An Overview and Examination of the Prevention and Punishment of White Collar Crimes

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AN OVERVIEW AND EXAMINATION OF THE PREVENTION AND
PUNISHMENT OF WHITE COLLAR CRIMES

by

TYLER L. BARTELS

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Economics
in the College of Business Administration
and in The Burnett Honors College
at the University of Central Florida
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Thesis Chair: Dr. Melanie Guldi
ABSTRACT

White-collar crime is explained from an economist’s perspective. Economic models typically begin by assuming individuals behave rationally. By extension, economic models of crime suggest that white-collar criminals may be acting more rationally than a casual observer may assume. This thesis will identify the benefits and drawbacks of different regulations and laws by exploring several case studies of white-collar events.
DEDICATION

For my Thesis Chair, Melanie Guldi, and her unwavering patience.

For my mentor, Michael Bifulco.

And especially, for my mother, Amy Bartels, my role model and best friend.

You have made me the man I am today.
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INTRODUCTION

The Federal Bureau of Investigation’s (FBI) 2012 “Crime in the United States” report estimates street crime to cost the United States $13 billion dollars (U.S. Department of Justice). However, this figure pales in comparison to white-collar crime, as “the FBI has estimated that white-collar crime costs taxpayers over $300 billion dollars every year” (Reiman, 2007). In fact, white-collar crime costs the United States more every year than all of the other FBI index crimes combined (Hartley, 2008). Furthermore, there are a large percentage of white-collar crimes that are dismissed; meaning all charges against the defendant are dropped. From 1992 to 2001 the Securities Exchange Commission (SEC) pressed criminal charges in 609 white-collar cases (Leaf, 2002). The U.S. Attorney, however, decided to pursue prosecution in only 13.8% of these cases (Leaf, 2002). More recently, from 2002 to 2012, the SEC has pursued criminal prosecution in 26.1% of its cases (U.S. Department of Justice, 2012). Even with the latest increase in criminal prosecution, “There remains a lack of focus on enforcement of these [white-collar] crimes, and little funding has been allocated to apprehend and punish these offenders. In addition, increasing globalization of the economy provides more opportunities for offending while at the same time increases the difficulty of detecting these behaviors” (Hartley, 2008). Unfortunately, prior criminal activity is not a good indicator of the probability of committing white-collar crimes in the future, “according to various studies conducted by the Association of

1 Note the cost of “street crime” is defined as the aggregate of losses due to all reported robbery, burglary, larceny, arson, and auto-theft crimes. In 2012, burglary alone accounted for an estimated $4.7 billion in property losses (U.S. Department of Justice, 2012).

2 “The impact of corporate offending regarding death and monetary loss amounts to a far greater detriment on society than all eight UCR index offenses added together” (Hartley, 2008).
Certified Examiners, approximately 95% of white collar criminals have no previous criminal record” (Antar, 2006).

One possible contributing factor to the “lack of focus” described by Hartley could be definitional. Indeed, due to many indistinct definitions, there appears to be a great deal of conceptual ambiguity surrounding just what is white-collar crime. For the purposes at hand the FBI’s definition of white-collar crime is utilized. The FBI defines white-collar crime as, “illegal acts which are characterized by deceit, concealment, or violation of trust and which are not dependent upon the application of threat of physical harm or violence. Individuals and organizations commit these acts to obtain money, property, or services; to avoid the payment or loss of money or services; or to secure personal or business advantage” (1989). The next section will explain the reasoning behind this selection and discuss some of the definitional issues of white-collar crime in detail.

The general framework utilized is based on Gary Becker’s economic theory of crime.³ By looking at white-collar crime from an economist’s perspective, an attempt is made to answer the central question: what are possible amendments or changes to the current legal, financial or regulatory system that can help assist in the prevention of white-collar crime? The aim is to better understand how white-collar criminals respond to changes in incentives and perceived future benefits.

Uniform Crime Reports (UCR) and the National Incident-Based Reporting System (NIBRS) are the primary sources of data. However, there are many restrictions and limitations

³ The original model can be found in Becker, Gary, Crime and Punishment: An Economic Approach, 1974.
inherent in these sources. Therefore a “Data” appendix is included to fully explain the methodologies used in reporting and to alert readers as to why they should be cautious of any claims made with this data.

