THE 1986 FALSE CLAIMS ACT AMENDMENTS:

AN ASSESSMENT OF ECONOMIC IMPACT

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EXECUTIVE SUMMARY

This paper examines the economic impact of the 1986 Amendments to the False Claims Act. The impacts examined are: (1) the additional cost savings by the US Government both currently and in the future, and (2) the deterrent effect of the Act's Amendments. To structure some insight into magnitudes of cost savings and deterrence resulting from the 1986 Amendments, the following are developed and analyzed: (1) an estimate of total fraud perpetrated against the US Government; (2) data relating to the number and amount of recoveries under the Act; (3) a theory for identifying the components of deterrence; and (4) a simulation of deterrence using a variety of plausible assumptions.

Among the conclusions reached in this paper are:

1. Total fraud recoveries since the 1986 Amendments can be expected to exceed $24 billion by FY 2006, with $21 billion of that amount coming in the next decade.

2. *Qui tam* recoveries are expected to equal between about $6.9 billion and $9.3 billion over the next ten years.

3. Deterrence of fraud due to the 1986 Amendments for their first ten years of existence (1986-1996) is estimated as between $147.9 billion and $295.8 billion, and for their second ten years of existence (1996-2006) is estimated as between $240.2 billion (23% of the fraud projected to be committed over that period) and $480.3 billion (46% of the fraud projected to be committed over that period), even assuming a conservative estimate of deterrent effect.

4. Deterrence of fraud due to the *qui tam* provisions of the amended Act for their first ten years of existence (1986-1996) is estimated as between $35.6 billion and $71.3 billion, and for their second ten years of existence (1996-2006) is estimated as between $105.1 billion and $210.1 billion, even assuming a conservative estimate of deterrent effect.

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INTRODUCTION

The purpose of this paper is to examine the economic impact of Amendments to the False Claims Act (FCA or Act) passed and signed into law in 1986, one hundred and twenty-three years after President Abraham Lincoln signed the Act into law. The Act as amended is intended to provide an effective remedy for fraudulent claims presented to the United States Government in contracts and government programs. The 1986 Amendments did a number of things to strengthen and reinvigorate the Act, which in the context of this paper are most importantly those:

♦ Increasing the penalty for having submitted a false claim in violation of the Act,
♦ Facilitating a finding of liability under the Act, and
♦ Relating to the *qui tam* provisions of the Act.[1]

The key provisions of the 1986 Amendments:

(1) Increased the cost of violating the law to treble damages and civil fines of between $5,000 and $10,000 for each false claim (from double damages and a fine of $2,000);

(2) Entitled successful *qui tam* plaintiffs to at least 15% and up to 30% of the funds they help recover from the defendant;

(3) Provided that the defendant pay for the successful relator's reasonable expenses and attorneys' fees;

(4) Protected whistleblowers from employer retaliation, including provision for reinstatement and back pay;

(5) Allowed relators to remain as parties in the suits that the Government joins;

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[1] The 1863 False Claims Act contained a provision allowing private persons, or "relators", to bring suit against the perpetrators on behalf of the Government. The statute provided that a suit "may be brought and carried on by any person, as well for himself as for the United States". The section is referred to as the "*qui tam*" (a shortening of the Latin phrase describing the same legal concept) or "whistleblower" provision of the False Claims Act.

(6)   Eliminated the overly restrictive "government possession of information" bar against *qui tam* suits;

(7)   Made defendants liable for acting in "deliberate ignorance" or "reckless disregard" of the truth and eliminated the need to prove specific intent; and

(8)   Restored the normal civil action "preponderance of the evidence" standard of proof in FCA actions.

Thus, the impacts of the Amendments are:

(1)   The additional direct and indirect cost savings by the US Government both currently and in the future, and

(2)   The deterrent effect of the Act's Amendments compared to the Act as it stood prior to 1986.

To structure some insight into magnitudes of cost savings and deterrence it will be necessary to develop and analyze:

◆   An estimate of total fraud perpetrated against the US Government based upon the growth of programs in the Federal Budget (or elsewhere) susceptible to fraud.

◆   Data relating to the number and amount of recoveries under both *qui tam* and non-*qui tam* cases.

◆   A theory (framework) for identifying the components of deterrence and an examination of that framework to gain insight into the magnitude of benefits from deterrence for both *qui tam* and non-*qui tam* recoveries.

◆   A simulation of deterrence for both the *qui tam* provisions of the 1986 FCA Amendments and the Act itself using a variety of plausible assumptions.

MEASURING FALSE CLAIMS AGAINST THE US GOVERNMENT

The False Claims Act deals quite specifically with fraud perpetrated against the US Government in contract performance or program participation—fraud in most all government activities other than tax payment and collection. It should be understood that the issue at hand in this paper is the civil (not criminal) prosecution of fraud. And, while several studies have attempted to quantify the cost of crime to US citizens, none has dealt explicitly with fraud covered under the False Claims Act.

Data Issues

Data regarding any crime is, by its very nature, difficult to acquire and analyze. While violent crimes have a victim who, more often than not, reports the crime, fraud is never known until it is discovered and reported, and even then the extent is often difficult to assess. The best that can be done is to develop some broad ranges established by a variety of studies.

Measuring Fraud. Particularly for the types of fraud relevant to the False Claims Act, the full scope of the problem is impossible to quantify with any precision. In a 1978 report on fraud in government, the US General Accounting Office noted:

> "No one knows the magnitude of fraud against the Government. Hidden within apparently legitimate undertakings, it usually is unreported and/or undetected. However, all indications are that fraud is a problem of critical proportion."[2]

The analysis in this section first sketches the results of studies that deal with increasingly more appropriate measurements of wrongful acts and then attempts to make broad projections of the level of fraud if left unchecked over the next ten years. It will argue that relevant fraud is probably equal to a dollar volume equal to about five percent of the Federal Budget and that, in the absence of greater deterrence, that number is increasing slightly due to greater expenditure of the Federal government in areas susceptible to fraud.

The Cost of White Collar Crime. Although economic crime or white collar crime has no formal or statutory definition, the General Accounting Office has borrowed the definition of the American Bar Association which defines it as "any non-violent, illegal activity which

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[2] Comptroller General of the United States, Federal Agencies Can, and Should, Do More to Combat Fraud in Government Programs: Report to the Congress, General Accounting Office, 1978, p. i.

principally involves deceit, misrepresentation, concealment, manipulation, breach of trust, subterfuge, or illegal circumvention."[3]

In 1974 a study of white collar crime was completed for the US Chamber of Commerce which comes close to the subject at hand--but falls short of focusing on types of fraud amenable to the False Claims Act. The study estimated the direct economic costs of white collar crime perpetrated in the US in 1974 for such activities as bankruptcy fraud, bribery, consumer fraud, embezzlement, insurance fraud and other activities which might be described as white collar crime.

The study estimated total white collar fraud to be $41.78 billion with nearly half this amount derived from the category of "consumer fraud". The study did not estimate fraud perpetrated against the US Government directly (and apparently omitted its consideration even indirectly).[4] The $41.78 billion of fraud analyzed by the US Chamber of Commerce study would be worth $131.95 billion today (using the Consumer Price Index to inflate the number to today's purchasing power), about 2 percent of GDP--even if there had been no increase in the rate of white collar crime since 1974.

In 1995, the Association of Certified Fraud Examiners (ACFE) issued a Report to the Nation: Occupational Fraud and Abuse.[5] The Association, in the two and one half year study, examined a ten year period of cases involving a total of $15 billion in actual fraud and abuse losses. The study looked at 12 major industry groups including government contracting and collected the cases from 2,608 Certified Fraud Examiners. The largest case of fraud in the sample was $2.5 billion -- the smallest was $22.

Extrapolation of the data indicated to ACFE that organizations lose 6 percent of their annual revenue to fraud and abuse. They further estimated that fraud and abuse cost US organizations more than $400 billion annually and that the average organization loses more than $9 a day per employee to fraud and abuse.

Again, the sample and the analysis do not quite address the element that is addressed by the False Claims Act, and the percentages cannot be applied directly--but neither should the magnitudes be dismissed. They appear to reflect an undercurrent of fraudulent behavior which might also be reflected as fraud against the Government. Significantly, the ACFE concludes its study by noting:

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[3] Ibid. p. ii.

[4] US Chamber of Commerce, A Handbook on White Collar Crime: Everyone's Problem, Everyone's Loss, Washington, DC, 1974.

[5] Association of Certified Fraud Examiners, Report to the Nation: Occupational Fraud and Abuse, Austin, Texas, 1995.

In this study, the majority of occupational fraud and abuse cases were discovered through tips and complaints by fellow employees. Employees are often in a position to observe improper conduct but frequently have no way to report it without fear of retribution. Some companies use a subscriber service while others maintain an internal hotline.[6]

The Cost of Fraud Against the Government. The US General Accounting Office (GAO), an agency of the legislative branch charged with the reduction of waste, fraud and abuse in government programs, has done a number of studies regarding the potential for fraud in a number of Government departments, agencies and programs.

In a 1978 Report the GAO noted that: "Opportunities for defrauding the Government are virtually limitless because of the number, variety, and value of Federal programs. These programs, amounting to billions of dollars, involve numerous recipients, providers of goods and services, and public employees at all levels of government. The involvement of so much money, and so many people and institutions makes the Federal programs vulnerable to fraud." The GAO noted, for example, that the US Department of Justice described more than 30 methods by which fraud could occur in Federal housing programs.

The GAO also found that not all agencies were diligent about identifying and ferreting out fraud. For example, the GAO reported that the Federal Highway Administration generally viewed contract violations and overcharges as "honest mistakes, with no consideration of the underlying reasons for the violations or potential fraud". The Department of Labor regarded "questionable personnel and training cost reports submitted by prime sponsors as possible funds to be recovered rather than possible fraud."[7] This lack of attention by federal agencies to the potential for fraudulent conduct means that the amount of reported fraud is an understatement of actual fraud.

The 1978 GAO report further stated that: "The extent of fraud in Government programs cannot be taken lightly. Even a low-side estimate of fraud, such as 1 percent would amount to $2.5 billion annually. While substantial in itself, this amount is more significant when considered in terms of the goods and services it could provide at current funding levels--enough to (1) fund the school lunch program for over 1 year; (2) increase the number of jobs provided under the Comprehensive Employment and Training Act (CETA) programs; (3) increase nearly five-fold the grants for cancer research; or (4) increase nearly 20-fold, grants for air pollution control."[8]

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[6] Comptroller General of the United States, op. cit., pp. ii-3.

[7] Ibid. p. 3.

[8] Ibid. p. 12.

The GAO issued a subsequent report in 1981 which examined 21 Federal departments and agencies by obtaining and reviewing records of certain fraud committed within those departments and agencies during the period October 1, 1976 to March 31, 1979.[9] Both the 1978 and 1981 GAO Reports were designed to ferret out management practices, organizational arrangements, and program structures that provided a ready atmosphere for fraud and abuse, and to suggest changes. The Reports were not intended to, nor did they, estimate the amount of fraud that was perpetrated against the Government.

