number occurred in 1988 which had a total of 142 civil actions. Coincidentally, 1988 was also an economic growth/stability year.

Also during this time period, the average total number of civil actions per year was 220. During the years of economic downturn, this figure rose to 245, while the economic growth/stability years averaged 213 per year. This is a difference of 32 civil actions per year. When 220 is used as a baseline for increases and decreases, the average during downturn years is 11.36% above the baseline; the growth/stability years' average is 3.18% below the baseline. This is a difference of 14.54% (see Table 11). When comparing the two directly against each other (dividing 245 by 213), the rate of civil actions is 15.02% higher in years of economic downturn than in years of economic growth or stability (see Table 16).

Table 11
The Average Number of Civil Actions per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of civil actions per year	220	245	213	32
Percentage above/below baseline	N/A	+11.36%	-3.18%	14.54%

b) Total Number of Defendants, Respondents or Subjects in Civil Actions, 1983-2009

In between the years of 1983 to 2009, there were a total of 17,923 defendants, respondents or subjects in civil actions. Of these 17,923 defendants, respondents or subjects in civil actions, 4,425 appeared during years of economic downturn while 13,498 appeared during years of economic growth or stability—24.69% and 75.31% of the total 17,923 defendants, respondents or subjects, respectively. The year with the single highest number was 2002 with a total of 1,124. The single lowest number occurred in 1985 which had a total of 391. As mentioned previously, 2002 and 1985 were economic growth/stability years.

Also during this time period, the average total number of defendants, respondents or subjects in civil actions per year was 664. During the years of economic downturn, this figure increased to 738, while the economic growth/stability years averaged 643 per year. This is a difference of 95 per year. When 664 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 11.14% above the baseline; the growth/stability years' average is 3.16% below the baseline. This is a difference of 14.30% (see Table 12). When comparing

the two directly against each other (dividing 738 by 643), the rate of defendants, respondents or subjects in civil actions is 14.77% higher in years of economic downturn than in years of economic growth or stability (see Table 16).

Table 12
The Average Number of Defendants in Civil Actions per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of defendants per year	664	738	643	95
Percentage above/below baseline	N/A	+11.14%	-3.16%	14.30%

c) Total Number of Administrative Proceedings, 1983-2009

There were a total of 6,410 administrative proceedings between the years of 1983 to 2009. Of these 6,410 administrative proceedings, 1,531 occurred during years of economic downturn while 4,879 occurred during years of economic growth or stability—23.88% and 76.12% of the total 6,410 administrative proceedings, respectively. The year with the single highest number was 2007 with a total of 394. The single lowest number occurred in 1983 which had a total of 94. 2007 was an economic downturn year; 1983 was an economic growth/stability year.

Also during this time period, the average total number of administrative proceedings per year was 237. During the years of economic downturn, this figure rose to 255 per year, while the

economic growth/stability years averaged 232 per year. This is a difference of 23 per year. When 237 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 7.59% above the baseline; the growth/stability years' average is 2.11% below the baseline. This is a difference of 9.70% (see Table 13). When comparing the two directly against each other (dividing 255 by 232), the rate of administrative proceedings is 9.91% higher in years of economic downturn than in years of economic growth or stability (see Table 16).

Table 13
The Average Number of Administrative Proceedings per Year Above(+)/ Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of administrative proceedings per year	237	255	232	23
Percentage above/below baseline	N/A	+7.59%	-2.11%	9.70%

d) Total Number of Defendants, Respondents or Subjects Administrative Proceedings,
1983-2009.

Between the years of 1983 to 2009, there were a total of 10,454 defendants, respondents or subjects in administrative proceedings. Of these 10,454 defendants, respondents or subjects, 2,879 appeared during years of economic downturn while 7,575 appeared during years of economic growth or stability—27.54% and 72.46%, respectively. The year with the single

highest number was 2008 with a total of 827. The single lowest number occurred in 1990 which had a total of 152. Both 2008 and 1990 were years of economic downturn.

Also during this time period, the average total number of defendants, respondents or subjects in administrative proceedings was 387 per year. During the years of economic downturn, this figure increased to 480, while the economic growth/stability years averaged 361 per year. This is a difference of 119 per year. When 387 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 24.03% above the baseline. The growth/stability years' average is 6.72% below the baseline. This is a difference of 30.75% (see Table 14). When comparing the two directly against each other (dividing 480 by 361), the rate of defendants, respondents or subjects in administrative proceedings is 32.96% higher in years of economic downturn than in years of economic growth or stability (see Table 16).

Table 14
The Average Number of Defendants in Administrative Proceedings per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of defendants per year	387	480	361	119
Percentage above/below baseline	N/A	+24.03%	-6.72%	30.75%

When the subcategories are combined, the civil and administrative proceedings are 13.53% higher during periods of economic downturn, while the growth/stability years are 3.79% below the baseline. This is a difference of 17.32% (see Table 15).

Table 15**Analysis of Civil and Administrative Proceedings Above(+)/Below(-) the Baseline***Expressed in Percentage Above(+)/Below(-) the Baseline for Its Subcategories*

	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Civil actions or cases	+11.36%	-3.18%	14.54%
Defendants in civil actions	+11.14%	-3.16%	14.30%
Administrative proceedings	+7.59%	-2.11%	9.70%
Defendants in administrative proceedings	+24.03	-6.72%	30.75%
Average increase(+)/decrease(-)	+13.53%	-3.79%	17.32%

When compared against each other, the economic downturn years are consistently higher with an average of 18.17% (see Table 16).

Table 16**The Ratio of Downturn Years to Growth/Stability Years Above/Below the Baseline for Civil and Administrative Proceedings***Expressed in Percentages for Subcategories*

	Downturn Years	Growth/ Stability Years
Civil actions or cases	+15.02%	N/A
Defendants in civil cases	+14.77%	N/A
Administrative proceedings	+9.91%	N/A
Defendants in administrative proceedings	+32.96%	N/A
Average increase(+)/decrease(-)	+18.17%	N/A

Disgorgements and Civil Penalties

a) Disgorgements, 1982-2009

In the 28-year time frame from 1982 to 2009, seven years were considered years of economic downturn. This leaves the remaining 21 years to be years of economic growth or stability. Expressed as a percentage, the economic downturn years comprised 25% of the total years with the remaining balance of 75% being years of economic growth or stability.

During this time frame, disgorgements totaled \$18.379 billion. Of the \$18.379 billion, \$5.173 billion is disgorged during years of economic downturn as opposed to the \$13.206 billion during years of economic growth or stability—28.15% and 71.85%, respectively. The year with the single highest amount was 2006 with a total of \$2.3 billion. The single lowest amount occurred in 1983, with a total of \$11 million. Both 2006 and 1983 were growth/stability years (see Table 17).

Table 17
Disgorgement Amounts, 1982-2009

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Amounts in billions of U.S. dollars	\$18.379	\$5.173	\$13.206	\$8.033
Percentage of billions of U.S. dollars	100%	28.15%	71.85%	43.70%

Also during this time period, the average total amount disgorged per year was \$656 million. During the years of economic downturn, this figure increased to \$739 million, while the

economic growth/stability years averaged \$629 million per year. This is a difference of \$110 million per year. When 656 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 12.65% above the baseline; the growth/stability years' average is 4.12% below the baseline. This is a difference of 16.77% (see Table 18). When comparing the two directly against each other (dividing 739 by 629), there are 17.49% more disgorgements ordered during years of economic downturn than in times of economic growth/stability (see Table 21).

Table 18
The Average Amount of Disgorgements, 1982-2009, Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Amounts in millions of U.S. dollars	\$656	\$739	\$629	\$110
Percentage of millions of U.S. dollars above/below the baseline	N/A	+12.65%	-4.12%	16.77%

b) Civil Penalties, 1986-2009

In the 24-year time frame from 1986 to 2009, six years were considered years of economic downturn. This leaves the remaining 18 years to be years of economic growth or stability. Expressed as a percentage, the economic downturn years comprised 25% of the total years with the remaining balance of 75% being years of economic growth or stability.

During the years of 1986 to 2009, civil penalties totaled \$6.867 billion. Of the \$6.867 billion, \$1.1755 billion is assessed during years of economic downturn, as opposed to \$5.6915 billion during years of economic growth or stability—17.12% and 82.88%, respectively. The year with the single highest amount was 2005, an economic growth/stability year, with a total of \$1.5 billion. The single lowest amount occurred in 1988, also an economic growth/stability year, with a total of \$1.2 million (see Table 19).