Case studies, on Countrywide Financial and JPMorgan Chase & Co., are employed to analyze the effects of possible policy changes. It appears there are substantial differences, from an economic standpoint, in an individual’s expected utility as a result of different approaches to regulating and enforcing white-collar crime laws. Moreover, an individual’s risk preferences can have an impact on their decisions with respect to crime.
DEFINITION OF WHITE-COLLAR CRIME

Agreeing upon a comprehensive definition of white-collar crime has proven difficult. As put by David Friedrichs, “perhaps no other area of criminological theory has been more plagued by conceptual confusion as that of white-collar crime” (2002). The term “white-collar” has been frequently used to describe a particular type of crime in many scholarly writings and textbooks since it was coined by Edwin Sutherland in 1940. Despite this, some question the appropriateness of the association of the word “crime” with this term. Herbert Edelhertz expands upon on this:

The term “white-collar crime” is totally inadequate for this purpose, as is the descriptor “economic crime” that is increasingly used in the United States and is the prevailing term abroad. The very word “crime” is out of place here because we are dealing with behaviors and activities that, spectrum-like, merge imperceptibly into one another, with legitimate and laudable on one end and the dishonest and disreputable on the other. (1983)

For instance, consider an example from the “legitimate” and “laudable” end of the spectrum; a bank that provides a mortgage at a relatively high interest rate to a debtor who they believe cannot feasibly afford to pay off the loan. The bank could argue that they are just trying to allow people the opportunity to own their own home, that the borrower knew the terms of the loan before he or she signed any documents, and that the traditional principles of caveat emptor apply. The debtor could argue that the bank deceitfully hid the less favorable terms of the mortgage in the “fine print” and that the loan should not have been made if there was no
reasonable expectation that the borrower would be able to repay. Edelhertz provides additional examples of legal but unethical scenarios:

For example, it is legitimate to sell stocks, but not to deliberately misrepresent what is being sold.\(^4\) It is legitimate for a scientist to use grant money for a trip to a professional meeting, but certainly more questionable for two scientists to use that money for a Caribbean cruise with their secretaries to discuss their work. If you are mugged, the intent of the mugger can rather clearly be inferred from his behavior. But if competing contractors’ bids for public road construction work just happen to fall into a pattern that results in their sharing available contracts by alternative successful bids, can we make a parallel inference that the coincidence of bids demonstrates intent to unlawfully collude in the same way as the mugger’s act evidences his intent? (1983)

The problem with these scenarios and examples similar to them, is that differing perspectives and ideologies create considerable variations in what is and is not considered ethical. Also, unethical actions are not always illegal and vice versa. Culture and geographic location are often critical. For example, acts considered as criminal in some states may be legal in others.

When considering a definition of white-collar crime, it is important to ask: what makes white-collar crime distinct from other types of crime? As a backdrop to the discussion, consider whether or not the following questions have to be satisfied for a scenario to be considered “white-collar” crime. Does the crime have to occur through an opportunity presented in the

\(^4\) Fraudulent misrepresentation will be expanded upon through a case study of Countrywide Financial.
workplace? Does the crime depend on a violation of trust? Does the perpetrator have to be of high social status or perceived as respectable to carry out the crime?

The differing answers to these questions can produce variations in the definition of white-collar crime. Table 1 reproduces eight definitions criminologists have used to explain various aspects of white-collar crime and can originally be found on page 38 of Brian Payne’s 2012 book, *White Collar Crime*.

### Table 1 – Various Definitions of White-Collar Crime

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criminaloid</td>
<td>The immunity enjoyed by the perpetrator of new sins has brought into being a class for which we may coin the term <em>criminaloid</em>. By this we designate such as prosper by flagitious practices which have not yet come under the effective ban of public opinion. Often, indeed, they are guilty in the eyes of the law; but since they are not culpable in the eyes of the public and in their own eyes, their spiritual attitude is not that of the criminal. The lawmaker may make their misdeeds crimes, but so long as morality stands stock-still in the old tracks, they escape both punishment and ignominy.</td>
<td>E.A. Ross (Sin and Society, 1907, p. 48)</td>
</tr>
<tr>
<td>White-collar crime</td>
<td>Crime committed by a person of respectability and high social status in the course of his occupation.</td>
<td>Sutherland (1940)</td>
</tr>
<tr>
<td>Corporate crime</td>
<td>Offenses committed by corporate officials for their corporation and the offenses of the corporation itself.</td>
<td>Clinard and Yeager (1980, p. 189)</td>
</tr>
<tr>
<td>Occupational crime</td>
<td>Offenses committed by individuals in the course of their occupations and the offenses of employees against their employers.</td>
<td>Clinard and Yeager (1980, p. 189)</td>
</tr>
<tr>
<td>Organizational deviance</td>
<td>Actions contrary to norms maintained by others outside the organization . . . [but] supported by the internal operating norms of the organization.</td>
<td>Ermann and Lundman (1978, p. 7)</td>
</tr>
<tr>
<td>Elite deviance</td>
<td>Acts committed by persons from the highest strata of society . . . some acts are crimes . . . may be criminal or noncriminal in nature.</td>
<td>Simon (2006, p. 12)</td>
</tr>
<tr>
<td>Organizational crime</td>
<td>Illegal acts of omission or commission of an individual or a group of individuals in a formal organization in accordance with the operative goals of the organization, which have serious physical or economic impact on employees, consumers, or the general public.</td>
<td>Schrager and Short, (1978, p. 408)</td>
</tr>
<tr>
<td>Occupational crime</td>
<td>Any act punishable by law which is committed through opportunity created in the course of an occupation that is legitimate.</td>
<td>Green (1990)</td>
</tr>
</tbody>
</table>