The Department of Justice, however, testifying before the House Appropriations Subcommittee on the Departments of State, Justice and Commerce in 1980, estimated fraud as draining 1 to 10 percent of the entire Federal budget.[10]

> *As a basis for assessment, it would seem credible to conclude that total fraud against the government currently equals about 5% of the total Federal budget amount. A more important question, however, is whether fraud is increasing or decreasing and whether or not the False Claims Act as amended is helping to bring about an increase or decrease in fraud.*

Recent studies by the GAO have dealt more with fraud found in specific programs. The GAO has issued several recent studies that have dealt with fraud and waste in Federal health care programs, specifically Medicaid and Medicare.

♦   In 1992, the GAO estimated that, by 1995, fraud and abuse would consume about 10 percent ($100 billion) of the $1 trillion expenditures for the nation's health care.[11]

♦   A 1995 GAO study noted that: Medicaid accounts for 80 percent of all federal spending on prescription drugs, an amount now equal to over $10 billion. New York State officials estimated that, in 1990, losses to fraud in prescription drugs

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[9] US General Accounting Office, Fraud In Government Programs: How Extensive Is It? How Can It Be Controlled?, Volumes 1 and 2, US Government Printing Office, Washington, D.C., May 7, 1981.

[10] Hearings on the Departments of State, Justice and Commerce before the Subcommittee on the Departments of State, Justice and Commerce, the Judiciary and Related Agencies of the House Committee on Appropriations, 96th Congress, 2nd Session, 1980.

[11] Lawrence H. Thompson (US General Accounting Office), "Health Insurance: Vulnerable Payers Lose Billions to Fraud and Abuse", Report to the Chairman, Subcommittee on Human Resources and Intergovernmental Operations, US House of Representatives, Washington, DC May, 1992.

represented about 10 percent of the state's total Medicaid spending. States have various initiatives under way to curb Medicaid prescription drug diversion but are hampered by insufficient resources, lengthy and frequently unproductive investigations, and the prevalence of repeat offenders and resilient schemes.[12]

♦ Testimony provided by GAO in 1995 indicated that there were very large savings to be garnered from reducing fraud and abuse in Medicare. Without quantifying the actual loss, but indicating that it is in the realm of billions of dollars, GAO described how providers exploit the system, why they are able to do so, steps already taken, and steps that should be taken to reduce the loss.[13]

♦ GAO has noted that neither it nor the Congressional Budget Office (CBO) have been able to quantify the savings if states curbed the losses in Medicaid by even a small percentage. But GAO did indicate in 1995 that: "Future Medicaid costs would be reduced substantially [if fraud were eliminated]. However, CBO cannot develop an estimate for this option until specific strategies are identified."[14]

The graph on page 9 illustrates the growth of health care programs as a proportion of the budget into the year 2002, the last year that the Office of Management and Budget (OMB) has projected. While budget outlays are expected to grow over the next five years at rates between 2.5 to 5 percent annually, health care programs are expected to increase their proportion of that budget from 10.3 percent in 1995 to 14.1 percent in 2002 in the case of Medicare; and from 5.9 percent to 7.1 percent in the case of Medicaid over the same period. Social Security outlays are the only other major program payments expected to increase as a proportion of the budget over that period. In general, mandatory programs are expected to maintain a rather constant proportion of the budget, about 69%.

Thus, it is the health and income security components, programs most susceptible to fraud, which are increasing while other elements are diminishing. It is therefore reasonable to expect that fraud perpetrated within the areas of the mandatory programs will produce an increasing share of fraudulent activity in the Federal budget, a good portion of which will be amenable to prosecution under the False Claims Act.

Discretionary elements of the budget, in total maintaining a relatively constant 31 percent of outlays, are themselves remaining relatively constant with only a few exceptions. National Defense outlays, for example, are expected to fall from 18.0 percent of the budget

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[12] Ibid.

[13] US General Accounting Office, "Medicare: Reducing Fraud and Abuse Can Save Billions", Testimony, May 16, 1995 (GAO/T-HEHS-95-157).

[14] Lawrence H. Thompson (US General Accounting Office), loc. cit.

to 14.1 percent of the budget. General science and basic research, housing, and transportation programs--programs also susceptible to fraud-- are maintaining their proportion of total budget outlays which now stand at over $12 trillion. Thus, to the extent that fraud in these programs depends on the dollar size of the program, there is little reason to believe that fraud will (without deterrence) diminish within discretionary expenditures--rather, the growth of certain mandatory programs will increase the amount fraud.

If fraud is currently about 5 percent of total outlays, without substantial deterrence it will grow to a higher amount, perhaps 6 percent (to account for the differential growth of health related and other mandatory expenditure programs as discussed above).
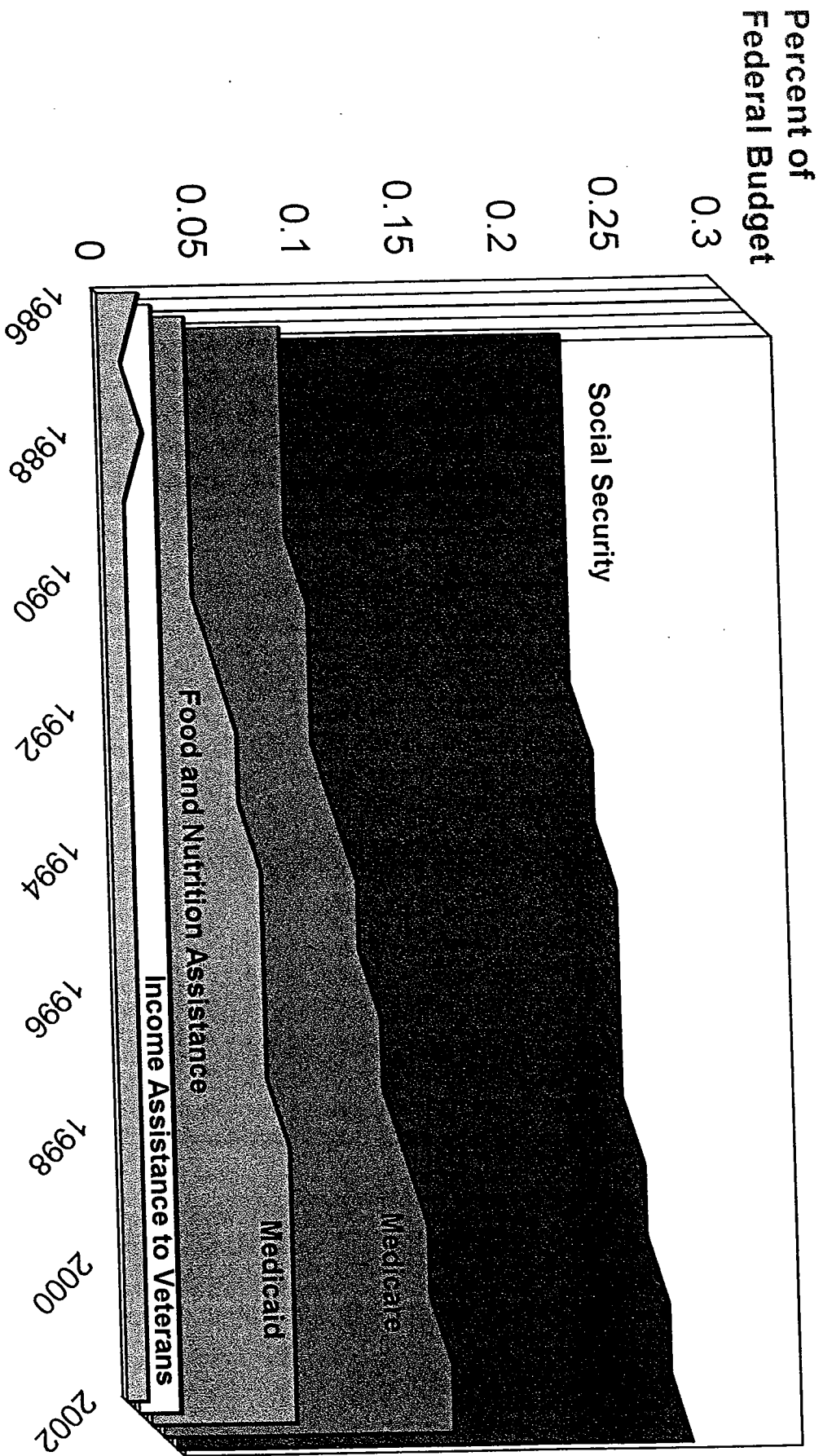
Again, no one knows (or could conceivably know) the full extent of fraud perpetrated against the US Government. The reasoning presented above provides reasonable estimates. It is important to understand that the direction of change is more important than the accuracy of total fraud numbers themselves. In the forthcoming analysis, they serve as a benchmark for analyzing the extent of deterrence and recoveries under the amended False Claims Act.

Using past budget numbers and the budget projections of the OMB, fraud committed (but not necessarily detected) for the years 1986 through 2007 would equal the amounts in the following table if, in fact, fraud were equal to 5 percent of budget outlays adjusted to take into account future growth in programs susceptible to fraud (so that it reaches 6 percent by 2002).

By 2006 fraud itself is growing at about 7 percent annually. This results from the interaction of two growing quantities--the Federal Budget is projected to be growing at rates from 2.5 to 5.10 percent annually in the 1997 to 2006 period at the same time that fraud is assumed to be increasing its share of the Budget from 5 percent to 6 percent.

MANDATORY PROGRAM OUTLAYS IN THE US BUDGET

Selected Line Items as a Proportion of the Total Budget: 1986-2002

Percent of Federal Budget

Social Security

Food and Nutrition Assistance

Income Assistance to Veterans

Medicaid

Medicare

0.3
0.25
0.2
0.15
0.1
0.05
0

1986
1988
1990
1992
1994
1996
1998
2000
2002

Fiscal Year	Budget Outlays ($Millions)	Estimated Dollars of Fraud ($Millions)
1986	990,336	49,517
1987	1,003,911	50,196
1988	1,064,140	53,207
1989	1,143,172	57,159
1990	1,252,515	62,626
1991	1,323,631	66,182
1992	1,380,856	69,043
1993	1,408,675	70,434
1994	1,460,841	73,042
1995	1,519,133	75,957
1996	1,572,411	78,621
1997 est.	1,635,329	81,766
1998 est.	1,675,877	85,470
1999 est.	1,716,949	89,281
2000 est.	1,761,367	93,352
2001 est.	1,811,531	97,823
2002 est.	1,868,316	102,757
2003 est.	1,972,248	110,446
2004 est.	2,072,832	118,151
2005 est.	2,178,547	126,356
2006 est	2,289,653	135,090
2007 est.	2,406,425	144,385

1997-02 estimates by OMB
2003-07 projections of OMB estimates

Thus, with the assumptions laid out above, total fraud perpetrated (without deterrence) over the ten years since the 1986 Amendments would have amounted to $656.5 billion, and fraud perpetrated against the government in the next ten years would be about $1,040.5 billion—an amount almost equal to the entire Federal Budget in 1988. Without deterrence, by 2006 fraud would be growing at a rate of about 7 percent annually.