Table 19
Amount of Civil Penalties, 1982-2009

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Amounts in billions of U.S. dollars	\$6.867	\$1.1755	\$5.6915	\$4.516
Percentage of billions of U.S. dollars	100%	17.12%	82.88%	65.76%

Also during this time period, the average total amount of civil penalties levied is \$286 million per year. During the years of economic downturn, this figure was \$196 million, while the economic growth/stability years averaged \$316 million per year. This is a difference of \$120 million per year. When 286 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 31.47% below the baseline; the growth/stability years' average is 10.49% above the baseline – a difference of 41.96% (see Table 20). When comparing the two directly against each other (dividing 316 by 196), there are 61.22% more civil penalties levied during times of economic growth/stability than in times of economic downturn (see Table 22).

Table 20**The Average Amount of Civil Penalties Above(+)/Below(-) the Baseline**

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Amounts in millions of U.S. dollars	286	196	316	120
Percentage of millions of U.S. dollars above/below the baseline	N/A	-31.47%	+10.49%	41.96%

When the subcategories are combined, the averages for disgorgements and civil penalties are 9.41% lower during periods of economic downturn, while the growth/stability years are 3.19% above the baseline. This is a difference of 12.60% (see Table 21).

Table 21**Analysis of Disgorgements and Civil Penalties Above(+)/Below(-) the Baseline**

Expressed in Percentage Above(+)/Below(-) the Baseline for Its Subcategories

	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Disgorgements	+12.65%	-4.12%	16.77%
Civil Penalties	-31.47%	+10.49%	41.96%
Average increase(+)/decrease(-)	-9.41%	+3.19	12.60%

When compared against each other, the economic downturn years were higher only in disgorgements by an average of 17.49%. The growth stability years are higher in civil penalties

by 61.22% (see table 23). This can also be expressed as 61.22% negative growth for the economic downturn years. The sum of 17.49% and -61.22% is -43.73%. This averages to -1.87% for economic downturn years.

Table 22
The Ratio of Downturn Years to Growth/Stability Years Above/Below the Baseline for Disgorgements and Civil Penalties

	Downturn Years	Growth/ Stability Years
Percent of disgorgements	+17.49%	N/A
Percent of civil penalties	N/A	+61.22%
Average increase/decrease	+17.49%	+61.22%

Criminal Proceedings

a) Total Number of Cases Referred to the Department of Justice, 1934-1981

In the 48-year time frame from 1934 to 1981, 18 years were considered years of economic downturn. The remaining 30 years were years of economic growth or stability. Expressed as a percentage, the economic downturn years were 37.50% and the economic growth/stability years were 62.50% of the total. During this time frame there were a total of 2,036 cases referred to the Department of Justice (DOJ). Of these 2,036 cases, 754 occurred during years of economic downturn while 1,282 occurred during years of economic growth or stability—37.03% and 62.97% of the total cases, respectively. The year with the single highest number of cases was an economic growth/stability year, 1976, with a total of 116. The single

lowest number occurred in 1934 with a total of seven cases. Coincidentally, 1934 was also an economic growth/stability year.

Also during this time period, the average total number of cases per year was 42. During the years of economic downturn, this figure remained the same, at 42 cases per year, while the economic growth/stability years averaged 43 per year. This is a difference of one case per year. When 42 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 0% above the baseline; the growth/stability years' average is 2.38% above the baseline. This is a difference of 2.38% (see Table 23). When comparing the two directly against each other (dividing 43 by 42), the rate of civil actions is 2.38% higher in years of economic growth or stability than in years of economic downturn (see Table 28).

Table 23
The Average Number of Cases Referred to the DOJ per Year, 1934-1981, Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of cases referred to DOJ per year	42	42	43	1
Percentage above/below the baseline	N/A	0%	+2.38%	2.38%

b) Total Number of Persons to Whom Prosecution was Recommended, 1934-1971

In the 38-year time frame from 1934 to 1971, 13 years were considered years of economic downturn. The remaining 25 years were years of economic growth or stability.

Expressed as a percentage, the economic downturn years accounted for 34.21% of the total and the economic growth/stability years were 65.79%. During this time frame there were a total of 4,555 individuals for whom prosecution is recommended. Of these 4,555 individuals, prosecution was recommended on 1,386 individuals during years of economic downturn while 3,169 were recommended during years of economic growth or stability—30.43% and 69.57% of the total individuals, respectively. The year with the single highest number of cases was an economic growth/stability year, 1936, with a total of 379. The single lowest number occurred in 1955 which had a total of 12 individuals. The year 1955 was also an economic growth/stability year.

Also during this time period, the average total number of individuals recommended for prosecution per year was 120. During the years of economic downturn, this figure was 107, while the economic growth/stability years averaged 127 per year. This is a difference of 20 individuals per year. When 120 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 10.83% below the baseline; the growth/stability years' average is 5.83% above the baseline. This is a difference of 16.66% (see Table 24). When comparing the two directly against each other (dividing 127 by 107), the rate is 15.02% higher in years of economic growth or stability than in years of economic downturn (see Table 28).

Table 24
The Average Number of Individuals Recommended for Prosecution per Year Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of individuals recommended for prosecution per year	120	107	127	20
Percentage above/below the baseline	N/A	-10.83%	+5.83%	16.66%

c) Number of Cases in which Indictments were Obtained, 1934-1982

In the 49-year time frame from 1934 to 1982, 19 years were considered years of economic downturn. The remaining 30 years were years of economic growth or stability. Expressed as a percentage, the economic downturn years were 38.78% of the total and the economic growth/stability years were 61.22%. During this time frame there were a total of 1,475 cases in which indictments were obtained. Of these 1,475 cases, 531 were obtained during years of economic downturn while 926 were obtained during years of economic growth or stability—36.44% and 63.56%, respectively. The year with the single highest number of cases in which indictments were obtained was 1977, with a total of 68. The single lowest number occurred in 1934 which had a total of three cases. Both 1977 and 1934 were years of economic growth/stability.

During this same time period, the average total number of indictments obtained per year was 30. During the years of economic downturn, this figure was 28. The economic

growth/stability years averaged 31 cases per year. This is a difference of three indictments per year. When 30 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 6.67% below the baseline; the growth/stability years is 3.33% above the baseline. This is a difference of 10.00% (see Table 25). When comparing the two directly against each other (dividing 31 by 28), the rate is 10.71% higher in years of economic growth or stability than in years of economic downturn (see Table 28).

Table 25
The Number of Cases in which Indictments are Obtained per Year, 1934-1982, Above(+)/Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of indictments per year	30	28	31	3
Percentage above/below baseline	N/A	-6.67%	+3.33%	10%

d) Number of Defendants Indicted, 1934-1982

During 1934-1982, a total of 5,794 defendants were indicted. Of these 5,794 defendants, 1,887 were indicted during years of economic downturn while 3,907 were indicted during years of economic growth or stability—32.57% and 67.43%, respectively. The year with the single highest number of individuals indicted was 1936, with a total of 368 indictments. The single lowest number occurred in 1955 which had a total of 13 indictments. Both years were years of economic growth/stability.

Also during this time period, the average total number of defendants indicted was 118 individuals. During the years of economic downturn, this figure was 99, while the economic growth/stability years averaged 130 per year. This is a difference of 31 individuals per year. When 118 is used as a baseline for increases (+) and decreases (-), the average during downturn years is 16.10% below the baseline; the growth/stability years' average is 10.17% above the baseline. This is a difference of 26.27% (see Table 26). When comparing the two directly against each other (dividing 130 by 99), the rate is 31.31% higher in years of economic growth or stability than in years of economic downturn (see Table 28).

Table 26
The Average Number of Defendants Indicted per Year, 1934-1981, Above(+)/ Below(-) the Baseline

	Total Combined Years	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Average number of defendants per year	118	99	130	31
Percentage above/below baseline	N/A	-16.10%	+10.17%	26.27%

When the subcategories are combined, the average for criminal proceedings is 8.40% lower during periods of economic downturn, while the growth/stability years' average is 5.43% above the baseline. This is a difference of 13.83% (see Table 27).