Table 1.1 identifies a number of descriptions to consider when choosing a definition of white-collar crime for the purposes of this thesis. The definitions in the table can be organized
Unclear definitions about white-collar crime make it extremely difficult for policy makers and practitioners to use criminological information to guide policy development and criminal justice practices. In effect, how can criminologists call for evidence based practices for certain types of crime when they have not adequately provided the evidence needed to develop subsequent practices? (2012)

In other words, how can we control an activity that we cannot define? Because the primary goal of this thesis is to make informed public policy suggestions, a precise definition of white-collar crime is required. For the purposes of this thesis, the type of offense will determine what constitutes white-collar crime, therefore, we will utilize the FBI definition of white-collar crime. However, this definition will be narrowed to include only crimes listed in NIBRS’s “Group A” category. The purpose of this is twofold: first, these specific NIBRS white-collar crimes can be easier to monetize, and second, this will focus our analysis on what some consider purely “economic” or “financial” crimes. A substantial, but non-exhaustive list of these “Group A” offenses are provided in Appendix A. It should be noted, that some agencies report white-collar crimes through the “All Other Offenses” category, a Group B category not reflected in Appendix A. Also, the NIBRS cautions, “The classification of these offenses may depend upon the circumstances or characteristics concerning the incident” (Barnett, 2002).

5 Included in the FBI’s definition are white-collar crimes that threaten individual health, individual safety, produce unsafe products, and harm the environment; however, due to the difficulty in monetizing these crimes they are not addressed in this thesis.
ECONOMIC FRAMEWORK

What follows is the overarching mathematical foundation that will be used to analyze crime from an economic perspective. The positive analysis begins on an individual level and is then expanded to the standard economic model of decision-making originally applied to the study of crime by Gary Becker in “Crime and Punishment: An Economic Approach” (1974). The following assumptions are made: crime results in higher earnings than legitimate activities; decisions are made by individuals who care only about maximizing expected income; there are only monetary punishments available as a remedy for white-collar crime in the form of fines; individuals are risk neutral; and the only three factors individuals consider when contemplating crime are the gains from crime, the probability of being caught, and the severity of punishment.

Throughout this discussion, I will assume individuals have a simple, risk averse utility function where \( U(X) = X \) and so \( U'(X) > 0 \) and \( U''(X) = 0 \).\(^6\) Let \( E \) be the earnings from legitimate work and \( E_c \) the earnings from crime. Then the utility one receives from legitimate earnings is

\[
U(E) = E, \quad (1)
\]

while the utility received from committing white-collar crime and not being caught is

\[
U(E_c) = E_c. \quad (2)
\]

On the other hand, the utility received from committing white-collar crime and being caught is

\[
U(E_c - F) = E_c - F, \quad (3)
\]

---

\(^6\) See Appendix C – Graph of Simple Risk Averse Utility Function
where $F$ is the monetary value of the punishment (fine). If $p$ equals the probability of apprehension, then the expected utility from committing an offense is given by

$$EU = pU(E_c - F) + (1-p)U(E_c).$$

We will assume that individuals choose to commit white-collar crime if the expected utility of crime is greater than the utility the individual would receive from devoting their resources and time to legal and legitimate activities, that is, if

$$EU > U(E).$$

The utility an individual derives from an activity is directly dependent on how they value perceived benefits and costs. Becker expands, “Some persons become ‘criminals’ therefore, not because their basic motivation differs from that of other persons, but because their benefits and costs differ” (1974). Considering crime through this economic approach, “does not require ad hoc concepts of differential association, anomie, and the like, nor does it assume perfect knowledge, lightning-fast calculation, or any of the other caricatures of economic theory” (Becker, 1974).