Before deriving broad approximations of total deterrent effects of the 1986 Amendments to the False Claims Act it is useful to sketch a theory (framework) for breaking down deterrence into its component parts and then measuring the 1986 Amendments against those components.

THE THEORY OF FRAUD PERPETRATION AND DETERRENCE

Economics is predicated on the proposition that people are swayed toward every action by the potential payoff (either monetary or psychic) of that action given certain limitations of income, time or other measures. That is, one goes to work because the wages paid lure him/her to go to work--the "pain" of the work is less than or equal to the remuneration received after considering all other alternatives. One goes to a restaurant because the expected pleasure from that experience is at least as great as the cost after considering all other alternatives. One steals because the expected return from the criminal action is at least as great as the expected cost after considering all other alternatives.

The postulate is often difficult to adapt to reality, and, in the case of love and murder may require excessive embellishment because passion is difficult to include in a tidy economic model. Nevertheless, fraud, by its very nature, consists of a planned and systematic approach absent passion and, thus, is more amenable to rational economic analysis than crimes of passion.[15]

The Decision to Commit Fraud

Various economists have formalized models of crime where crime depends upon the expected return of committing the crime (expected payoff less expected costs).[16] In this

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[15] The Association of Certified Fraud Examiners in their 1995 "Report to the Nation on Occupational Fraud and Abuse" indicated that in their sample of fraud cases:

♦ The principal perpetrator was a college-educated white male.
♦ Losses by managers were four times those caused by employees.
♦ Median losses caused by executives were 16 times those of their employees.
♦ Losses caused by perpetrators 60 and older were 28 times those caused by perpetrators 25 or younger.
♦ Losses caused by perpetrators with post-graduate degrees were more than five times greater than those caused by high school graduates.

There can be very little doubt that fraud is a crime requiring appropriate placement and significant planning. Association of Certified Fraud Examiners, Report to the Nation: Occupational Fraud and Abuse, Austin, Texas, 1995.

[16] The first to explicitly treat the topic of crime and punishment in an economic context is generally taken to be Gary S. Becker in "Crime and Punishment: An Economic Approach"; Journal of Political Economy; Vol 76, no. 2; March/April 1968, pp. 169-217. The paper takes a slightly different angle than the subject of this paper in that it examines the optimal expenditure on crime prevention and punishment, not the impact of any one or various measures to prevent crime.

instance, the dollar value of fraud committed in government contracting and programs (denoted as "F") depends upon:

- First, the <u>Return to the Fraud Perpetrator</u>: The value of the payoff (denoted as the actual return from the fraud,"R_f"). R_f, is the expected present value of dollars received as a direct result of the perpetration of fraud by the perpetrator (in the mind of the would-be perpetrator).

- Second, the <u>Expected Loss</u>: To determine the full inducement to commit fraud, return to fraud must be reduced (in the mind of the would-be wrongdoer) by the probability of being caught (P_c) times the present value of loss occasioned by actually being caught (L_c).

Thus, the dollar volume of fraud committed by any single individual may be represented symbolically, as:

$$F = f[(R_f) - (P_c * L_c)]$$

where,
F	represents the amount of fraud actually committed,
$f[\ ]$	symbolically means that F depends on what is enclosed in the brackets,
R_f	denotes the actual return to the fraud perpetrator if the fraud is committed,
P_c	is the probability of being caught (detected and prosecuted), and
L_c	is the loss (penalty) imposed if detected and prosecuted.

In other words, the amount of fraud committed is some function of payoff and expected loss. The amount of fraud committed by society or any segment of society, for all practical purposes, can be considered to be the sum of all individual fraud perpetration decisions.

The revenue, payoff, from fraud itself, R_f, is related to the nature and size of the program with which the would-be wrongdoer is associated or has the potential to commit fraud upon.

The probability of discovery, P_c, (getting caught), depends on a number of factors which may be broadly categorized as:

(1)   The ease of perpetration (ease would be enhanced by poor oversight of the program, poor administrative procedures and so forth),

(2)   The rigor with which fraud is ferreted out and brought to prosecution by any or all entities which are charged with the responsibility to identify fraud, including the private citizen and the US Department of Justice, and

(3)   The ease of proving liability and recovering losses.

Loss, L_c, is equal to the present value of all penalties that are likely to be levied against the perpetrator if caught:

(1)   monetary fines and forfeiture,
(2)   imprisonment (if a criminal proceeding),
(3)   reduced future earnings,
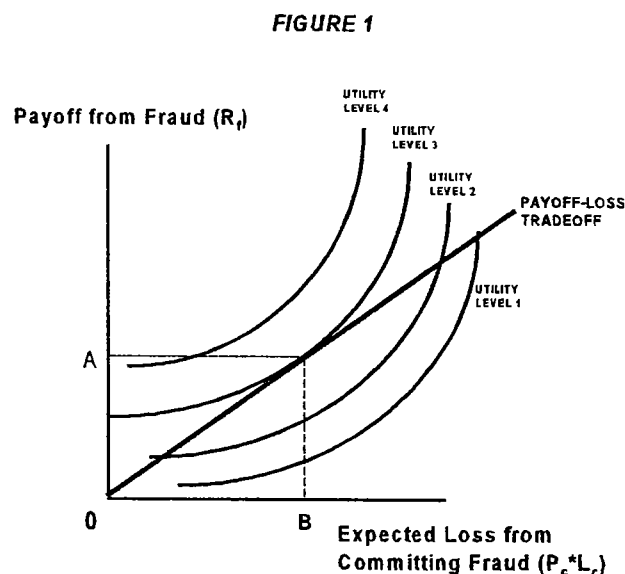(4)   social stigma, and
(5)   the loss of self esteem.[17]

Factors that could increase the probability of incurring the potential loss (increasing the probability of being caught and prosecuted) are:

♦   Internal compliance and accountability procedures of the firm having received the government funds. Strong procedures reduce the ease of perpetrating the fraud in the first place.

♦   The rigor of the audit procedure employed by the government.

♦   The vigor with which investigation and prosecution are pursued by either the Government and/or private parties -- either by increased expenditure of resources (e.g., enhanced budget) or diminished costs (e.g., reduced evidentiary requirements).

♦   New incentives to report and apprehend the wrongdoer. It is this category of enhanced probability of discovery that is, perhaps, the most interesting and far-reaching implication of the 1986 Amendments to the False Claims Act. As is discussed below, the *qui tam* provisions:

(1)   bring new players into the detection process, augmenting the number of persons looking for fraud;
(2)   provide substantial incentives for detection by the private sector, and
(3)   place new elements of risk upon the would-be perpetrator of fraud.

The rational would-be fraud perpetrator weighs the monetary benefits (to him/herself) of the fraud against the expected losses and selects a level of fraud which is commensurate with his/her highest acceptable level of payoff/expected loss tradeoff given the perceived reality of the situation. The calculus is depicted in figure 1, where payoff is plotted with reference to the vertical axis (with higher payoff represented by higher points on the vertical axis) and expected loss is plotted with reference to the horizontal axis (with higher expected losses represented as movement is made along the axis to the right).

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[17] Of course, other factors such as the risk-adverse nature and moral conscience of an individual will also influence the individual's subjective evaluation of payoff versus expected loss.

Combinations of payoff/expected loss which are of equal acceptability to the would-be criminal are connected to form varying levels of "utility", as it has been called by economists. Utility Level 2 is composed of payoff/expected loss combinations which have exactly the same level of utility but a higher subjective payoff for every level of expected loss (or, conversely, lower levels of expected loss for every level of payoff) than every combination on Utility Level 1. The same can be said of Utility Level 3 compared to Utility Level 2, and Utility Level 4 compared to Utility Level 3. Thus, to the would-be perpetrator utility levels are superior which lie above and to the left of other utility levels.

FIGURE 1

Payoff from Fraud (R_f)

UTILITY LEVEL 4
UTILITY LEVEL 3
UTILITY LEVEL 2
PAYOFF-LOSS TRADEOFF
UTILITY LEVEL 1

A

0   B   Expected Loss from Committing Fraud $(P_c{}^*L_c)$

Along any single utility line (or "indifference curve" as they are called in the economics literature) the slope of the line represents the subjective tradeoff that the individual is willing to make between payoff from fraud and expected loss and still maintain the same level of satisfaction (or "utility"). Thus, a steeply sloped (almost vertical) line would imply that the individual requires a great deal of payoff to offset even the smallest expected loss in order to maintain the same level of utility. Conversely, a nearly horizontal utility line would indicate that the individual is willing to accept considerable expected loss in order to enjoy even a small payoff (a seriously criminal mind).

In figure 1 perceived reality (in this hypothetical example) is indicated by the line labeled "payoff-loss tradeoff", a line where the perceived expected loss and payoff are plotted-- given the would-be perpetrator's assessment of the ease of fraud perpetration and the rigor with which fraud is ferreted out and brought to prosecution. Note that:

(1)   the line represents the would-be criminal's subjective evaluation of expected values (not necessarily the actual probability of being caught or actual judgment if caught-- only his/her understanding of the probability and potential loss), and

(2)   the line is drawn as a straight line only for reasons of simplicity.[18]

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[18] In reality, one would expect that the line rises steeply from the origin at first (small payoffs would engender less rigorous investigation and prosecution in the mind of the would be perpetrator) and would then level out (at some point, no matter how large the ill-gotten gain, the expected loss would not increase commensurately). Thus,

Given the set of utility relationships depicted in figure 1, and the payoff-expected loss tradeoff under the existing institutional setting, the would-be criminal would choose to commit fraud such that the amount he/she receives is amount A, and, in doing so would be facing potential loss B. That is, given the existing institutional setting, A and B allows the would-be criminal to achieve his/her highest level of satisfaction.

FIGURE 2
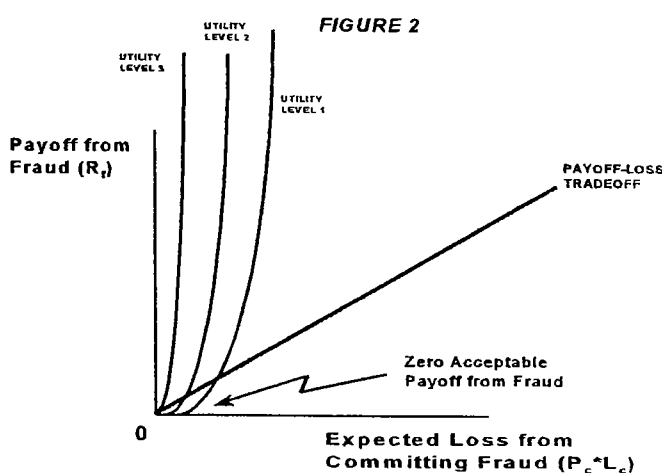
Note that for most of us, fortunately, a sufficiently high premium is placed on the value of expected loss (whether because of the deterrent impact of the potential judgement, the social stigma that would be attached, the lost wages, and/or because of moral conscience) that the utility relationships are steeply sloped (meaning that large changes in payoff only slightly offset the utility lost via expected losses). In the model, as can be seen in figure 2, this would mean that such law-abiders would consistently opt for zero perpetration of fraud irrespective of the payoff-expected loss tradeoff.