Table 27
Analysis of Criminal Proceedings Above(+)/Below(-) the Baseline

Expressed in Percentage Above(+)/Below(-) the Baseline for Its Subcategories

	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Cases referred to the DOJ	0%	+2.38%	2.38%
Individuals recommended for prosecution	-10.83%	+5.83%	16.66%
Indictments granted	-6.67%	+3.33%	10.00%
Defendants indicted	-16.10%	+10.17%	26.27%
Average increase(+)/decrease(-)	-8.40%	+5.43	13.83%

The averages of criminal proceedings compared against each other show the economic growth/stability years were higher by 5.43%. This is calculated by adding 2.38 + 15.02 + 10.71 + 31.31 (sum of 59.42) then dividing by 4 and rounding to two decimal places. This figure can also be expressed as 14.86% negative growth for the economic downturn years (see Table 28).

Table 28
The Ratio of Downturn Years to Growth/Stability Years Above/Below the Baseline for Criminal Proceedings

	Downturn Years	Growth/ Stability Years
Number of cases referred to the DOJ	N/A	+2.38%
Number of individuals recommended for prosecution	N/A	+15.02%
Number of indictments	N/A	+10.71%
Number of defendants indicted	N/A	+31.31%
Average increase/decrease	N/A	+14.86%

The Total Average of the 15 Subcategories

The total average of the 15 subcategories is calculated by adding all the positive numbers and subtracting the negative numbers. The totals are then divided by 15. The average difference between downturn and growth/stability is calculated by adding the differences in the 15 subcategories categories and then dividing by 15. This is an average difference of 14.67% between periods of economic downturn and periods of economic growth or stability. The results are displayed in Table 29.

Table 29 The Average of the Subcategories Above (+) or Below (-) the Baseline Results*Expressed in Percentages Above(+)/Below(-) the Baseline*

Category	Subcategory	Downturn Years	Growth/Stability Years	Difference Between Downturn and Growth
Possible Violations of SEC Acts				
	Formal orders of investigation	+4.78%	-2.39%	7.17%
	New Cases	+1.23%	-0.62%	1.85%
Injunctive Actions				
	Injunctive actions or cases	+2.54%	-0.85%	3.39%
	Defendants in injunctive actions or cases	+2.72%	-1.48%	4.20%
	Injunctions granted	+13.33%	-6.67%	20.00%
Civil and Administrative Proceedings				
	Civil actions	+11.36%	-3.18%	14.54%
	Defendants in civil actions	+11.14%	-3.16%	14.30%
	Administrative proceedings	+7.59%	-2.11%	9.70%
	Defendants in Administrative Proceedings	+24.03%	-6.72%	30.75%
Disgorgements and Civil Penalties				
	Disgorgements	+12.65%	-4.12%	16.77%
	Civil penalties	-31.47%	+10.49%	41.96%
Criminal Proceedings				
	Cases referred to the DOJ	0%	+2.38%	2.38%
	Individuals recommended for prosecution	-10.83%	+5.83%	16.66%
	Indictments in criminal proceedings	-6.67%	+3.33%	10.00%
	Defendants indicted in criminal proceedings	-16.10%	+10.17%	26.27%
Average increase/decrease		+1.75%	0.06 %	1.69%
Average difference between downturn and growth/stability for the 15 subcategories				14.67%

Removing the highest and the lowest averages from both the downturn and economic/growth years (this is +24.03 and -31.47 for the downturn years and +10.49% and -6.72% for the economic growth and stability years) yields a revised average increase/decrease of +2.59% and -0.22%, respectively.

The Total Average of the Five Categories

The total average of the five categories is calculated by adding all the positive numbers and subtracting the negative numbers. The totals are then divided by 5. Years of economic downturn show an increase of 0.98%, whereas the growth stability years show a decrease of 0.08%. The average difference between downturn and growth/stability is calculated by adding the differences in the five categories and then dividing by 5. This is an average difference of 11.49% between periods of economic downturn and periods of economic growth or stability. The results are displayed in Table 30.

Table 30
The Average per of Year for Categories Above (+)/Below (-) the Baseline

Category	Downturn Years	Growth/ Stability Years	Difference Between Downturn and Growth
Possible Violations of SEC Acts	+3.01%	-1.51%	4.52%
Injunctive Actions	+6.20%	-3.70%	9.20%
Civil and Administrative Proceedings	+13.53%	-3.79%	17.32%
Disgorgements and Civil Penalties	-9.41%	+3.19	12.60%
Criminal Proceedings	-8.40%	+5.43	13.83%
Average increase/decrease	+0.98%	-0.08%	1.06%
Average difference between downturn and growth			11.49%

Ratio of Economic Downturn Years to Growth/Stability Years Above/Below the Baseline,

Expressed as Years of Economic Downturn

Table 31 displays the ratio of economic downturn years to growth/stability years above or below the baseline. Increases during periods of economic growth/stability years are shown as negative increases for economic downturn years. The total average of the 15 subcategories is found by adding the positive numbers and subtracting the negative numbers and dividing by 15. Overall, the subcategories are 0.51% higher during times of economic downturn. The total average of the five categories is found by adding the positive numbers and subtracting the negative numbers and then dividing by 5. The categories are lower by an average of 0.87% during periods of economic downturn years. The difference of analysis when figuring the average of 15 as a whole as opposed to taking the average of the five categories is 1.38%.

Table 31 The Ratio of Downturn Years to Growth/Stability Years Above/Below the Baseline, Expressed as Years of Economic Downturn

Category	Subcategory	Downturn Years
Possible Violations of SEC Acts		
	Formal orders of investigation	+7.35%
	New cases	+1.86%
	Average for category:	+4.61%
Injunctive Actions		
	Injunctive actions or cases	+3.42%
	Defendants in injunctive actions or cases	+4.01%
	Injunctions granted	+21.43%
	Average for category:	+9.62%
Civil and Administrative Proceedings		
	Civil actions	+15.02%
	Defendants in civil actions	+14.77%
	Administrative proceedings	+9.91%
	Defendants in administrative proceedings	+32.96%
	Average for category:	+18.17
Disgorgements and Civil Penalties		
	Disgorgements	+17.49%
	Civil penalties	-61.22%
	Average for category:	-21.87
Criminal Proceedings		
	Cases referred to the DOJ	-2.38%
	Individuals recommended for prosecution	-15.02%
	Indictments in criminal proceedings	-10.71%
	Number of defendants indicted	-31.31%
	Average for category:	-14.86%
	Total average of the 15 subcategories	+0.51%
	Total average of the 5 categories	-0.87%

Of the 15 subcategories, 10 show a percentage increase in the average per year during years of economic downturn. Five subcategories show a percentage increase in the average per year during periods of economic growth/stability. This is 66.67% of the total 15 subcategories, respectively. During years of economic downturn, the average per year of any given subcategories is 0.51% higher than years of economic growth or stability. Removing both the highest and the lowest averages from the downturn years (+32.96 and -61.22%) and recalculating, yields a revised average increase of 2.76%.

Chapter V

DISCUSSION

If the sample taken is an accurate representation of the level and frequency in which fraud occurs, then according to this study, fraud does increase during times of economic downturn. Ten of the 15 subcategories and three out of the five categories show increases in activity during times of economic downturn. These findings are apparent in both the analysis of subcategories above the baseline and in the analysis of the ratios of economic downturn to economic growth/stability above or below the baseline. This can be interpreted as fraud increasing during periods of economic downturn 60% to 66.67% of the time.

Accounting for Differences in Methods of Calculations

Data are analyzed by both subcategories and categories. As previously mentioned, data is grouped into 5 general categories based on similarities of content (i.e. kinds of cases, types of actions, etc.) and based on the location and presentation of the data in SEC reports. Within these 5 categories are subcategories of relative subject matter. Variations in results between the two methods of analysis arise from the uneven disbursement of subcategories within categories. Possible Violations of SEC Acts and Disgorgements and Civil Penalties have 2 subcategories each, Civil and Administrative Proceedings and Criminal proceedings have four subcategories each, and Injunctive Actions has three subcategories.