However, Becker’s model does require that individuals make rational decisions. To make a rational decision, individuals must exhibit preferences that are: complete, transitive, and satisfy independence of irrelevant activities. It is also assumed that an individual’s preferences are continuous, and that they only care about maximizing utility, and that they strictly prefer more income to less income. Criminal behavior can be punished with penalties detailed in laws, conditions created as disincentives to crime that have the potential to change an individual’s

\[7 \quad = p(E_c - F) + (1-p)E_c
\]
\[8 \quad = E_c - p \cdot F.\]
\[8 \quad Or \quad E_c - p \cdot F > E\]
choices. Individuals will choose the outcome that best satisfies their preferences, “Individual behavior is therefore to some extent a result of conditions created by society . . . Thus, a change in crime may possibly be described and explained as a response to changing rewards and punishments created by the environment” (Eide, 1994).
Consider what happens to the expected utility of crime as the probability of getting caught changes. Taking the partial derivative of expected utility in equation (4) with respect to \( p \) gives

\[
\frac{\partial EU}{\partial p} = U(E_c - F) + (-1)U(E_c) < 0. \tag{6}
\]

This demonstrates that as \( p \) increases the expected utility of crime decreases. Assume there is a 10% chance of being caught after a white-collar crime is committed. Consider what would happen to expected utility if the probability of being caught were to double. Assume that there is only one available punishment and that \( U(E_c) = 100, U(E_c - F) = 50, \) and \( U(E) = 10. \) After \( p \) increases to 20% the expected utility from committing a white-collar crime decreases from 95 to 90. If there were a 50% chance of being caught the expected utility would drop to 75. Now assume that the probability of being caught after committing a white collar crime were to decrease from 10% to 5% and the above assumptions hold. After this reduction in \( p \) expected utility would rise from 95 to 97.5.

Alternatively, consider what happens to the expected utility of crime as the severity of punishment changes while utility values remain constant. Taking the partial derivative of expected utility in equation (4) with respect to \( F \) gives

\[
\frac{\partial EU}{\partial F} = -U'(E_c - F) < 0. \tag{7}
\]

---

9 Because individuals strictly prefer more income to less income and since \( \frac{\partial U(X)}{\partial X} > 0, \) equation (6) will result in a negative solution.

10 \(-U'(E_c - F) = p \cdot \frac{\partial U(E_c - F)}{\partial (E_c - F)} \frac{d[E_c - F]}{dF}\)
This demonstrates that as F increases the expected utility of crime decreases.\(^ {11}\) Holding p constant at 10%, consider what would happen to expected utility if the punishment for white collar crime increased from F = 50 to F = 75. Assuming utility values remain constant, the increase in punishment results in an expected utility decrease from 95 to 92.5. Now assume that the punishment decreased from F = 50 to F = 25. After this reduction in F expected utility would rise from 95 to 97.5.

The case studies in the next section demonstrate that certainty of punishment outweighs magnitude of punishment for risk takers. From a public policy standpoint, this means certainty of punishment (probability) is crucial, Gary Becker notes that, "In Great Britain, the data indicates that the probability of being caught, convicted, and sent to prison for committing any crime is under two percent. I think it is higher in the United States for most crimes, but still a conviction is far from certain for most crimes" (Becker, 1995). Furthermore, recidivism can be high because of a low probability of being caught, rationality, and the fact that upon release from prison it is harder to obtain a job. Becker states, “If you want to reduce crime, you need to increase the probability of getting caught" and continues with historical data to support this position, namely "There was a large increase in crime in the 1960's and 1970's . . . [due to the fact that] The likelihood of convicting somebody of a violent crime went down sharply in the 1960s and 1970s." (Becker, 1995).

\(^ {11}\) P > 0 since U' (X) > 0, \(\frac{d(Ec - F)}{dF} = -1 < 0\)
CASE STUDIES

Countrywide Financial

The choice of research method should fit the problem under study and its circumstances. To test the feasibility of public policy suggestions we can apply them to “real world” scenarios. This will exemplify the benefits and costs of increasing prevention or the probability of being caught after committing a white-collar crime. This suggests that case study research would be a suitable method to test the economic framework presented earlier.