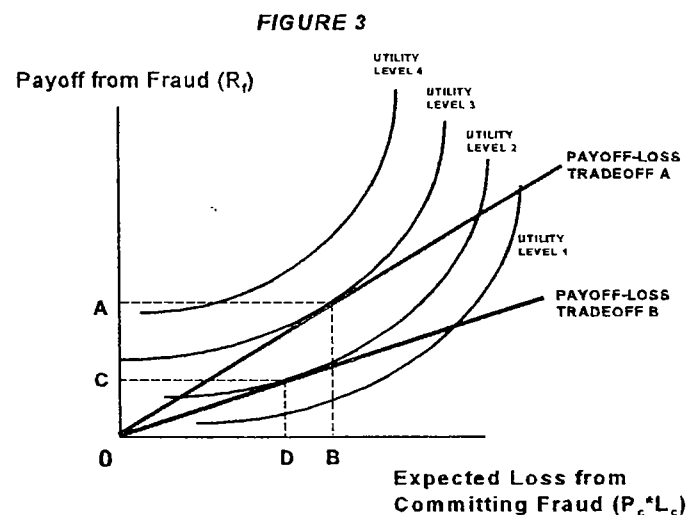## Deterrence: Shifting the Payoff-Expected Loss Tradeoff.

The payoff-expected loss tradeoff reflects the would-be wrongdoer's subjective understanding of the tradeoff between the payoff that he/she would achieve in committing the fraud and the expected loss from the fraud. Note that at each level of payoff, higher expected losses would shift the line to the right (or, conversely, at each level of expected loss the payoff would become less).

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more accurately, the payoff-loss tradeoff line would be an arc, always reflecting a higher expected loss for higher payoffs, but at a diminishing rate. Such realism adds little to the descriptive powers of the model, however.

> **Expected loss from committing fraud can be increased (and hence deterrence can be increased) by:**
> ♦ **Increasing the probability of being caught and found liable by:**
>   **(1)** reducing the ease of committing the fraud,
>   **(2)** increasing the entities devoted to and/or energy exerted in apprehending fraud perpetrators, and/or
>   **(3)** facilitating the finding of guilt, and/or
> ♦ **Increasing the severity of the consequences of committing fraud, if caught.**

Diagrammatically, the effect would be as shown in figure 3, where any or all of the enhancements suggested above would rotate the payoff-expected loss tradeoff to a position where at every payoff, the expected loss is greater than previously-- from "payoff-loss tradeoff A" to "payoff-loss tradeoff B". The new maximums for the would-be fraud perpetrator are levels of payoff C and expected loss D--a lower level of crime. For whatever reason the payoff expected loss tradeoff shifted, actual fraud committed has been reduced--this is "deterrence".


FIGURE 3

Payoff from Fraud (R_f)

UTILITY LEVEL 4
UTILITY LEVEL 3
UTILITY LEVEL 2
PAYOFF-LOSS TRADEOFF A
UTILITY LEVEL 1
PAYOFF-LOSS TRADEOFF B

Expected Loss from Committing Fraud ($P_c * L_c$)

The following observations are suggested by this model::

(1) Deterrence can be enhanced by altering the would-be perpetrator's understanding of actual expected loss as well as by altering the institutions which enhance expected loss. Thus, publicity causing a would-be perpetrator to raise his/her evaluation of the severity of consequences or causing a would-be perpetrator to raise his/her subjective assessment of being caught would have the effect of deterrence even without institutional or legal changes.

FIGURE 4

(2) The probable shape of the utility function relating payoff to expected loss for some would-be perpetrators must be such that a shift in the payoff expected-loss tradeoff causes the potential criminal to shift from some level of criminal activity to none-- complete deterrence. Such a hypothetical situation is depicted in figure 4 where the shift from payoff expected-loss tradeoff A to payoff expected-loss tradeoff B occasioned a fall from fraud resulting in payoff A to zero.
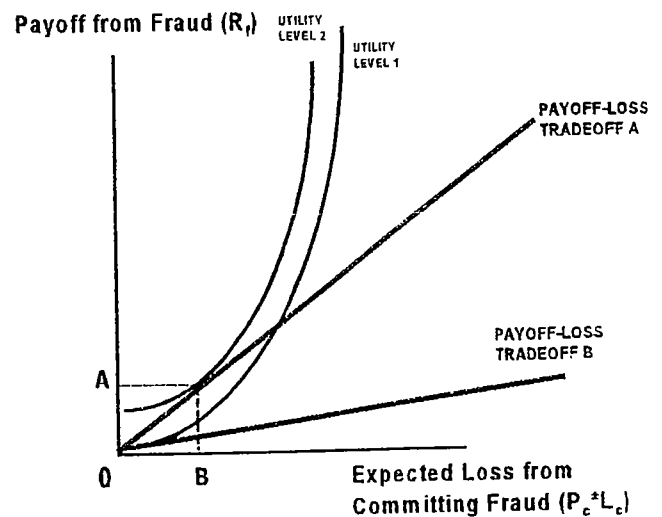

Measuring Deterrence. Ideally, deterrence in the case of the Amendments to the FCA would be measured as the difference between the dollar volume of fraud that would have been committed in the absence of the Amendments and the dollar volume of fraud actually committed. Without data measuring either actual fraud or fraud in the absence of the Amendments, the best that can be done is to examine data which might serve as proxies for either of these magnitudes (the size of the Federal Budget, for example), and to compare that data with changes in cases filed and recoveries over time. The analyst would be looking for "blips" or shifts that would indicate changed patterns or altered behavior (a change in the growth rate of cases when there has been no growth in the federal budget, for instance)--evidence of deterrence. Without detailed data regarding cases filed and recoveries, the best that can be done is to establish reasonable scenarios which link known data with reasonable trends.

Even if they could be collected, data relating to fraud and deterrence are always difficult to interpret because their components are difficult to identify as a cause or an effect (it's called the "identification" problem in statistics). Several problems with "identification" are obvious in the context of this paper:

◆ First, deterrence is impacted by perceived expected loss, not an assessment of actual loss. Thus, knowledge of penalties and the rigor of discovery and audit, and many other factors relating to the probability of being caught and the consequences as seen through the eyes of the would-be perpetrator are important. It is difficult, if not impossible, to assess these subjective elements. If fraud rates were observed to be falling, (or, for that matter rising) increased perception of the actual loss would be one of the variables to examine in the explanation.

◆ Second, there are a number of factors simultaneously impacting the commission, detection and prosecution of fraud. For example, changed economic circumstances

which make the payoff from the perpetration of fraud relatively more attractive, improvements in technology and technique which make detection easier (or perpetration easier) and the reaction of various actors in the process such as the US Department of Justice to a changed enforcement environment are all difficult to adjust for in examining historical data for signs of increased commission of fraud or enhanced deterrence.

◆ Finally, if, in fact, deterrence were entirely successful, fraud and, subsequently, detection and prosecution would be reduced to zero--almost unimaginable, but the point is worth considering. As figure 5 shows, in a successful program at some point actual fraud would begin to diminish. So would cases and recoveries (although not necessarily at the same point). Fraud that would have occurred without a successful discovery and deterrence program would have continued at some higher rate (indicated by the dotted line in figure 5).

FIGURE 5
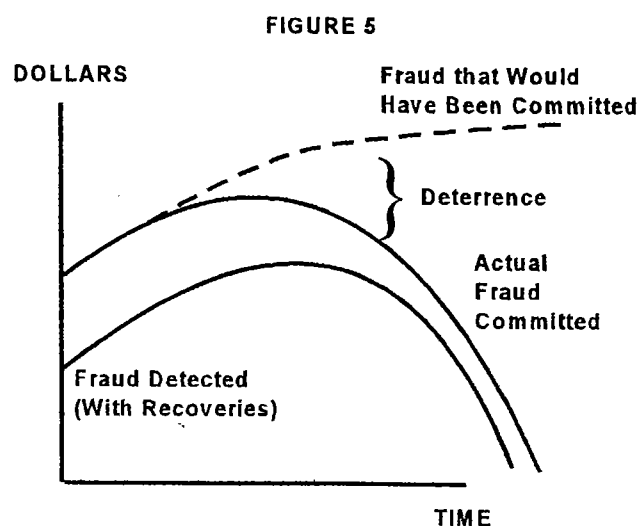
Unfortunately, the full extent of actual fraud committed (with the successful deterrence program) as well as fraud that would have been committed (without the successful program) can never be known. The only data that could be known would be recoveries, the lowest line (blue line) in figure 5. The statistical danger would be in interpreting a decline in claims and recoveries as declining activity or success in the program, when, in fact it is an enhanced deterrent effect that is operative.

If fraud and potential fraud could be measured (the red lines in figure 5), the appropriate measure of deterrence would be the "elasticity of deterrence". Elasticity of deterrence would equal the percentage reduction in fraud actually perpetrated (changes in "F" in the nomenclature of the model) divided by the percentage change in deterrence (the difference between fraud that would have been committed and actual fraud occasioned by "$P_c * L_c$" in the model). In the analysis in the subsequent section, reasonable ranges are established for percentage changes in fraud actually perpetrated and recoveries are used as a surrogate for deterrence.

> *Thus, the model, which is a plausible and intuitive representation of human behavior, depends on three factors—*
> > *(1)   the rewards from fraud,*
> > *(2)   the probability of being caught and found liable, and*
> > *(3)   the potential loss that is incurred if caught.*
>
> *The significant point here is that the 1986 Amendments to the False Claims Act contain a number of provisions having the effect of increasing the probability of being caught and increasing the potential loss that is incurred if caught. Ultimately, the impact would be enhanced deterrence—the empirical question is the magnitude of the deterrence.*

IMPACTS OF THE 1986 AMENDMENTS

The 1986 False Claims Act Amendments have substantially altered the real world, and presumably the perceived world, in which the would-be fraud perpetrator operates. That altered environment would have a variety of consequences that can be grouped into three categories:

(1)   *Direct Revenue Effect*: payments to the US Treasury from wrongdoers as a result of the False Claims Act. Total recoveries are, in effect, a revenue gain by the US Treasury and/or a cost reduction to the American taxpayer.

(2)   *Deterrent Effect*: fraud, which might otherwise have been committed, which, because of the perceived increase in expected loss, is not committed. Deterrence is also tantamount to a revenue gain by the US Treasury and/or a cost reduction to the taxpayer.