By analyzing the 15 subcategories collectively, each subcategory is given equal measure in the computation, i.e. civil penalties and the number of defendants indicted each account for $1/15^{\text{th}}$ of the total that is averaged. When the accumulated totals of the five categories are averaged instead of 15 subcategories, the category itself is given $1/5^{\text{th}}$ of the total that is averaged. This changes the value of the subcategory within that category. For example, the subcategory of civil penalties accounts for 50% of the Disgorgements and Civil Penalties category (there are 2 subcategories within this category); the number of defendants indicted constitutes 25% of the Criminal Proceedings category (there are 4 subcategories within this category). Since each category gets $1/5^{\text{th}}$ the total used in the average, civil penalties composes $1/10^{\text{th}}$ of the total to be averaged ($1/2$ of $1/5$ is $1/10$) whereas the number of defendants indicted comprises $1/20^{\text{th}}$ of the total to be averaged ($1/4$ of $1/5$ is $1/20$). Therefore the subcategories within Possible Violations of SEC Acts and Disgorgements and Civil Penalties are given more weight when the 5 categories are averaged as there are less subcategories to divide into the category. Formal orders of investigation, new cases, disgorgements, and civil penalties are each given $1/10^{\text{th}}$ of the total that is averaged. Injunctive actions, defendants in injunctive actions and injunctions granted each get $1/15^{\text{th}}$ of the total that is averaged. Civil actions, defendants in civil actions, administrative proceedings, defendants in administrative proceedings, indictments and the number of defendants indicted each get $1/20^{\text{th}}$ of the total that is averaged (see Table 32).

Table 32 Accounting for Differences in Methods of Calculations

Category	Subcategory	Weight within the Calculation when figuring by:	
		Subcategories	Categories
Possible Violations of SEC Acts:	Formal orders of investigation	1/15th	1/10th
	New cases	1/15th	1/10th
Injunctive Actions:	Injunctive actions or cases	1/15th	1/15th
	Defendants in injunctive actions/cases	1/15th	1/15th
	Injunctions granted	1/15th	1/15th
Civil and Admin. Proceedings:	Civil actions	1/15th	1/20th
	Defendants in civil actions	1/15th	1/20th
	Administrative proceedings	1/15th	1/20th
	Defendants in admin. proceedings	1/15th	1/20th
Disgorgements and Civil Penalties:	Disgorgements	1/15th	1/10th
	Civil penalties	1/15th	1/10th
Criminal Proceedings:	Cases referred to the DOJ	1/15th	1/20th
	Individuals recommended for prosecution	1/15th	1/20th
	Indictments in criminal proceedings	1/15th	1/20th
	Number of defendants indicted	1/15th	1/20th

When the average of the categories is used, emphasis shifts from each subcategory carrying equal significance (and equal weight within the calculation) to importance being placed on the shared characteristics of the collective (each category is given equal measure and equal significance within the calculation). It is this transfer of importance and measure within the calculation that accounts for the differences shown below when averaging the subcategories versus averaging the categories.

Averages per Year Above or Below the Baseline: Subcategories

The results in the previous chapter show that on average, the subcategories within Possible Violations of SEC Acts, Injunctive Actions and Civil and Administrative Proceedings are consistently higher during times of economic downturn. Five subcategories show an increase

during times of economic growth/stability: (1) civil penalties, (2) cases referred to the DOJ, (3) individuals recommended for prosecution, (4) indictments in criminal proceedings, and (5) defendants indicted in criminal proceedings. The civil penalties increase is the highest with a notable 10.49% increase during times of economic growth/stability. The number of defendants indicted has the second highest with 10.17% above the baseline during time of economic growth/stability. Individuals recommended for prosecution, indictments in criminal proceedings and cases referred to the DOJ are 5.83%, 3.33% and 2.38% above the baseline during periods of economic growth/stability, respectively.

Conversely, these same five subcategories: (1) civil penalties, (2) cases referred to the DOJ, (3) individuals recommended for prosecution, (4) indictments in criminal proceedings, and (5) defendants indicted in criminal proceedings are the only subcategories not to be above the baseline during years of economic downturn. The numbers of civil penalties are below the baseline by 31.47% during periods of economic downturn. The number of defendants indicted is the second lowest at 16.10% below the baseline. Individuals recommended for prosecution and the numbers of indictments are 10.83% and 6.67% below the baseline, respectively. Cases referred to the DOJ do not show any fluctuation from the baseline. Both the baseline and periods of economic downturn average 42 cases per year (periods of economic growth stability average 43 per year).

The occurrence of these five exceptions could be attributed to the costs involved in prosecuting individuals in a criminal court. During times of economic downturn, resources and government agencies have limited resources. It is cheaper to fine organizations and hold civil and administrative proceedings than it is to prosecute and incarcerate individuals. During times

of economic growth/stability, more resources are available to try individuals through litigation and criminal proceedings.

The three highest increases above the baseline during periods of economic downturn are: (1) defendants in administrative proceedings, (2) injunctions granted, and (3) disgorgements. Defendants in administrative proceedings show an increase of 24.03% during times of economic downturn. Injunctions granted and disgorgements show an increase of 13.33% and 12.65%, respectively.

The subcategories showing the three smallest increases (other than the five previously mentioned) are: the number of new cases, the number of injunctive actions and the number of defendants in injunctive actions. These percentages are 1.23%, 2.54% and 2.72% above the baseline, respectively. In total the average of all 15 subcategories is 1.75% above the baseline during periods of economic downturn.

Years of economic growth/stability show averages per year that are slightly higher than their respective baselines. In total the average of the 15 subcategories during years of economic growth stability is 0.06% below the baseline. The three lowest averages below the baseline are: (1) defendants in administrative proceedings, (2) injunctions granted, and (3) disgorgements – 6.72%, 6.67% and 4.12% below the baseline, respectively. Defendants in administrative proceedings, injunctions granted and disgorgements are the three highest increases for the years of economic downturn.

The total averages per year above/below the baseline show a difference of 1.69% between years of economic growth and stability (the absolute values of $1.75\% - 0.06\% = 1.69\%$). The highest difference is civil penalties with a 41.96% difference. Defendants in administrative

proceedings and injunctions granted have the second highest difference at 30.75% and 20.00%, respectively. The lowest 3 differences are: (1) new cases at 1.85% difference, (2) cases referred to the DOJ at 2.38% difference, and (3) injunctive actions or cases at 4.20% difference. When computing the average difference by totaling all 15 differences and dividing by 15, the average percentage difference between periods of economic downturn and periods of economic growth/stability is 14.67%.

To reiterate, removing the highest and the lowest averages from both the downturn and economic/growth years (+24.03 and -31.47 for the downturn years and +10.49% and -6.72% for the economic growth and stability years) yields a revised average increase/decrease of +2.59% and -0.22%, respectively. This method is useful in case the highs and lows of a particular subcategory are an anomaly.

Averages per Year Above or Below the Baseline: Categories

The average increase above or below the baseline during years of economic downturn is 0.98%. This is a difference of 0.77% (1.75% - 0.98%) from the two methods of calculation. As previously mentioned, it is the unequal distribution of subcategories within categories that leads to the variation in results between the analyses of subcategories versus categories.

Civil and administrative proceedings have the highest increase of 13.53% above the baseline during times of economic downturn. Two of the five categories show an increase in the average per year above/below the baseline during years of economic growth. These are criminal proceedings and disgorgements and civil penalties. These categories show an increase of 5.43% and 3.19% during periods of economic growth/stability, respectively. Conversely, these two

categories show a decrease of 8.40 % and 9.41% during periods of economic downturn, respectively.

The Ratio of Economic Downturn to Economic Stability Above/Below the Baseline

Dividing the average per year of economic downturn years by the average per year of the economic growth/stability years (or vice-versa if growth/stability is higher) results in a percentage increase. This percentage increase can be interpreted as a percentage increase in financial fraud for that category during its respective period. For example, defendants in administrative proceedings have the highest percentage increase of 32.96%. This was calculated by taking the average number of defendants in administrative proceedings per year during periods of economic downturn, 480, and dividing it by the average number of defendants in administrative proceedings per year during periods of economic growth/stability, 361. Four-hundred and eighty divided by 361 is 1.3296. This can be interpreted as there being 32.96% more defendants in administrative proceedings during periods of economic downturn than in periods of economic growth or stability. Injunctive actions or cases and disgorgements are also two of the highest increases with 21.43% and 17.49%, respectively.

When years of economic growth/stability are higher, the resulting percentage is seen as a negative growth for periods of economic downturn. This is demonstrated with civil penalties, the number of defendants indicted and the number of individuals recommended for prosecution. All three subcategories have higher averages per year during periods of economic growth/stability—61.22%, 31.31% and 15.02%, respectively. These became -61.22%, -31.31% and -15.02% for economic downturn years for the purpose of being able to compare all the data

in terms of periods of economic downturn. All 15 categories are totaled and averaged together (as demonstrated in table 31), showing a total increase in fraud of 0.51% during years of economic downturn. Interestingly, when the five categories, instead of 15 subcategories, are used to figure percentage increases, periods of economic downturn are -0.87%. This can be contributed to the subcategory of civil penalties being 61.22% below the baseline. This subcategory accounts for 1/10th of the total that is figured. When compared to the other subcategories, this is an abnormally large number carrying a sizeable percentage of the total. For this reason, the results appear inconclusive.