Background and Evolution of Countrywide’s Business Model

Countrywide Financial Corporation (Countrywide) operates out of Calabasas, California and employed around 54,660 people in 2008 (Countrywide Financial Corporation SWOT Analysis, 2008). Countrywide was founded in 1969 by Angelo Mozilo and David Leob to provide loans nationwide; in its height, one out of every five home loans were originated by Countrywide (Geis, 2011). Countrywide began selling mortgage-backed securities in 1981 and originated more than $30 billion in loans by 1992 (LaMeau, 2012). In the mid-1990’s Countrywide focused on providing mortgages to low and middle income families by offering flexible underwriting on subprime loans to applicants with weak financials and credit scores. This is further supported by “Fact 18” in a complaint filed against Angelo Mozilo, where SEC lawyers stated that, “Countrywide achieved this result in large part by moving away from its historical core business of prime mortgage underwriting to aggressively matching loan programs being offered by other lenders, even monoline subprime lenders” (Securities And Exchange
Commission, 2009). Table 2, reproduced with emphasis from the complaint, shows how the loan portfolio of Countrywide changed in the years leading up to the company’s demise.

**Table 2 – Countrywide Lending Portfolio**

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime Conforming</td>
<td>50%</td>
<td>59.6%</td>
<td>54.2%</td>
<td>38.2%</td>
<td>32%</td>
<td>31.9%</td>
</tr>
<tr>
<td>Prime Non-Conforming</td>
<td>16.5%</td>
<td>24.5%</td>
<td>31.4%</td>
<td>38.7%</td>
<td>47.2%</td>
<td>45.2%</td>
</tr>
<tr>
<td>Home Equity</td>
<td>6.8%</td>
<td>4.6%</td>
<td>4.2%</td>
<td>8.5%</td>
<td>9.0%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Nonprime (Subprime)</td>
<td>7.8%</td>
<td>3.7%</td>
<td>4.6%</td>
<td>11.0%</td>
<td>8.9%</td>
<td>8.7%</td>
</tr>
<tr>
<td>FHA/VA</td>
<td>18.9%</td>
<td>7.6%</td>
<td>5.6%</td>
<td>3.6%</td>
<td>2.1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Commercial</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>.08%</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

These figures show that Countrywide had turned its prior business model on its head: in 2001 50% of loans were conforming and 16.5% were non-conforming; in 2006 31.9% of its loans were conforming and 45.2% were non-conforming. “Later inquiries found that in 43% of the subprime loans that Countrywide made, they never even bothered to obtain written verification of the borrower’s income” (Geis, 2011). Adam Michaelson, a Countrywide senior vice president, wrote:
Countrywide’s system of loan, and refis [refinances] awarded to anyone with a pulse was, in retrospect, long-term madness driven by short-term profit. Countrywide is a profit-hungry corporate beast whose stated mission was to “Help all Americans achieve the dream of home ownership”. Unstated were two other elements of that mission: “At a magnificent profit for us” and “without being concerned that customers could readily lose their home ownership.” (2011)

Charles Morris, who discusses how this type of lending impacts the “Average American” in his book, The Trillion Dollar Meltdown, states:

The story of Edward Jordan, a retired postal worker living in New York City, puts a human face on predatory Countrywide tactics. Jordan was close to paying off his home when a broker told him that he was paying altogether too much interest on his loan. She offered him a 1% rate. Jordan refinanced his home, ending up with a fee of $20,000 for doing so. He soon found that the interest rate would quickly escalate to a high of 9.9%. On any construction of the deal, he was robbed by Countrywide. (2008)

In response to this, Paul Krugman, the Nobel Prize winning economist who writes op-ed columns for the New York Times, drew a sharp conclusion from the affair: “For the fact is that much of the financial industry has become a racket,” wrote Krugman, “a game in which a handful of people are lavishly paid to mislead and exploit consumers and investors. And if we don’t lower the boom on these practices, the racket will just go on” (Geis, 2011).

The financial crisis of 2008 left Countrywide, one of the United States largest mortgage bankers at the time, overexposed. As tensions were rising, the economy took a sudden downturn, “On October 26, 2008, Countrywide reported a loss of $1.2 billion, it’s first losing quarter in 25
years” (LaMeau, 2012). These losses led to Bank of America acquiring Countrywide in 2008. This re-entered Bank of America back into the sub-prime market that CEO Ken Lewis left six years earlier because it was “volatile and risky”.

However, less than a year after Bank of America acquired Countrywide, the U.S. House of Representatives began investigating the company for fraudulent misrepresentation and predatory loaning practices. This led to the SEC filing a complaint against Countrywide for fraud, insider trading, and violations of commission periodic reporting requirements. The complaint alleged that, “[Mozilo] failed to disclose to investors the significant credit risk that Countrywide was taking on as a result of its efforts to build and maintain market share. Investors were misled by representations assuring them that Countrywide was primarily a prime quality mortgage lender that had avoided the excesses of its competitors” (U.S. Securities and Exchange Commission, 2010). In response to the U.S. House of Representatives investigation, the *New York Post* reported that “Mozilo and his codefendants had hired a brigade of 19 lawyers to mount their defense and that at least indirectly American taxpayers would foot the estimated $50 million in attorney’s fees” (Thomas, 2008).