(3)   *Indirect Effects*: implications of deterrence resulting from lower costs for projects and programs not subjected to false claims and other frauds. For example, it was noted by the sponsors of the Amendments that fraud erodes public confidence in the Government's ability to efficiently and effectively manage its programs.[19] In a similar vein, the 1978 Report of the General Accounting Office noted that: "Dollar losses are only one aspect of the harm resulting from fraud and other white-collar offenses. When Federal programs are exploited and abused, it not only costs the taxpayers more but also may diminish public support for the programs, deprive eligible beneficiaries of benefits, and lower the level of services provided."[20] There may also be certain macroeconomic benefits attributable to either reduced taxation or enhanced efficiency that result from reduced fraud. Because of the difficulty of quantitative analysis of these factors, no further discussion of these "indirect effects" is offered in what follows.

Measurement of the effects is made difficult by the very nature of fraud and the subsequent lack of data. The difficulty is apparent in the June 1986 Congressional Budget Office's Budget Impact Statement presented in conjunction with the bill containing the FCA Amendments. Rudy G. Penner, then Director of the CBO, presented the brief analysis which read in part:

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[19] Legislative History of the 1986 Amendments to the False Claims Act, p. 3.

[20] Comptroller General of the United States, op.cit., p. 11.

The 1986 False Claims Act Amendments: An Assessment of Economic Impact

According to the Department of Justice, collections of penalties and damages under the False Claims Act currently average about $40 million each year, although this amount fluctuates widely. The imposition of treble damages could potentially increase this amount by 50 percent. The increase might be lower, however, due to the possible reluctance of courts to impose more severe penalties. Conversely, collections could be even greater due to provisions in this bill making it easier for the government to win convictions for false claims, encouraging individuals to initiate false claims suits and establishing a uniform federal prejudgment standard.[21]

Nevertheless, through information developed from over 4,000 applicable fraud cases and nearly 1,400 *qui tam* filings over the ten year period since the passage of the 1986 Amendments, the series of GAO reports, and other accounts of relevant fraud against the Government, magnitudes of direct and deterrent effects can be extracted. The following sections develop magnitudes of direct and deterrent effects.

The Provisions Creating Direct and Deterrent Effects. For this purpose, the 1986 Amendments can be viewed as falling into one of two categories: (1) changes to the False Claim Act's *qui tam* provisions, or (2) changes to the rest of the False Claims Act.

Key changes made to the *qui tam* provisions:

- ♦ Eliminated the bar preventing *qui tam* suits about which the government possessed certain "essential information";
- ♦ Entitled successful *qui tam* relators to at least 15% and up to 30% of the funds they help recover from the defendant;
- ♦ Required the defendant to pay for the successful relator's reasonable costs of suit and attorneys' fees;
- ♦ Permitted relators to maintain their status as parties even if the government intervened in the *qui tam* case; and
- ♦ Established protections from employer retaliation for employee whistleblowers.

The effects of these changes in the *qui tam* provisions are threefold:

- ♦ First, they removed the key barriers that had, prior to the Amendments, effectively prevented citizens from bringing *qui tam* suits against wrongdoers.
- ♦ Second, they affirmatively encouraged people with knowledge of False Claims Act violations to come forward to vindicate the government's rights. And,

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[21] Legislative History, op. cit., p. 37.

♦ Third, as a result, and to the extent that they are recognized by the would-be wrongdoer, they would certainly have a deterrent effect.

In the model developed in the previous section of this paper, the *qui tam* provisions of the amended Act assume a unique element in the deterrence strategy. The relator's role in the model is to enhance P_c, the probability of being caught and prosecuted, and, as such, the "whistleblower" plays a role significantly different than elements directed toward enhanced severity of consequences.

Besides rejuvenating the *qui tam* provisions, the 1986 Amendments brought about other changes to the False Claims Act that would tend to increase the deterrent effect of the law. These other changes:

♦ Increased the cost of violating the law to treble damages and civil fines of between $5,000 and $10,000 for each false claim (from $2,000);

♦ Facilitated proof of liability by holding defendants accountable for acting in "deliberate ignorance" or "reckless disregard" of the truth, and by eliminating the need to show specific intent; and

♦ Restored the normal "preponderance of evidence" standard of proof for False Claims Act cases.

Together, these changes make it easier to hold a wrongdoer accountable and increase the price wrongdoers have to pay for violating the law. Inasmuch as these changes facilitate litigation under the Act, they also encourage relators' use of the Act thus augmenting the deterrent effect of the Amendments.

In terms of the model developed in the theory section of this paper, and to the extent that they are recognized by a would-be perpetrator, these Amendments (ones dealing with changes other than to *qui tam*) directly increased expected loss, L_c; increased the prospect for prosecution, one element of P_c; and indirectly (through its encouragement to *qui tam* relators and government enforcers) increased the probability of being detected, another element of P_c.

In terms of the graphical representation developed in the theory section, both the amended *qui tam* provisions and the other provisions included in the Amendments would cause the "payoff-loss tradeoff line" to rotate towards the X-axis (representing increased "expected loss" relative to "payoff") as shown in figure 3. The result, under most any reasonable assumption regarding individual preferences, would be a reduction in actual fraud—a deterrent effect.

Direct Effects of the 1986 Amendments.

Qui Tam **Recoveries.** Data relating to *qui tam* recoveries are available, are important for their own sake, and can assist in deriving numbers regarding total recoveries (including *qui tam*) which are not so readily available.

Prior to 1986, records cannot identify *qui tam* cases from other cases brought under the False Claims Act.[22] In the period between 1943 and 1986, the Department of Justice records show only three *qui tam* cases (with total recovery of $54 thousand), and, although there could have been more if records had been able to identify *qui tam* cases, there were undoubtedly very few. Since the Amendments were passed in 1986, there have been a total of 1,386 *qui tam* filings (as of June, 1996) and recoveries of $1,049 billion (by the end of fiscal year 1995)[23]. *Qui tam* filings have shown substantial growth each year since the Amendments were passed. Annual filings and recoveries are provided in the table below:[24]

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[22] The Department of Justice computer system has records only back to 1979. Those records do not distinguish between *qui tam* (ex rel) and other cases. Counts and amounts of other fraud cases brought under the False Claims Act prior to 1986 are also not available.

[23] Frank W. Hunger's letter to Senator Grassley, loc. cit., indicates that *qui tam* recoveries through June, 1996 equaled about $1.16 billion [$1.13 billion in cases in which the Justice Department intervened and .026 billion in cases in which the Justice Department chose not to intervene].

[24] Case numbers from Hunger, loc. cit.. Annual recovery numbers are from the US Department of Justice, press release, loc. cit.. October 18, 1995.

	Qui Tam Filings (Cases)	Qui Tam Recoveries ($ Millions)
FY87	33	0
FY88	60	2
FY89	95	32
FY90	82	40
FY91	90	36
FY92	119	124
FY93	131	193
FY94	221	379
FY95	278	243
FY96 *	277	NA
TOTAL	1386	$1,049

NA   Not Available
*   As of June, 1996

Qui tam recoveries are a growing proportion of total recoveries. Presently, the US Department of Justice indicates that approximately one third of all fraud recoveries have derived via qui tam.

In a letter dated July 23, 1996 from Frank W. Hunger, Assistant Attorney General, Civil Division to Senator Charles Grassley in his role as Chairman of the Subcommittee on Administrative Oversight and the Courts of the Senate Judiciary Committee, Mr. Hunger noted that:

> "In the [qui tam] cases pursued by the United States[25], we have, from the 1986 amendments to date, obtained recoveries of about $1.13 billion." In a footnote, he added: "In the same time period, the Department recovered an

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[25] The Department of Justice may choose to intervene in a qui tam filing or decline to intervene, in which case the relator has the option of continuing the case as a private citizen on behalf of the US Government. Usually, and for obvious reasons, the US Department of Justice has chosen to intervene in large cases with large recoveries at stake, leaving the relator to pursue the case on his/her own in cases where a lesser amount is at stake. It should be noted however, that the decision of the relator to report the case precedes the decision of the Department of Justice to intervene. That is, there is no reduction in the incentive to file due to the Department's decision to intervene.

approximate additional $2.3 billion in non-*qui tam* fraud matters within the authority of the Commercial Litigation Branch".

To gain a picture of the growing importance of *qui tam* Mr. Hunger's statement should be contrasted with testimony of Stuart M. Gerson, Assistant Attorney General, Civil Division in the prior Administration before the Subcommittee on Civil and Constitutional Rights of the Committee on the Judiciary on April 1, 1992[26]:

> "As I stated earlier, in *qui tam* cases where we have not intervened, total recoveries to the United States in six [five] years has been $225,000." And "...more than eight out of every 10 dollars recovered in fraud cases since 1986 have been recovered in cases investigated and brought solely by the government, not through private-relator *qui tam* suits."

Or, in the same testimony:

> "We have taken over a total of 66 cases; we are litigating 29 of these and have settled or obtained judgments in 37 for a total recovery of about $147 million, which as I noted before, is about 13.5% of our total fraud recoveries in the period."

The data that the Assistant Attorneys General presented would indicate that:

Whereas the Department of Justice depended upon the qui tam provisions for only 13½ percent of its recoveries in fraud cases through 1991, by 1996 it now depends on the qui tam provisions for slightly over 30 percent of its recoveries.

Recoveries in *qui tam* cases in which the Department of Justice has not intervened amounted to only $225 thousand for the first five years subsequent to the Amendments but $25.8 million in the following four years. The private citizen relator is becoming more important and persistent even in cases where the Department of Justice declines intervention.

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[26] Stuart M. Gerson, Remarks Concerning the *qui tam* Provisions of the False Claims Act and H.R. 4563; Before a Hearing of the Subcommittee on Civil and Constitutional Rights, Committee on the Judiciary, US House of Representatives, April 1, 1992, pp. 7 and 20.

Total Fraud Recoveries (Including *Qui Tam*). Data which correspond to the total fraud recoveries by the US Department of Justice under the False Claims Act are not available. Amounts are occasionally reported in testimony and other documents which do allow for a rough reconstruction of trends, however. Although the definition and consistency of these statistics cannot be checked the order of magnitude can be judged. From testimony delivered by the US Department of Justice subsequent to passage of the Amendments we know that:

♦ Fraud recoveries in fiscal years 1985 and 1986 were about $27 million and $54 million respectively.[27]

♦ Total fraud recoveries equaled about $1,089 million from 1986 to 1991.[28]

♦ Total fraud recoveries since the Amendments were $3,342 million through fiscal year 1995 and, as of June, 1996, about $3,456 million.[29]

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[27] Statement of Gerson, Stuart M. in US House of Representatives, False Claims Act Implementation, Hearing Before the Subcommittee on Administrative Law and Governmental Relations of the Committee on the Judiciary, House of Representatives, 101st Congress, April 4, 1990, p. 10. This number is consistent with the Statement of Congressional Budget Office Director Rudy G. Penner cited earlier in this section.