Limitations and Potential Errors

The analysis and results could potentially be imprecise in several ways. First, the selection of the data which was extracted in itself affects the outcome. This includes the data (categories and subcategories) that were chosen and the data that were excluded from this study. To avoid manipulating the selections, all sections of the SEC reports from 1969-2009 that relate directly to financial fraud were reviewed. These sections include the Preface/Transmittal, Enforcement Program, Control of Improper Practices, Imposition of Sanctions, Litigations, Investigations and the Enforcement section in the appendix. All data in repetitive categories were recorded into spread sheets and, if significant, analyzed (there were at least 10 years of data collected). Even with these measures in place, there could possibly be data contained in the SEC reports that may influence the accuracy of the results.

Second, the premise of this study relies heavily on dates and periods. Years of economic downturn and economic growth are given in whole calendar years. NBER classifies recessions

by month and year, not by whole calendar years. For this study, if part of the recession occurred within a given calendar year, the whole year was chosen as a year of economic downturn. For this reason, conclusions may be slightly varied.

Third, the use of calendar years, not fiscal years could lead to possible inaccuracies. In the beginning of this study, FBI, ACFE and SEC reports were all three initially selected for data extraction and the potential for further analysis. The data collected from the three sources could be compared and contrasted against one another. For this comparison to occur, the same form of years for economic downturn and economic growth needed to be used. The ACFE reports use calendar years, as does the SEC for two of the categories. The decision was made to use calendar years due to its simplicity for calculation purposes. Later, FBI and ACFE reports were not chosen for further analysis, yet the years remain calendar years, not fiscal years. There could be a minimal variance in the results for that reason.

No consideration was given to periods of slight economic decline. All periods had to be classified as recessionary and referred to as "periods of economic downturn". There may be a difference for years of slight economic decline, stability, economic growth or an economic boom; however, those variables were not measured or analyzed for this study.

The U.S. and Canadian governments measure the amount of fraud which is occurring by amount of fraud which is detected. This allows fraud to be quantified. Educated assumptions for this thesis were formed using this rationale. Although this is a standard method of measure, this method only evaluates those crimes which have been uncovered and does not consider the allocation of resources by law enforcement officials. To reiterate the example previously stated: When the number of pending cases, new cases, formal orders, injunctive actions, civil actions,

administrative proceedings, etc., increases, financial fraud potentially increases as well. The logic being, the more cases being investigated, the more defendants being indicted, and the more fines being levied, the more fraud is occurring. This could potentially affect the data. No research was conducted as to the allocation of resources during the various time periods. For example, more cases could have been investigated during the fiscal year because the budget was bigger and more people were available to investigate possible violations. Disgorgements could be larger in a particular year because more violations were discovered. Financial fraud can only be quantified when it is exposed. This does not mean other fraudulent acts are not being committed; those acts just are not being detected.

Suggestions for Further Research

Further examination and analysis of SEC reports by a scholar or professional would be beneficial. SEC reports contain copious amounts of information and span a great length of time. A researcher could examine these reports more thoroughly to extract and analyze pertinent data. This would be very time consuming, but would be extremely helpful if the researcher were able to detect emerging patterns.

The annual and biannual reports of the FBI and Association of Certified Fraud Examiners, respectively, could potentially be invaluable sources for financial fraud analysis in the future. Twenty or 30 years from now, studying these reports will give great insight into economic fraud cycles (fraud cycles being the variations of detected fraud through different economic climates). Greater insight into economic fraud cycles could lead to more effective ways of detecting and combating financial fraud.

The focus of this paper has been on the correlation between economic downturn and fraud. In order to achieve/accomplish this, no distinction was made between years of economic growth and stability. A corresponding study to determine if fraud fluctuates between periods of economic growth and stability could prove both interesting and useful.

Appendix

Explanation of Tables

All data in Appendix tables 1-21 were collected from annual SEC reports listed in the "References" section. The column entitled: "SEC Publication" refers to these annual reports. The "Year" refers to the fiscal or calendar year used for that particular category or subcategory. The "Page" references the page number of the annual publication the data were retrieved from.

Appendix table 22 and 23 contain data collected from the FBI's Financial Crimes Report to the Public. This data was initially collected to be analyzed but not meet selected criteria.

Appendix table 24 contains data from the ACFE's Report to the Nation on Occupational Fraud and Abuse. Like the FBI statistics collected, this data was initially compiled to be analyzed but not meet selected criteria.

Appendix Table 1
Pending Cases at Fiscal Year End; Combined Years

SEC Publication	Year	Page	Pending Cases at Fiscal Year End
1969	1969	92	800
1970	1970	96	862
1971	1971	103	825
1972	1972	N/A	N/A
1973	1973	N/A	N/A
1974	1975	208	1115
1975	1975	208	1288
1976	1976	206	1254
1977	1977	325	1404
1978	1978	107	1356
1979	1979	121	1171
1980	1980	140	1088
1981	1981	150	921
1982	1982	118	740
1983	1983	112	755
1984	1984	126	750
1985	1985	134	720
1986	1986	152	779
1987	1986	151	731
1988	1988	178	944
1989	1989	153	1000
1990	1990	157	1152
1992	1991	109	1259
1992	1992	109	1270
1993	1993	106	1415
1994	1994	116	1426
1995	1995	113	1531
1996	1996	168	1614
1997	1997	166	1733
1198	1998	135	1839
1999	1999	156	1966
2000	2000	appendix	2240
2001	2001	149	2401

Appendix Table 1, continued

2002	2002	159	2302
2003	2003	124	2929
2004	2004	21	3770
2005	2005	21	4092
2006	2006	19	4143
2007	2007	22	4548
2008	2008	21	4080
2009	2009	19	<u>4316</u>
Totals			68529

Appendix Table 2

Pending Cases at Fiscal Year End; Economic Downturn Years

Publication	Year	Page	Pending Cases at Fiscal Year End year end
1969	1969	92	800
1970	1970	96	862
1973	1973	N/A	N/A
1974	1974	208	1115
1975	1975	208	1288
1980	1980	140	1088
1981	1981	150	921
1982	1982	118	740
1990	1990	157	1152
1992	1991	109	1259
2001	2001	149	2401
2007	2007	22	4548
2008	2008	21	4080
2009	2009	19	<u>4316</u>
Totals			24570

Appendix Table 3
 Pending Cases at Fiscal year End; Economic Growth/stability Years

Publication	Year	Page	Pending Cases at Fiscal Year End
1971	1971	103	825
1972	1972	N/A	N/A
1976	1976	206	1254
1977	1977	325	1404
1978	1978	107	1356
1979	1979	121	1171
1983	1983	112	755
1984	1984	126	750
1985	1985	134	720
1986	1986	152	779
1987	1987	151	731
1988	1988	178	944
1989	1989	153	1000
1992	1992	109	1270
1993	1993	106	1415
1994	1994	116	1426
1995	1995	113	1531
1996	1996	168	1614
1997	1997	166	1733
1998	1998	135	1839
1999	1999	156	1966
2000	2000	appendix	2240
2002	2002	159	2302
2003	2003	124	2929
2004	2004	21	3770
2005	2005	21	4092
2006	2006	19	4143
Totals			43959

Appendix Table 4
 Number of New Cases at Fiscal Year End; Combined Years

SEC Publication	Year	Page	Number of New Cases
1969	1969	92	361
1970	1970	96	408
1971	1971	103	410
1972	1972	68	374
1973	1973	68	472
1974	1975	96	382
1975	1975	96	490
1976	1976	206	413
1977	1977	325	400
1978	1978	107	337
1979	1979	121	296
1980	1980	140	322
1981	1981	150	303
1982	1982	118	295
1983	1983	112	373
1984	1984	126	341
1985	1985	134	339
1986	1986	152	343
1987	1986	151	322
1988	1988	178	366
1989	1989	153	377
1990	1990	157	362
1991	1991	135	330
1992	1992	109	334
1993	1993	106	377
1994	1994	116	560
1995	1995	113	436
1996	1996	168	426
1997	1997	166	408
1198	1998	135	536
1999	1999	156	520
2000	2000	appendix	558
2001	2001	149	570