On the night before trial, Mozilo’s attorneys contacted the SEC to settle the case (Nocera, 2011). The result was the SEC’s largest-ever financial penalty against a public companies senior executive, “Mozilo agreed to pay a record $22.5 million dollar penalty settling charges that he and two other Countrywide executives misled investors as the subprime mortgage crisis emerged” (U.S. Securities and Exchange Commission, 2010). Mozilo also agreed to pay $45 million dollars in disgorgement of ill-gotten gains, in total a payment of $67.5 million dollars to the SEC, who would return the money to harmed investors (U.S. Securities and Exchange
As a stipulation to the settlement Mozilo is also permanently barred from serving as an officer or director of a publicly traded company.

**Analysis**

This case study provides an example of a relatively large penalty paid by a CEO to the SEC. To demonstrate that the probability of getting caught can reduce crime from rational decision makers, assume that there is a 13.8% chance of being convicted of a white-collar crime. This is the previously estimated probability that Leaf calculated over a 9 year period. Also assume Mozilo could approximate the monetary amount of the penalty he would have to pay if he was charged with committing white-collar crimes. Angelo Mozilo’s base salary in 2006 amounted to $2.9 million dollars and the SEC’s penalty was $22.5 million dollars (SEC, 2008). As a result of the crime committed in 2006, Mozilo provided his company with an additional $45 million dollars of ill-gotten gains, of which he would receive $9.9 million dollars, due to him owning 22% of Countrywide in 2006 (Forbes, 2006).

The expected utility from committing white-collar crime in this situation would be $9.695 million dollars. When compared to the legitimate earnings Mozilo would have made, namely $2.9 million dollars, there seems to be a large reward for a 13.8% risk of being convicted. According to the condition in (5), a rational decision maker would choose to commit

---

12 Securities Exchange Commission pressed criminal charges in 609 white-collar cases, of these 609 the U.S. Attorney decided to pursue prosecution 13.8% of the time (Leaf, 2002).

13 EU = pU(E_c - F) + (1-p)U(E_c)
EU = .138 ∙ (($2,900,000 + $9,900,000) - $22,500,000) + .862 ∙ ($2,900,000 + $9,900,000)
EU = $9,695,000
the crime in this scenario. Again, this can be compared to the legitimate earnings of $2.9 million dollars, and according to the condition in (5), a rational decision maker would choose to commit the crime in this scenario too. However, this is assuming individuals are risk neutral. A risk averse individual would have a much more difficult time accepting the second scenario.

If the probability of being caught after committing a white-collar crime were to double to \( p = 27.6\% \) the resulting expected utility would be $6.59 million dollars.¹⁴ In this scenario it is important to note that doubling the probability of being caught does not result in half of the expected value.

To help determine the effectiveness of prevention as compared to punishment the punishment will now be doubled to \( F = 45,000,000 \). This results in an expected value of $6.59 million dollars.¹⁵ Increases in prevention and punishment decrease the expected value of committing white-collar crimes and under the current risk assumptions have equivalent marginal results after respective increases.

¹⁴ \[ EU = pU(E_c - F) + (1-p)U(E_c) \]
\[ EU = .276 \cdot ((2,900,000 + 9,900,000) - 22,500,000) + .724 \cdot (2,900,000 + 9,900,000) \]
\[ EU = $6,590,000 \]

¹⁵ \[ EU = pU(E_c - F) + (1-p)U(E_c) \]
\[ EU = .138 \cdot ((2,900,000 + 9,900,000) - 45,000,000) + .862 \cdot (2,900,000 + 9,900,000) \]
\[ EU = $6,590,000 \]
JPMorgan Chase & Co.

The following case study is an overview of one of the largest settlements paid by a corporation to the SEC (U.S. Securities and Exchange Commission, 2010). The decision to pursue legal action against the corporation or the individual can produce strikingly different outcomes. If a potential criminal believes it is more likely for the corporation to be charged with the crime, rather than the individual, the estimated penalty might not be as costly for the individual and would therefore serve as less of a deterrent.