[28] Gerson, Stuart M., loc. cit., April 1, 1992. In the testimony, p. 19, Mr. Gerson indicates that cumulative *qui tam* recoveries subsequent to the Amendments had by fiscal year 1991 reached $147 million, which were 13½ percent of total fraud recoveries. That would make total fraud recoveries equal to about $1,089 million from 1986 to 1991.

[29] From US Department of Justice press release, "Justice Department Recovers Over $1 Billion in *Qui Tam* Awards and Settlements", October 18, 1995, p. 4. citing "total fraud recovery from FY87 through FY95: $3,342,390,684". Figures for June 1996 are from Hunger, Frank W., loc. cit.. In that letter Mr. Hunger notes that recoveries from *qui tam* cases that the Department has pursued total about $1.13 billion; recoveries from *qui tam* cases that the Department has chosen not to pursue amount to $26 million; and recoveries from non-*qui tam* cases amount to $2.3 billion. That would make total fraud recoveries through June of 1996 equal to $3,456 billion.

Projecting Total Recoveries (Including _Qui Tam_). Without knowing the figure for the intervening years, to get from $54 million in fraud recoveries in fiscal year 1986 to a cumulative total of $1,089 million in fiscal year 1991 would require an average annual compound growth rate of about 82 percent.[30] To get from the $1,089 million cumulative total of fiscal year 1991 to the $3,342 million cumulative total of 1995 would require an average annual compound growth rate of about 32 percent.

The diminution of growth rate is, of course, due almost entirely to the higher base, and the reduction in percentage growth will continue as the base continues to increase, even if absolute increases in recoveries are quite large. But, even if the average annual compound growth rate from 1996 until 2006 is only 20 percent, it would be making a significant reduction in the growth rate of fraud, which is projected to be about 2½ to 3 percent annually over the next 5 to 10 years.

Based upon the average annual compound growth rates cited above, estimates of total fraud recoveries by the US Department of Justice are provided in the table below:

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[30] The "Average Annual Compound Growth Rate" is the single growth rate that would be required to move from the initial year (a known quantity) to the terminal year (the other known quantity). Although, if the data were actually known, some annual growth rates would undoubtedly have been greater and some less; they would (in present value terms) have to have "averaged" this rate to get from one to the other.

Total Recoveries (Including *qui tam*)

YEAR	CUMULATIVE RECOVERIES ($ Millions)	ANNUAL RECOVERIES ($Millions)
FY86	54	54
FY87	98	44
FY88	180	81
FY89	327	148
FY90	597	270
FY91	1,089	492
FY92	1,441	352
FY93	1,908	466
FY94	2,525	617
FY95	3,342	817
FY96 est.	4,010	668
FY97 est.	4,812	802
FY98 est.	5,775	962
FY99 est.	6,930	1,155
FY00 est.	8,316	1,386
FY01 est.	9,979	1,663
FY02 est.	11,975	1,996
FY03 est.	14,370	2,395
FY04 est.	17,244	2,874
FY05 est.	20,693	3,449
FY06 est.	24,831	4,139
TOTAL		24,831

Thus, total fraud recoveries since the 1986 Amendments can be expected to exceed $24 billion by fiscal year 2006. And, more importantly, about $21 billion of those recoveries can be expected over the next decade.

Projecting *Qui Tam* Recoveries. The same evidence gathered from testimony, coupled with knowledge of *qui tam* recoveries since 1986, can assist in approximating *qui tam* recoveries in the future.

From 1991 to June of 1996 *qui tam* recoveries grew at an average annual growth rate of 50 percent.[31] The values generated by this growth rate are consistent with testimony cited earlier. In that testimony Assistant Attorney General Gerson noted that by 1991 cumulative recoveries via the *qui tam* provisions amounted to 13½ percent of all recoveries ($1,089 million). Assistant Attorney General Hunger noted in 1996 that *qui tam* recoveries accounted for 33 percent of all fraud recoveries ($3,430 million). An average annual compound growth rate equal to nearly 50 percent annually would move *qui tam* recoveries from being 13½ percent of all recoveries in 1991 to 33 percent in 1996.[32]

Clearly, recoveries cannot continue to grow at a rate equal to 50 percent annually. Continuation at that rate would eventually lead to the nonsensical conclusion that eventually recoveries had outstripped fraud (even allowing for the treble damage nature of recovery). It is more likely that the *qui tam* provisions will grow in relative importance, but at a declining rate. The table below, using the estimates of total fraud recovery by the US Department of Justice developed earlier, shows total *qui tam* recoveries under a scenario where *qui tam* recoveries remain at 33 percent of all recoveries (Scenario 1) and another where *qui tam* recoveries grow to represent 50 percent of all recoveries by the year 2006 (Scenario 2).[33]

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[31] Some years were higher. For example the growth rate from 1993 to 1994 was 96.2%. Some years were lower. For example the growth rate from 1994 to 1995 was negative 35.3%. An annual growth rate of 50% would move from $36 million recoveries in 1991 to $243 million by the end of 1995.

[32] Again, some years may exceed 50 percent and some years may fall short of 50 percent, but, over the entire 4¾ year period an annual rate of 50 percent would move *qui tam* recoveries from being 13½ to 33 percent of all recoveries.

[33] Using the total recoveries (including *qui tam*) approximated above, it can be observed that *qui tam* would progress from accounting for 33 percent of all fraud recoveries to 50 percent by year end 2006 if it continues to increase its share of all recoveries by only 3½ percent per year (instead of the 35 percent actually experienced between 1991 and 1996) each year over the next ten years.

YEAR	Estimated CUMULATIVE RECOVERIES ($ MILLIONS)	Estimated ANNUAL RECOVERIES ($ MILLIONS)	SCENARIO 1 qui tam Recoveries ($ MILLIONS)	SCENARIO 2 qui tam Recoveries ($ MILLIONS)
FY86	54	54		
FY87	98	44	0	0
FY88	180	81	2	2
FY89	327	148	32	32
FY90	597	270	40	40
FY91	1,089	492	36	36
FY92	1,441	352	124	124
FY93	1,908	466	193	193
FY94	2,525	617	379	379
FY95	3,342	817	243	243
FY96 est.	4,010	668	221	221
FY97 est.	4,812	802	265	278
FY98 est.	5,775	962	318	350
FY99 est.	6,930	1,155	381	440
FY00 est.	8,316	1,386	457	552
FY01 est.	9,979	1,663	549	690
FY02 est.	11,975	1,996	659	862
FY03 est.	14,370	2,395	790	1,075
FY04 est.	17,244	2,874	948	1,339
FY05 est.	20,693	3,449	1,138	1,666
FY06 est.	24,831	4,139	1,366	2,069
TOTAL		24,831	8,165	10,617

> *Thus, while qui tam recoveries are expected to equal about $1,295 million from 1987 through the end of fiscal year 1996, they would be expected to equal about $6,871 million over the next ten years even if their share of total recoveries did not increase. Qui tam recoveries would be expected to equal $9,322 million over the next ten years if their share increased from 33 percent of all recoveries to 50 percent.*

Total fraud, total recoveries and *qui tam* recoveries (Scenario 2) are depicted in the graph on the following page.

TOTAL FRAUD, TOTAL RECOVERIES AND QUI TAM RECOVERIES

1987 - 2006, Estimated and Projected
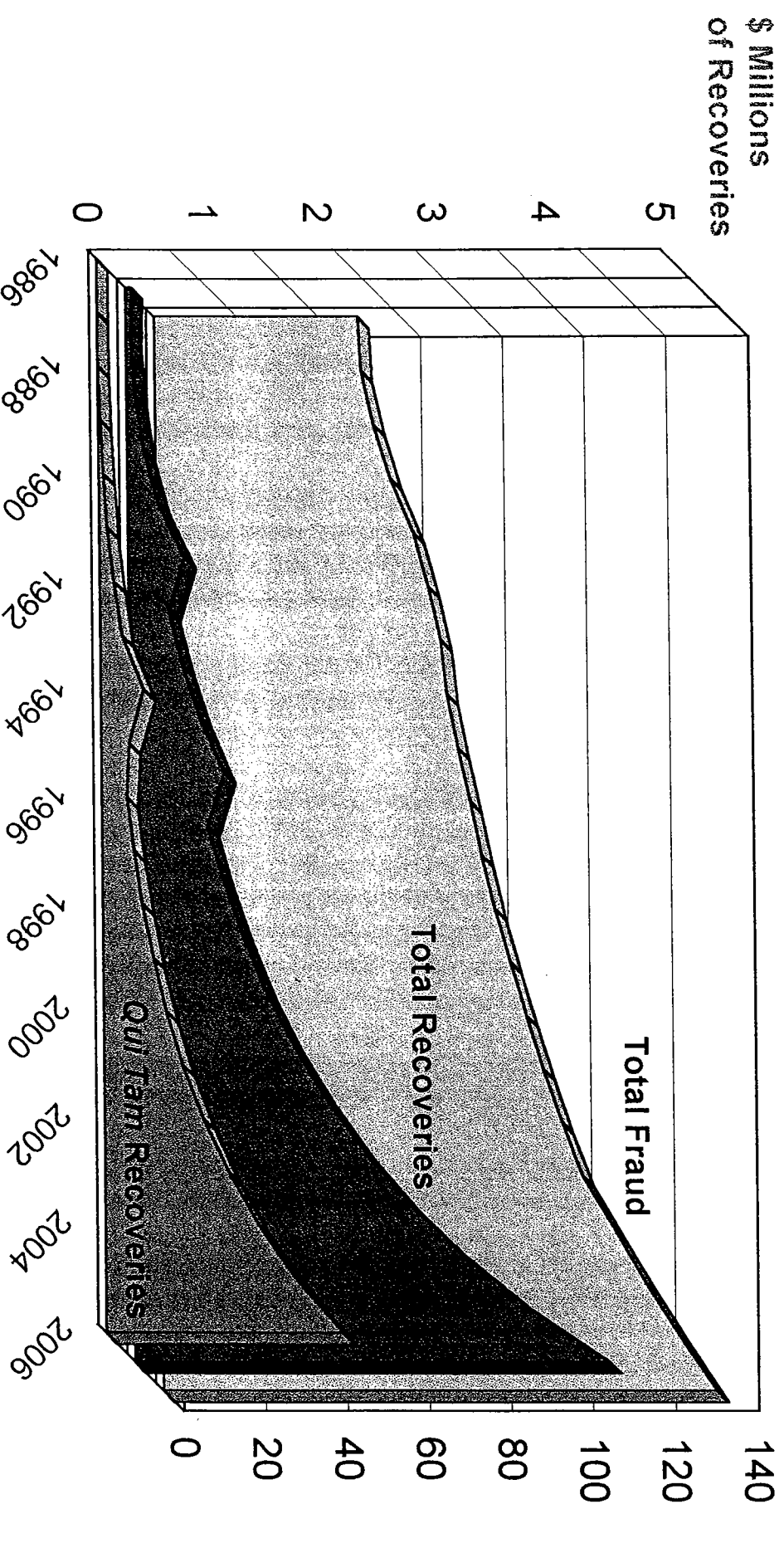
NOTE: Amounts Estimated and Projected from Available Data. See Text.