Appendix Table 4, continued

2002	2002	159	479
2003	2003	124	910
2004	2004	21	973
2005	2005	21	947
2006	2006	19	914
2007	2007	22	776
2008	2008	21	890
2009	2009	19	<u>944</u>
Totals			19974

Appendix Table 5
 Number of New Cases at Fiscal Year End; Economic Downturn Years

Publication	Year	Page	Number of New Cases
1969	1969	92	361
1970	1970	96	408
1973	1973	68	472
1974	1974	96	382
1975	1975	96	490
1980	1980	140	322
1981	1981	150	303
1982	1982	118	295
1990	1990	157	362
1991	1991	135	330
2001	2001	149	570
2007	2007	22	776
2008	2008	21	890
2009	2009	19	944
Totals			6905

Appendix Table 6
Number of New Cases at Fiscal Year End; Economic Growth/stability Years

Publication	Year	Page	Number of New Cases
1971	1971	103	410
1972	1972	68	374
1976	1976	206	413
1977	1977	325	400
1978	1978	107	337
1979	1979	121	296
1983	1983	112	373
1984	1984	126	341
1985	1985	134	339
1986	1986	152	343
1987	1987	151	322
1988	1988	178	366
1989	1989	153	377
1992	1992	109	334
1993	1993	106	377
1994	1994	116	560
1995	1995	113	436
1996	1996	168	426
1997	1997	166	408
1998	1998	135	536
1999	1999	156	520
2000	2000	appendix	558
2002	2002	159	479
2003	2003	124	910
2004	2004	21	973
2005	2005	21	947
2006	2006	19	<u>914</u>
Totals			13069

Appendix Table 7
 Formal Orders of Investigation; Combined Years

SEC Publication	Year	Page	Formal Orders of Investigation
1969	1969	92	194
1970	1970	96	176
1971	1971	103	155
1972	1972	N/A	N/A
1973	1973	N/A	N/A
1974	1975	NA	NA
1975	1975	209	277
1976	1976	206	273
1977	1977	325	224
1978	1978	107	196
1979	1979	121	157
1980	1980	140	186
1981	1981	150	132
1982	1982	118	133
1983	1983	112	148
1984	1984	126	117
1985	1985	134	119
1986	1986	152	92
1987	1986	151	72
1988	1988	178	68
1989	1989	153	142
1990	1990	157	122
1991	1991	135	130
1992	1992	109	133
1993	1993	106	184
1994	1994	116	281
1995	1995	113	245
1996	1996	168	189
1997	1997	166	265
1198	1998	135	275
1999	1999	156	282
2000	2000	appendix	345
2001	2001	149	324

Appendix Table 7, continued

2002	2002	159	300
2003	2003	124	254
2004	2004	21	261
2005	2005	21	272
2006	2006	19	255
2007	2007	22	229
2008	2008	21	233
2009	2009	19	<u>496</u>
Totals			7936

Appendix Table 8

Formal Orders of Investigation; Economic Downturn Years

Publication	Year	Page	Formal Orders of Investigation
1969	1969	92	194
1970	1970	96	176
1973	1973	N/A	N/A
1974	1974	N/A	N/A
1975	1975	209	277
1980	1980	140	186
1981	1981	150	132
1982	1982	118	133
1990	1990	157	122
1991	1991	135	130
2001	2001	149	324
2007	2007	22	229
2008	2008	21	233
2009	2009	19	<u>496</u>
Totals			2632

Appendix Table 9
 Formal Orders of Investigation; Economic Growth/stability Years

Publication	Year	Page	Formal Orders of Investigation
1971	1971	103	155
1972	1972	N/A	N/A
1976	1976	206	273
1977	1977	325	224
1978	1978	107	196
1979	1979	121	157
1983	1983	112	148
1984	1984	126	117
1985	1985	134	119
1986	1986	152	92
1987	1987	151	72
1988	1988	178	68
1989	1989	153	142
1992	1992	109	133
1993	1993	106	184
1994	1994	116	281
1995	1995	113	245
1996	1996	168	189
1997	1997	166	265
1998	1998	135	275
1999	1999	156	282
2000	2000	appendix	345
2002	2002	159	300
2003	2003	124	254
2004	2004	21	261
2005	2005	21	272
2006	2006	19	<u>255</u>
Totals			5304

Appendix Table 10
Injunctive Cases; Combined Years

Page number	Publication	Year	Number of Cases/actions Instituted by the Commission	Number of Defendants in these Cases	Number of Cases in which Injunctions were Granted
197	SEC 1969	1934	7	24	2
197	SEC 1969	1935	36	242	17
197	SEC 1969	1936	42	116	36
197	SEC 1969	1937	96	240	91
197	SEC 1969	1938	70	152	73
197	SEC 1969	1939	57	154	61
197	SEC 1969	1940	40	100	42
197	SEC 1969	1941	40	112	36
197	SEC 1969	1942	21	73	20
197	SEC 1969	1943	19	81	18
197	SEC 1969	1944	18	80	14
197	SEC 1969	1945	21	74	21
197	SEC 1969	1946	21	45	15
197	SEC 1969	1947	20	40	20
197	SEC 1969	1948	19	44	15
197	SEC 1969	1949	25	59	24
197	SEC 1969	1950	27	73	26
197	SEC 1969	1951	22	67	17
197	SEC 1969	1952	27	103	18
197	SEC 1969	1953	20	41	23
197	SEC 1969	1954	22	59	22
197	SEC 1969	1955	23	54	19
197	SEC 1969	1956	53	122	42
197	SEC 1969	1957	58	192	32
197	SEC 1969	1958	71	408	51
197	SEC 1969	1959	58	206	71
197	SEC 1969	1960	99	270	84
197	SEC 1969	1961	84	368	85
197	SEC 1969	1962	99	403	82
197	SEC 1969	1963	91	358	98
197	SEC 1969	1964	76	276	88
197	SEC 1969	1965	72	302	68

Appendix Table 10, continued

197	SEC 1969	1966	56	236	50
197	SEC 1969	1967	89	380	79
197	SEC 1969	1968	94	489	97
170	SEC 1972	1969	99	509	57
170	SEC 1972	1970	111	448	52
170	SEC 1972	1971	140	495	53
170	SEC 1972	1972	119	511	113
170	SEC 1973	1973	178	654	145
175	SEC 1974	1974	148	613	289
209	SEC 1975	1975	174	749	453
206	SEC 1976	1976	158	722	435
325	SEC 1977	1977	166	715	336
108	SEC 1978	1978	135	607	289
122	SEC 1979	1979	108	511	253
141	SEC 1980	1980	103	387	<u>216</u>
150	SEC 1981	1981	115	398	
118	SEC 1982	1982	136	418	
112	SEC 1893	1983	151	416	
126	SEC 1984	1984	179	508	
134	SEC 1985	1985	143	385	
152	SEC 1986	1986	162	487	
151	SEC 1987	1987	142	376	
178	SEC 1988	1988	125	401	
153	SEC 1989	1989	140	422	
158	SEC 1990	1990	186	557	
136	SEC 1991	1991	171	503	
110	SEC 1992	1992	156	487	
107	SEC 1993	1993	172	571	
117	SEC 1994	1994	196	620	
114	SEC 1995	1995	171	549	
169	SEC 1996	1996	180	588	
167	SEC 1997	1997	189	597	
136	SEC 1998	1998	214	745	
157	SEC 1999	1999	198	705	
144	SEC 2000	2000	223	745	
134	SEC 2001	2001	205	623	
144	SEC 2002	2002	270	1031	

Appendix Table 10, continued

103	SEC 2003	2003	271	838	
3	SEC 2004	2004	243	773	
3	SEC 2005	2005	312	813	
3	SEC 2006	2006	197	602	
3	SEC 2007	2007	250	788	
3	SEC 2008	2008	275	793	
3	SEC 2009	2009	<u>297</u>	<u>1041</u>	
Totals			9001	30744	4248