Background and Acquisition’s

John Pierpont “J.P.” Morgan is credited with establishing the first investment banking firm in the United States (Barak, 2012). Tracing its roots back to 1799 in Manhattan Co., the colossus that we know today as JPMorgan Chase & Co. (JPMorgan) is the result of over 1,000 bank mergers (Irwin, 2013). With $ 2.4 trillion in assets, JPMorgan is the largest bank in the United States, the world’s third largest publicly traded company, and owner of the second largest hedge fund in the United States (Dimon, 2014; Forbes, 2014). JPMorgan employs over 255,000 people worldwide, roughly the population of Orlando (Irwin, 2013; United States Census Bureau, 2014).

Over time the banking industry has consolidated, creating some of the largest financial institutions of our time. When J.P. Morgan merged with Chase Manhattan it created the entity we know today as JPMorgan Chase, a bank large enough to accept levels of risk other institutions could not (Irwin, 2013). The consolidation would continue to a point where Citigroup, Chase, and Bank of America controlled two-thirds of the credit card market (Winkler, 2009). As a
result, the financial industry colloquially referred to the four largest United States banks as the “Big Four” which included: JPMorgan, Bank of America, Citigroup, and Wells Fargo (Winkler, 2009).

From 2000 to 2006, home values continually increased and many believed this trend would endure; it was not uncommon for home prices to double in this era. During the years leading up to the subprime mortgage crisis of 2007, banks relaxed some of their qualification standards and began to provide home loans at an unprecedented rate (WestlawNext, 2012). Many of these loans utilized adjustable rate mortgages (ARM’s) that provided low introductory teaser rates that would substantially increase. Unfortunately some customers were not aware of this until it was too late. The banks preferred ARM’s because their average rate of return was higher than fixed rate mortgages and because they could increase market share by convincing less financially savvy customers that they could afford to mortgage a house based on the introductory teaser rates. Banks began to devote larger percentages of their portfolios to selling mortgage backed securities (MBS) which are thousands of mortgages pooled together, pieces of which are sold to investors from three different tranches (Scheicher, 2008). Investors purchased unprecedented amounts of MBS because of their high return and possibly due to the belief that the collateral should always retain its value. In 2007 home values began to plummet. The relaxed loan qualification standards led to an increased number of foreclosures because banks were lending to customers who they knew had a low probability of repaying. As a result of the plummeting home values, individuals who could afford to make their mortgage payments chose not to because they owed more on the house than its current market value. The subprime mortgage crisis placed many banks in a dire situation, essentially banks had two options, a fire-
sale or bankruptcy. The Federal Reserve wanted to mitigate the systemic impact the mortgage
crisis would have on the stock market and the American public therefore, they tried to facilitate
the fire-sale option when possible.

In 2007 Bear Stearns was worth around $20 billion and JPMorgan proposed to buy Bear
Stearns for $2 a share, or a total purchase price of $236 million (Sidel, Berman, & Kelly, 2008).
However, the proposed $2 bid resulted in a heavy backlash, Bear Stearns shareholders asked
questions such as, "Why is this better for shareholders of Bear Stearns than a Chapter 11 filing?", a
midlevel Bear Stearns executive stated, “I've got to think we can get more in a liquidation, I'm
not selling my shares, this price is dramatically less than the book value Alan Schwartz told us
the company is worth . . . The building alone is worth $8 a share" (Sidel, Berman, & Kelly,
2008). In March of 2008 things became much worse, the overleveraged Bear Stearns was on the
verge of bankruptcy and did not believe they could weather the storm. In a last ditch effort to
prevent collapse Bear Stearns was acquired by JPMorgan, who needed a $29 billion dollar loan
from the Federal Reserve to facilitate the transaction (Irwin, 2013). Eventually a price of $10 a
share was settled upon, in total the transaction cost JPMorgan $1.5 billion dollars (Sidel,
Berman, & Kelly, 2008). Robin Sidel elaborates upon how instrumental The Federal Reserve
was in assisting with JPMorgan’s acquisition of Bear Stearns:

The Fed took the extraordinary measure of allowing securities firms to borrow from the
central bank under terms normally reserved for regulated banks . . . as much as $30
billion in financing for Bear Stearns's less-liquid assets . . . in what is believed to be the
largest Fed advance on record to a single company. (2008)
The Federal Reserve, in addition to lending JPMorgan funds, also helped broker the transaction by relaying correspondence and communication between the parties (Irwin, 2013). While the Federal Reserve cannot force a company to acquire another company, they can provide incentives and strongly encourage such action. An executive familiar with the transaction stated, “Federal officials delivered a decisive prod to the firm's directors. The government said you have to do a deal today, we may not be there tomorrow to back you up” (Irwin, 2013). An acquisition would be less likely to drastically influence stock markets when compared to bankruptcy. If Bear Stearns’s were to go bankrupt, investors could interpret this as the first of many and their reactions could send shockwaves throughout the markets. Although liquidation might have been more favorable for Bear Stearns equity holders, the acquisition was approved by the required number of Bear Stearns board members and closed on May 29th 2008 (Sidel, Berman, & Kelly, 2008).