The Deterrent Effect. Deterrence, the difference between what amount of fraud there would be without the 1986 Amendments and what amount of fraud there is with the Amendments, is a difficult, if not impossible, magnitude to actually measure. Perhaps the best that can be done is to establish parameters which give rise to reasonable estimates. Four factors seem worthy of consideration in arriving at a reasoned magnitude: (1) the Amendments' obvious potential for deterrence; (2) would-be perpetrators' increased understanding and recognition of the expected loss if detected and prosecuted; (3) the continued growth of fraud if left undeterred; and (4) a rate of growth of projected recoveries which appears to exceed the growth rate of projected fraud. Each is discussed below:

First, the 1986 Amendments clearly have some positive deterrent effect. As was indicated in the section "The Theory of Fraud Perpetration and Deterrence":

♦ The total fraud perpetrated is expected to depend on dollar rewards from committing the fraud compared to expected dollar loss from being found liable.

♦ Expected dollar loss, in turn, depends upon (1) severity of the penalty, if found liable ("L_c" in the equation); (2) ease of perpetration (ease would be enhanced by poor oversight of the program, poor administrative procedures and so forth); (3) the rigor with which fraud is ferreted out and brought to prosecution by any or all entities which are charged with the responsibility to identify fraud, including the private citizen and the US Department of Justice; and (4) the ease of proving liability and recovering losses. Elements (2), (3) and (4) jointly comprise "P_c" in the equation.

♦ Thus, deterrence depends upon the comparison of L_c and P_c prior to the Amendments and L_c and P_c subsequent to the Amendments.

As has been discussed, all four factors encompassed by expected dollar loss have been enhanced significantly by the 1986 Amendments. On the other hand, there is no reason to believe that the Amendments in any way increased the return from fraud, R_f. Thus, the deterrent effect is a positive amount.

Furthermore, of the factors impacting expected dollar loss, the most dynamic element is the rejuvenated *qui tam* provisions. It is this element that will not allow the probability that someone will detect the fraud to fall to an insignificant amount. While risk of detection and prosecution via the US Department of Justice may be reasonably predicted by the would-be perpetrator who may then take steps to avoid detection, relators present a higher risk and add elements of uncertainty to the perpetrators' calculations. The potential fraud perpetrator must certainly view relators as an ominous barrier to escaping without exposure.

Second, understanding of the risks and penalties associated with committing fraud continues to develop more fully. As has been discussed, the important factor in evaluating "expected loss" by the would-be perpetrator is his/her perception, correct or not, of loss and probability of detection and prosecution. Regardless of actual severity and surety of being detected and prosecuted, without the perception of severity and surety the deterrent effect would be lost.

The growth of total FCA recoveries and *qui tam* recoveries as well as the resulting publicity indicate that awareness of both the risks and consequences of committing fraud is growing.

Third, without the deterrence provided by the 1986 Amendments, it is evident, as discussed in the section entitled "The Scope of False Claims Against the Government", that fraud will continue to grow somewhat concomitant with growth in the Federal Budget. Moreover, programs that are growing most rapidly as a proportion of the Federal Budget are, according to the GAO, most susceptible to fraud (mainly health care programs).

And, *fourth*, if deterrence is triggered in part by evidence of detection and prosecution, namely recoveries, then the 1986 Amendments have had a positive deterrent effect because recoveries have, according to the approximations developed above, been increasing at a rate greater than the rate of increase in total fraud.

Earlier, growth in total fraud was assessed to be equal to about 7 percent annually over the next ten years. On the other hand, total recoveries (including *qui tam*) have been growing at a rate equal to about 32 percent annually and have been projected in this paper to grow at an average annual rate of around 20 percent annually over the next ten years. Similarly, *qui tam* recoveries have grown at a rate equal to 50 percent annually and are projected in this paper (under Scenario 2) to grow at a rate (equal to about 25 percent annually) such that *qui tam's* total share of all recoveries is equal to 50 percent by 2006 These trends are depicted on the chart on page 31.

Recoveries growing faster than fraud could be interpreted as a positive signal of increased expected loss and, hence, an additional element of deterrence.

Projecting the Deterrent Effect of the Amended False Claims Act (Including *qui tam*). While a growth rate of total fraud equal to about 7 percent (such that fraud constitutes 6 percent of the Federal Budget by 2006) is only an estimate based upon information and analysis by GAO and others, and may be judged conservative by many analysts, the magnitude is quite large compared to the total amount of fraud that is actually detected and prosecuted. Even by 2006 recoveries are predicted by this paper to equal only 3.06 percent of total fraud.

Thus, if a 1 percent increase in recoveries in 1995 ($8.2 million) were to promote even a ½ of 1 percent diminution in total fraud by 1996, the result would be a budgetary savings of $393.1 million in 1996 alone. Of course, if the effect were a 1 percent diminution in 1996 as a result of a 1 percent increase in recoveries in 1995, the result would be a budgetary savings of twice that, $786.2 million in 1996. Or, if the effect were a 2 percent diminution in 1996 as a result of a 1 percent increase in recoveries in 1995 the savings would be $1,572.4 million (equal to 1/10 of 1 percent of the Federal Budget, an amount sufficient to fund most any single program in the Budget).

Most likely, the deterrent impact would continue such that recoveries in any one year would have a deterrent effect for some number of future years. Further, it could be argued that, due to enhanced understanding and knowledge of the potential consequences of committing fraud, the deterrent impact would grow at a rate exceeding the growth rate of detection and prosecution (as long as that rate of growth of recoveries remained positive, i.e., detection and prosecution continued to grow). On the other hand, a reduction in the rate of detection and prosecution (reduced enforcement or weakening of the Act's provisions) would, by the same argument, have the effect of reducing perceived expected loss (reduced deterrent) with subsequent increases in fraud perpetration.

Thus, a simulation must provide parameters which relate to: (1) the response of actual fraud to changes in recoveries (so-called "elasticity of deterrence"), (2) the rate at which the deterrent effect in any one year subsides, a "decay factor" (the simulation assumes that the effect would subside in a straight line manner over four years), and (3) changes in impact of recoveries on actual fraud as would-be wrongdoers learn of the greater probability of detection and prosecution and of the increased consequences.[34]

Reasonable parameters would give rise to the following conclusions:

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[34] In the calculations that follow, it has been assumed that any year's increase (or decrease) in recoveries leads to a reduction in fraud in the following four years with the impact declining over those four years evenly--such that by the fifth year there is no appreciable impact remaining. Furthermore, it is assumed that the elasticity of deterrence for the first ten years subsequent to the Amendments is ½ of what it is for the second ten years.

♦ *If actual fraud in any year depends upon recoveries in the prior year such that each one percentage point increase in recoveries leads to only a ¼ of 1 percent reduction of actual fraud in the subsequent year (for the first ten years) and will lead to only a ½ of 1 percent diminution of actual fraud for the second ten years, with the pattern of influence for the subsequent three years as described above, then deterrence over the ten years since the 1986 Amendments to the False Claims Act would be $147.9 billion; and the impact over the next ten years will be $240.2 billion (23% of the projected fraud to be committed over that 10 year period).*

♦ *If actual fraud in any year depends upon recoveries in the prior year such that a one percentage point increase in recoveries leads to only a ½ of 1 percent reduction of actual fraud in the subsequent year (for the first ten years) and will lead to only a 1 percent diminution of actual fraud for the second ten years, again with the pattern of influence for the subsequent three years as described above, then deterrence over the ten years since the 1986 Amendments to the False Claims Act would be $295.8 billion; and the impact over the next ten years will be $480.3 billion (46% of the projected fraud to be committed over that 10 year period).*

Projecting the Deterrent Effect of the *Qui Tam* Provisions. Even if the *qui tam* provision were no more powerful a deterrent than recovery via traditional Department of Justice processes (that is, *qui tam* recoveries are given no more weight in deterrence than are non-*qui tam* recoveries) then *qui tam* alone would account for the following deterrence:

♦ *In the case where actual fraud in any year depends upon recoveries in the prior year such that a one percentage point increase in qui tam recoveries leads to only a ¼ of 1 percent reduction of actual fraud in the subsequent year (for the first 10 years) and only a ½ of 1 percent reduction for the next 10 years, qui tam would have accounted for $35.6 billion of deterrence over the last ten years and would be expected to account for $105.1 billion of deterrence over the next ten years.*

♦ *In the case where a one percentage point increase in qui tam recoveries leads to only a ½ of 1 percent reduction of actual fraud in the subsequent year (for the first 10 years) and only a 1 percent reduction for the next 10 years, qui tam would have accounted for $71.3 billion of deterrence over the last ten years and would be expected to account for $210.1 billion of deterrence over the next ten years (44% of all deterrence if the same deterrence assumptions were used for non-qui tam provisions as well).*

If *qui tam* has a greater impact on deterrence than traditional Department of Justice processes, as the arguments above would predict, then, of course, the total deterrence attributable to *qui tam* would be greater. At this point the selection of any particular proportion would be arbitrary, but, for example, if *qui tam* were twice as effective as non-*qui tam* procedures in promoting deterrence, then the proportion of total deterrence attributable to *qui tam* would be twice as great.

Without the ability to determine the actual elasticity of deterrence it is difficult to judge the accuracy of the numbers developed above. However, these numbers would appear to be minimal estimates. Even an elasticity equal to one seems quite low when the nature of the offense is one requiring such calculation and planning as fraud against the government. Nevertheless, the numbers can be viewed as minimal magnitudes, ones that indicate the large deterrent impact attributable to the 1986 Amendments.

SUMMARY AND CONCLUSIONS

This paper has examined and quantified the direct and deterrent effects of the 1986 Amendments to the False Claims Act. The Act as amended is intended to provide an effective remedy for fraudulent claims presented to the United States Government in contracts and government programs.

(1)   **Direct Revenue Effect**: Direct revenue effects are simply payments to the US Treasury from wrongdoers as a result of the False Claims Act;

(2)   **Deterrent Effect**: Deterrence in the case of the 1986 Amendments would be measured as the difference between the dollar volume of fraud that would have been committed in the absence of the Amendments and the dollar volume of fraud actually committed with the Amendments in place.

In reaching quantitative estimates of deterrent and direct revenue effects of the Act, the paper sequentially developed methods and data to approximate:

♦   Total fraud committed against the US Government over the ten years since the Amendments and over the next ten years.
♦   *Qui tam* recoveries over the past ten years.
♦   All recoveries (including *qui tam*) over the ten years since the Amendments and over the next ten years.
♦   *Qui tam* recoveries over the next ten years.
♦   Deterrence (reduction in fraud) resulting from all Amendments to the Act.
♦   Deterrence resulting from the *qui tam* provisions of the Amendments.