Appendix Table 11
Injunctive Cases; Economic Downturn Years

Page number	Publication	year	Number of Cases/actions Instituted by the Commission	Number of Defendants in these Cases	Number of Cases in which Injunctions were Granted
197	SEC 1969	1937	96	240	91
197	SEC 1969	1938	70	152	73
197	SEC 1969	1945	21	74	21
197	SEC 1969	1948	19	44	15
197	SEC 1969	1949	25	59	24
197	SEC 1969	1953	20	41	23
197	SEC 1969	1954	22	59	22
197	SEC 1969	1957	58	192	32
197	SEC 1969	1958	71	408	51
197	SEC 1969	1960	99	270	84
197	SEC 1969	1961	84	368	85
170	SEC 1972	1969	99	509	57
170	SEC 1972	1970	111	448	52
170	SEC 1973	1973	178	654	145
175	SEC 1974	1974	148	613	289
209	SEC 1975	1975	174	749	453
118	SEC 1980	1980	103	387	216
150	SEC 1981	1981	115	398	
118	SEC 1982	1982	136	418	
158	SEC 1990	1990	186	557	
136	SEC 1991	1991	171	503	
134	SEC 2001	2001	205	623	
3	SEC 2007	2007	250	788	
3	SEC 2008	2008	275	793	
3	SEC 2009	2009	297	1041	
Totals			3033	10388	1733

Appendix Table 12
Injunctive Cases; Economic Growth/stability Years

Page number	Publication	year	Number of Cases/actions Instituted by the Commission	Number of Defendants in these Cases	Number of Cases in which Injunctions were Granted
197	SEC 1969	1934	7	24	2
197	SEC 1969	1935	36	242	17
197	SEC 1969	1936	42	116	36
197	SEC 1969	1939	57	154	61
197	SEC 1969	1940	40	100	42
197	SEC 1969	1941	40	112	36
197	SEC 1969	1942	21	73	20
197	SEC 1969	1943	19	81	18
197	SEC 1969	1944	18	80	14
197	SEC 1969	1946	21	45	15
197	SEC 1969	1947	20	40	20
197	SEC 1969	1950	27	73	26
197	SEC 1969	1951	22	67	17
197	SEC 1969	1952	27	103	18
197	SEC 1969	1955	23	54	19
197	SEC 1969	1956	53	122	42
197	SEC 1969	1959	58	206	71
197	SEC 1969	1962	99	403	82
197	SEC 1969	1963	91	358	98
197	SEC 1969	1964	76	276	88
197	SEC 1969	1965	72	302	68
197	SEC 1969	1966	56	236	50
197	SEC 1969	1967	89	380	79
197	SEC 1969	1968	94	489	97
170	SEC 1972	1971	140	495	53
170	SEC 1972	1972	119	511	113
206	SEC 1976	1976	158	722	435
325	SEC 1977	1977	166	715	336
108	SEC 1978	1978	135	607	289
122	SEC 1979	1979	108	511	253
112	SEC 1983	1983	151	416	
126	SEC 1984	1984	179	508	

Appendix Table 12, continued

134	SEC 1985	1985	143	385	
152	SEC 1986	1986	162	487	
151	SEC 1987	1987	142	376	
178	SEC 1988	1988	125	401	
153	SEC 1989	1989	140	422	
110	SEC 1992	1992	156	487	
107	SEC 1993	1993	172	571	
117	SEC 1994	1994	196	620	
114	SEC 1995	1995	171	549	
169	SEC 1996	1996	180	588	
167	SEC 1997	1997	189	597	
136	SEC 1998	1998	214	745	
157	SEC 1999	1999	198	705	
144	SEC 2000	2000	223	745	
144	SEC 2002	2002	270	1031	
103	SEC 2003	2003	271	838	
3	SEC 2004	2004	243	773	
3	SEC 2005	2005	312	813	
3	SEC 2006	2006	197	602	
Totals			5968	20356	2515

Appendix Table 13
Civil Actions and Administrative Proceedings; Combined Years

SEC Annual Report for the Fiscal Year Ending:	Page Number	Year	Total Number of Civil Actions	Total Number of Defendants, Respondents or Subjects in Civil Actions	Total Number of Administrative Proceedings	Total Number of Defendants, Respondents or Subjects in Administrative Proceedings
1983	111	1983	165	435	94	189
1984	125	1984	183	516	114	221
1985	133	1985	146	391	122	179
1986	151	1986	177	505	136	202
1987	150	1987	157	395	146	204
1988	177	1988	142	438	109	162
1989	152	1989	155	451	155	236
1990	156	1990	193	568	111	152
1991	134	1991	181	516	139	168
1992	108	1992	167	522	226	332
1993	94	1993	187	598	229	289
1994	102	1994	229	709	268	418
1995	100	1995	194	597	292	475
1996	150	1996	212	635	241	346
1997	148	1997	203	615	286	457
1998	118	1998	229	776	248	434
1999	140	1999	227	780	298	574
2000	128	2000	259	818	244	379
2001	134	2001	236	664	249	365
2002	144	2002	317	1124	281	394
2003	103	2003	313	908	365	494
2004	3	2004	264	803	375	624
2005	3	2005	335	851	294	434
2006	3	2006	218	631	356	532
2007	3	2007	262	804	394	645
2008	3	2008	285	808	286	827
2009	3	2009	312	1065	352	722
Totals			5948	17923	6410	10454

Appendix Table 14
Civil Actions and Administrative Proceedings; Economic Downturn Years

SEC Annual Report for the Fiscal Year Ending:	Page Number	Year	Total Number of Civil Actions	Total Number of Defendants, Respondents or Subjects in Civil Actions	Total Number of Administrative Proceedings	Total Number of Defendants, Respondents or Subjects in Administrative Proceedings
1990	156	1990	193	568	111	152
1991	134	1991	181	516	139	168
2001	134	2001	236	664	249	365
2007	3	2007	262	804	394	645
2008	3	2008	285	808	286	827
2009	3	2009	312	1065	352	722
Totals			1469	4425	1531	2879

Appendix Table 15
Civil Actions and Administrative Proceedings; Growth/stability Years

SEC Annual Report for the Fiscal Year Ending:	Page Number	Year	Total Number of Civil Actions	Total Number of Defendants, Respondents or Subjects in Civil Actions	Total Number of Administrative Proceedings	Total Number of Defendants, Respondents or Subjects in Administrative Proceedings
1983	111	1983	165	435	94	189
1984	125	1984	183	516	114	221
1985	133	1985	146	391	122	179
1986	151	1986	177	505	136	202
1987	150	1987	157	395	146	204
1988	177	1988	142	438	109	162
1989	152	1989	155	451	155	236
1992	108	1992	167	522	226	332
1993	94	1993	187	598	229	289
1994	102	1994	229	709	268	418
1995	100	1995	194	597	292	475
1996	150	1996	212	635	241	346
1997	148	1997	203	615	286	457
1998	118	1998	229	776	248	434
1999	140	1999	227	780	298	574
2000	128	2000	259	818	244	379
2002	144	2002	317	1124	281	394
2003	103	2003	313	908	365	494
2004	3	2004	264	803	375	624
2005	3	2005	335	851	294	434
2006	3	2006	218	631	356	532
Totals			4479	13498	4879	7575

Appendix Table 16
Disgorgements and Civil Penalties; Combined Years

SEC Annual Report, Fiscal Year Ending:	Year	Page	Disgorgements in Millions of \$	Page	Civil Penalties in Millions of \$
1982	1982	iii	30	NA	NA
1983	1983	iv	11	NA	NA
1984	1984	1	12	NA	NA
1985	1985	1	17	NA	NA
1986	1986	7	38.2	7	3.7
1986	1987	6	121	6	62.6
1988	1988	1	26.1	1	1.2
1989	1989	1	421	1	29
1990	1990	V	589	V	12.5
1991	1991	1	119	1	11
1992	1992	v	558	v	221
1993	1993	1	225	1	29
1994	1994	1	730	1	34
1995	1995	1	994	1	34
1996	1996	1	325	1	67
1997	1997	1	214	1	49
1998	1998	1	426	1	51
1999	1999	1	650	1	191
2000	2000	1	445	1	43
2001	2001	1	478	1	44
2002	2002	1	1,293	1	101
2003	2003	15	900	15	1,100
2004	2004	2	1,900	2	1,200
2005	2005	2	1,600	2	1,500
2006	2006	2	2,300	2	975
2007	2007	2	1,093	2	507
2008	2008	2	774	2	256
2009	2009	2	2,090	2	345
Totals			18,379		6,867

Appendix Table 17
Disgorgements and Civil Penalties, Economic Downturn Years

SEC Annual Report, Fiscal Year Ending:	Year	Page	Disgorgements in Millions of \$	Page	Civil Penalties in Millions of \$
1982	1982	iii	30	NA	NA
1990	1990	V	589	V	12.5
1991	1991	1	119	1	11
2001	2001	1	478	1	44
2007	2007	2	1,093	2	507
2008	2008	2	774	2	256
2009	2009	2	2,090	2	345
Totals			5173		1175.50