After examining various studies of related concern, it seemed reasonable to conclude that total fraud against the government must currently equal about 5% of the total Federal budget amount. Furthermore, after examining certain line items in the budget and their expected growth over the next ten years, it appeared reasonable to expect that fraud perpetrated within the areas of the mandatory programs (without deterrence) will produce an increasing share of fraudulent activity in the Federal budget, a good portion of which will be amenable to prosecution under the False Claims Act. Thus, if fraud is currently about 5 percent of total outlays, without substantial deterrence it will grow to six percent over the next ten years as those programs continue to grow.

> *With these assumptions, and using budget projections (through 2002) provided by the Office of Management and Budget, total fraud perpetrated (without deterrence) over ten years since the 1986 Amendments would have amounted to $656.5 billion, and fraud perpetrated against the government in the next ten years would be about $1,040.5 billion--an amount almost equal to the entire Federal Budget in 1988.*

The paper developed a model to help explain and understand the concept of deterrence and its components. The model, which is a plausible and intuitive representation of human behavior, depends on three factors:

(1) The rewards from committing fraud,
(2) The probability of being caught and found liable, and
(3) The potential loss that is incurred if caught and found liable.

The probability of being caught and found liable times the potential loss is termed the "expected loss". Expected loss can be increased by:

Increasing the probability of being caught and found liable by:
(1) reducing the ease of committing the fraud,
(2) increasing the entities devoted to and/or energy exerted in apprehending fraud perpetrators, and
(3) facilitating the finding of guilt; and/or

Increasing the severity of the judgement against the fraud perpetrator, if caught and found liable.

The 1986 FCA Amendments contain a number of provisions having the effect of increasing the probability of being caught and increasing the potential loss that is incurred if caught and found liable. The *qui tam* provisions, even theoretically, are an extremely important component enhancing the probability of detection and being found liable. Ultimately, the impact would be enhanced deterrence--the empirical question considered in this paper was the magnitude of the deterrence.

Data indicate that since enactment of the Amendments, there have been a total of 1,386 *qui tam* filings and recoveries of $1,049 million. Because recovery in all appropriate fraud cases is not known, this data, along with various statements of testimony and information developed by government officials, can be used to estimate actual fraud recoveries over the ten years since the Amendments and project recoveries for the next ten years.

> *The analysis estimated that total fraud recoveries since the 1986 Amendments can be expected to exceed $24 billion by fiscal year 2006. And, more importantly, about $21 billion of those recoveries can be expected over the next decade.*

Qui tam recoveries can be projected via a similar process. Of primary importance in constructing the numbers is the knowledge that, whereas the government depended upon the *qui tam* provisions for only 13½ percent of its recoveries in fraud cases through 1991, by 1996 it now depends on *qui tam* provisions for about 33 percent of its recoveries. This would imply that *qui tam* recoveries as a proportion of total recoveries is increasing at a rate equal to about 35 percent annually.

> *Even if the proportion of qui tam recoveries to total recoveries continued to grow at a rate of only 32 percent annually such that they were always 30*

percent of total recoveries, qui tam recoveries would be expected to equal about $6,871 million over the next ten years. Qui tam recoveries would be expected to equal $9,322 million over the next ten years if their share increased from 33 percent of all recoveries to 50 percent.

Deterrence, the difference between what amount of fraud there would be without the 1986 Amendments and what amount of fraud there is with the Amendments, is a difficult, if not impossible, magnitude to actually measure. This paper established parameters to give rise to reasonable estimates. Four factors were important in arriving at a range of considerations: (1) the Amendments' obvious potential for deterrence; (2) would-be perpetrators' increased understanding and recognition of the expected loss if detected and found liable; (3) the continued growth of fraud if left undeterred; and (4) the rate of growth of projected recoveries exceeding the growth rate of projected fraud.

Because actual fraud numbers can never be known, the paper used a simulation to develop reasonable parameters and quantitative expectations. Parameters related to: (1) the response of actual fraud to changes in recoveries (so-called "elasticity of deterrence"), (2) the rate at which the deterrent effect in any one year subsides, a "decay factor" (the simulation assumes that the effect would subside in a straight line manner over four years), and (3) changes in impact of recoveries on actual fraud as would-be wrongdoers learn of the greater probability of detection and prosecution and of the increased consequences.

The simulation indicated that:

♦ If actual fraud in any year depends upon recoveries in the prior year such that each one percentage point increase in recoveries leads to only a ¼ of 1 percent reduction of actual fraud in the subsequent year (for the first ten years) and will lead to only a ½ of 1 percent diminution of actual fraud for the second ten years, with the pattern of influence for the subsequent three years as described above, then

> *Deterrence over the ten years since the 1986 Amendments to the False Claims Act would be $147.9 billion; and the impact over the next ten years will be $240.2 billion (23% of the projected fraud to be committed over that 10 year period).*

♦ If actual fraud in any year depends upon recoveries in the prior year such that a one percentage point increase in recoveries leads to only a ½ of 1 percent reduction of actual fraud in the subsequent year (for the first ten years) and only a 1 percent diminution of actual fraud for the second ten years, again with the pattern of influence for the subsequent three years as described above, then:

> *Deterrence over the ten years since the 1986 Amendments to the False Claims Act would be $295.8 billion; and the impact over the next ten years will be $480.3 billion (46% of the projected fraud to be committed over that 10 year period).*

Theory would suggest that the *qui tam* provisions would have a greater impact on deterrence than traditional Department of Justice processes. However, even if the *qui tam* provision were no more powerful a deterrent than recovery via traditional Department of Justice processes (that is, *qui tam* recoveries are given no more weight in deterrence than are non-*qui tam* recoveries), then *qui tam* alone would account for the following deterrence:

♦ In the case where actual fraud in any year depends upon recoveries in the prior year such that a one percentage point increase in *qui tam* recoveries leads to only a ¼ of 1 percent reduction of actual fraud in the subsequent year (for the first 10 years) and only a ½ of 1 percent reduction for the next 10 years with the pattern of influence for the subsequent three years as described above, then:

> *Qui tam would account for $35.6 billion of deterrence over the last ten years and would be expected to account for $105.1 billion of deterrence over the next ten years .*
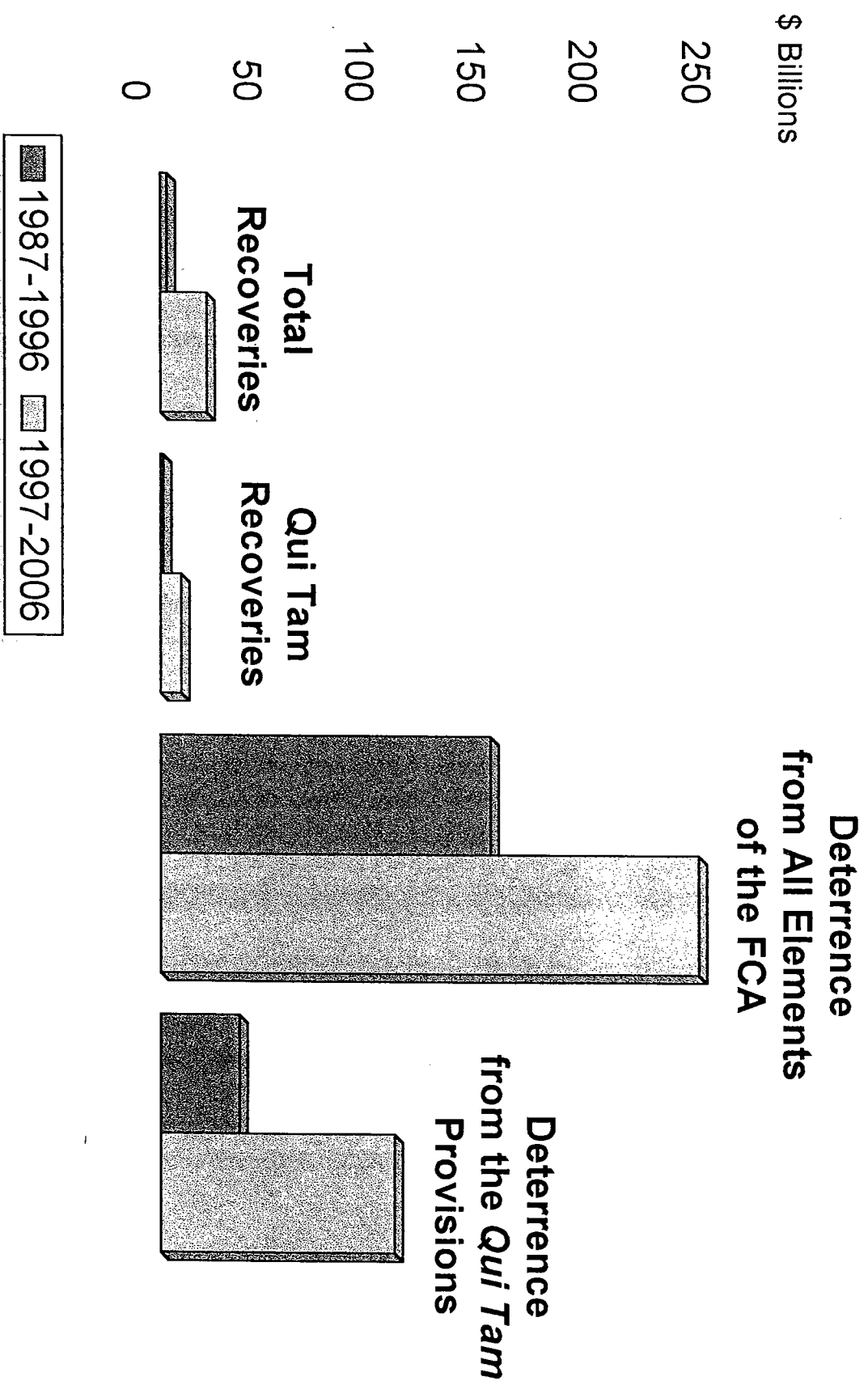
♦ In the case where actual fraud in any year depends upon recoveries in the prior year such that a one percentage point increase in *qui tam* recoveries leads to only a ½ of 1 percent reduction of actual fraud in the subsequent year (for the first 10 years) and only a 1 percent for the next 10 years with the pattern of influence for the subsequent three years as described above, then:

> *Qui tam would account for $71.3 billion of deterrence over the past*
> - *ten years and would be expected to account for $210.1 billion over the next ten years (44% of all deterrence if the same deterrence assumptions were used for non-qui tam provisions as well).*

The quantitative results of this paper are displayed graphically on the following page.

QUANTITATIVE ESTIMATES: IMPACT OF 1986 AMENDMENTS 1986-2006

Recoveries and Deterrence

$ Billions

250

200

150

100

50

0

Total
Recoveries

Qui Tam
Recoveries

Deterrence
from All Elements
of the FCA

Deterrence
from the *Qui Tam*
Provisions

1987-1996   1997-2006

SOURCE: Numbers Derived in This Paper

THE 1986 FALSE CLAIMS ACT AMENDMENTS:
AN ASSESSMENT OF ECONOMIC IMPACT

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