Appendix Table 18
Disgorgements and Civil Penalties; Economic Growth/stability Years

SEC Annual Report, Fiscal Year Ending:	Year	Page	Disgorgements in Millions of \$	Page	Civil Penalties in Millions of \$
1983	1983	iv	11	NA	NA
1984	1984	1	12	NA	NA
1985	1985	1	17	NA	NA
1986	1986	7	38.2	7	3.7
1986	1987	6	121	6	62.6
1988	1988	1	26.1	1	1.2
1989	1989	1	421	1	29
1992	1992	v	558	v	221
1993	1993	1	225	1	29
1994	1994	1	730	1	34
1995	1995	1	994	1	34
1996	1996	1	325	1	67
1997	1997	1	214	1	49
1998	1998	1	426	1	51
1999	1999	1	650	1	191
2000	2000	1	445	1	43
2002	2002	1	1,293	1	101
2003	2003	15	900	15	1,100
2004	2004	2	1,900	2	1,200
2005	2005	2	1,600	2	1,500
2006	2006	2	2,300	2	975
Totals			13,206		5,692

Appendix Table 19
Criminal Proceedings; Combined Years

SEC Annual Report, Fiscal Year Ending:	Page	Fiscal Year Ending	Number of Cases Referred to the DOJ	Number of Persons to which Prosecution is Recommended	Number of Cases Indictments have been Obtained	Number of Defendants Indicted in such Cases
1970	226	1934	7	36	3	32
1970	226	1935	29	177	14	149
1970	226	1936	43	379	34	368
1970	226	1937	42	128	30	144
1970	226	1938	40	113	33	134
1970	226	1939	52	245	47	292
1970	226	1940	59	174	51	200
1970	226	1941	54	150	47	145
1970	226	1942	50	144	46	194
1970	226	1943	31	91	28	108
1970	226	1944	27	69	24	79
1970	226	1945	19	47	18	61
1970	226	1946	16	44	14	40
1970	226	1947	20	50	13	34
1970	226	1948	16	32	15	29
1970	226	1949	27	44	25	57
1970	226	1950	18	28	15	27
1970	226	1951	29	42	24	48
1970	226	1952	14	26	13	24
1970	226	1953	18	32	15	33
1970	226	1954	19	44	19	52
1970	226	1955	8	12	8	13
1970	226	1956	17	43	16	44
1970	226	1957	26	132	18	80
1970	226	1958	15	61	14	37
1970	226	1959	45	217	39	234
1970	226	1960	53	281	44	207
1970	226	1961	42	240	42	276
1970	226	1962	60	191	51	152

Appendix Table 19, continued

1970	226	1963	48	168	39	117
1970	226	1964	48	164	37	174
1970	226	1965	49	167	45	160
1970	226	1966	44	118	38	179
1970	226	1967	44	212	29	219
1970	226	1968	40	128	30	148
1970	226	1969	37	139	31	105
1970	226	1970	35	93	19	65
1971	228	1971	22	94	10	56
1972	170	1972	38	N/A	28	67
1973	170	1973	50	N/A	39	95
1973	175	1974	67	N/A	40	169
1974	210	1975	88	N/A	53	199
1976	207	1976	116	N/A	23	118
1977	326	1977	100	N/A	68	230
1978	108	1978	109	N/A	50	144
1979	122	1979	45	N/A	42	112
1980	142	1980	74	N/A	26	49
1981	150	1981	86	N/A	26	48
1982	118	1982	N/A	N/A	24	47
Totals			2036	4555	1457	5794

Appendix Table 20
Criminal Proceedings; Economic Downturn Years

SEC Annual Report, Fiscal Year Ending:	Page	Fiscal Year Ending	Number of Cases Referred to the DOJ	Number of Persons to which Prosecution is Recommended	Number of Cases Indictments have been Obtained	Number of Defendants Indicted in such Cases
1970	226	1937	42	128	30	144
1970	226	1938	40	113	33	134
1970	226	1945	19	47	18	61
1970	226	1948	16	32	15	29
1970	226	1949	27	44	25	57
1970	226	1953	18	32	15	33
1970	226	1954	19	44	19	52
1970	226	1957	26	132	18	80
1970	226	1958	15	61	14	37
1970	226	1960	53	281	44	207
1970	226	1961	42	240	42	276
1970	226	1969	37	139	31	105
1970	226	1970	35	93	19	65
1973	170	1973	50	N/A	39	95
1973	175	1974	67	N/A	40	169
1974	210	1975	88	N/A	53	199
1980	142	1980	74	N/A	26	49
1981	150	1981	86	N/A	26	48
1982	118	1982	N/A	N/A	24	47
Totals			754	1386	531	1887

Appendix Table 21
Criminal Proceedings, Economic Growth/stability Years

SEC Annual Report, Fiscal Year Ending:	Page	Fiscal Year Ending	Number of Cases Referred to the DOJ	Number of Persons to which Prosecution is Recommended	Number of Cases Indictments have been Obtained	Number of Defendants Indicted in such Cases
1970	226	1934	7	36	3	32
1970	226	1935	29	177	14	149
1970	226	1936	43	379	34	368
1970	226	1939	52	245	47	292
1970	226	1940	59	174	51	200
1970	226	1941	54	150	47	145
1970	226	1942	50	144	46	194
1970	226	1943	31	91	28	108
1970	226	1944	27	69	24	79
1970	226	1946	16	44	14	40
1970	226	1947	20	50	13	34
1970	226	1950	18	28	15	27
1970	226	1951	29	42	24	48
1970	226	1952	14	26	13	24
1970	226	1955	8	12	8	13
1970	226	1956	17	43	16	44
1970	226	1959	45	217	39	234
1970	226	1962	60	191	51	152
1970	226	1963	48	168	39	117
1970	226	1964	48	164	37	174
1970	226	1965	49	167	45	160
1970	226	1966	44	118	38	179
1970	226	1967	44	212	29	219
1970	226	1968	40	128	30	148
1971	228	1971	22	94	10	56
1972	170	1972	38	N/A	28	67
1976	207	1976	116	N/A	23	118
1977	326	1977	100	N/A	68	230
1978	108	1978	109	N/A	50	144

Appendix Table 21, continued

1979	122	1979	45	N/A	42	112
Totals			1282	3169	926	3907

Appendix Table 22
FBI Corporate Fraud Statistics

Publication Year	Fiscal Year	Pending Cases	Indictments	Convictions	Restitution	Recovery	Fines	Seizures
2006	2002	291	NA	NA	NA	NA	NA	NA
2006	2003	279	NA	NA	NA	NA	NA	NA
2006	2004	332	NA	NA	NA	NA	NA	NA
2005	2005	405	497	317	2.2 BIL	34.6 MIL	79.1 MIL	27.9 MIL
2006	2006	490	171	124	1.2 BIL	41.5 MIL	14.2 MIL	62.6 MIL
2007	2007	529	183	173	12.6 BIL	NA	38.6 MIL	NA
2008	2008	545	158	132	8.1 BIL	NA	199 MIL	NA
2009	2009	592	153	156	6.1 BIL	NA	5.4 MIL	NA

Appendix Table 23
FBI Securities and Commodities Fraud Statistics

Publication Year	Fiscal Year	Pending Cases	Indictments	Convictions	Restitution	Recovery	Fines	Seizures
2006	2002	931	NA	NA	NA	NA	NA	NA
2006	2003	937	NA	NA	NA	NA	NA	NA
2006	2004	987	NA	NA	NA	NA	NA	NA
2005	2005	1139	NA	NA	NA	NA	NA	NA
2006	2006	1165	302	164	1.9 BIL	20.6 MIL	80.7 MIL	62.7 MIL
2007	2007	1217	320	289	1.7 BIL	24 MIL	202.7 MIL	NA
2008	2008	1210	357	296	31. BIL	43.6 MIL	151.4 MIL	84.2 MIL
2009	2009	1510	412	306	831 BIL	63.4 MIL	12.8 MIL	126 MIL

Appendix Table 24
ACFE Fraud Statistics

Publication Year	Number of Cases Total	% Asset Misappropriations	% Corruption Cases	% Misstatements	Approx. \$ Lost (Billions)
1996	2608	90	10	5	400
2002	663	85.7	12.8	5.1	600
2004	508	92.7	30.1	7.9	660
2006	1134	91.5	30.8	10.6	652
2008	959	88.7	27.4	10.3	994
2010	1843	86.3	32.8	4.8	2200

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