To date, Washington Mutual (WaMu) represents the largest United States bank failure (Sidel, Enrich, & Fitzpatrick, 2013). Over seven times larger than any other previous bank failure WaMu had over $300 billion in assets in 2008 (Mitchell, 2010). Similar to Bear Stearns, during the inception of the Subprime Mortgage crisis JPMorgan offered to buy WaMu for $8 a share but, the offer was disregarded by WaMu CEO Kerry Killinger (Grunbaum, 2008). Instead, Killinger sold a partial stake in WaMu to TPC Capital in order to free up $7.2 billion, attempting to fortify the business for the impending crisis (Grunbaum, 2008). Shortly after, Treasury Secretary Henry Paulson cautioned Kerry Killinger, “You should have sold to JPMorgan Chase in the spring, and you should do so now. Things could get a lot more difficult for you” (2008). Later that month, “Killinger called Paulson in July to ask that the Treasury Secretary to use his
influence with the Securities and Exchange Commission to add WaMu to a list of 19 financial institutions that were temporarily protected from a form of trading “called naked short selling” that can drive stock prices artificially low. Paulson refused to help Killinger get WaMu on the list” (Grunbaum, 2008). Meanwhile, confidence in the industry continued to erode. WaMu sensed imminent danger and placed themselves up for auction, allowing many major banks to inspect their books however, they did not receive any offers from banks or private-equity funds (Sidel, Enrich, & Fitzpatrick, 2013). The lack of confidence in the markets is further evidenced by the speed in which WaMu’s account balances declined, in 10 days WaMu’s depositors withdrew over $16 billion from their accounts (Sidel, Enrich, & Fitzpatrick, 2013). As a result of economic conditions and depositor withdraws WaMu was placed into receivership by the Federal Deposit Insurance Corporation (FDIC) in 2008 when the company had over $307 billion in assets and $188 billion in deposits (Sidel, Enrich, & Fitzpatrick, 2013). Just six months after they bought Bear Stearns, J.P. Morgan purchased WaMu from the FDIC for $1.9 billion (Sidel, Berman, & Kelly, 2008). This government engineered deal, avoided the FDIC having to absorb $31 billion in losses associated with their receivership of WaMu (Dash & Sorkin, 2014). According to Eric Dash the FDIC, “worked privately with four potential bidders on a deal and solicited formal written bids” the FDIC’s covert operations came as a shock to WaMu’s board of directors, so much so that, “the company’s new chief executive, Alan H. Fishman, was in midair, flying from New York to Seattle at the time the deal was finally brokered” (Sidel, Enrich, & Fitzpatrick, 2013). JPMorgan, now the owner of both Bear Stearns' and WaMu, was able to survive the mortgage crisis and solidify its position in the “Big Four”. However, another result of
the acquisitions was that JPMorgan took on all of Bear Stearns' and Washington Mutual's previous and outstanding legal exposures.

In many cases government sponsored entities (GSE’s) were hurt the worst by the subprime mortgage crisis because they owned or guaranteed about half of the United States’ $12 trillion dollar mortgage market (Federal National Mortgage Association, 2008). The Federal Housing Finance Agency (FHFA) received the lion’s share of subprime and Alt-A loans. Alt-A loans typically do not require proof of income before the bank provides the loans (Schoenberg, Kopecki, Son, & and Campbell, 2013). GSE’s would securitize MBS and were able to hold onto toxic assets longer than most because of their government backing. Fannie Mae and Freddie Mac, regulated by FHFA, received over $187.5 billion in federal aid to help them stay afloat after purchasing large quantities of toxic assets (Schoenberg, Kopecki, Son, & and Campbell, 2013).

To learn from what went wrong and better understand the causes of the subprime mortgage crisis, there were many investigations launched. The FHFA found evidence of widespread misrepresentations by U.S. and overseas banks, as a result, they filed suit against 17 banks, two of which were Bear Stearns and WaMu (WestlawNext, 2012). JPMorgan, now liable for both Bear Stearn’s and WaMu’s previous actions, was charged by the FHFA with $33 billion dollars of fraudulent misrepresentations (Fontevecchia, 2011). Ironically, the banks that made some of the strongest efforts to remain ethical and keep their noses relatively clean were the only ones with strong enough financials to acquire failing competitors during the crisis (Irwin, 2013). Neal Irwin elaborates upon Bear Stearns’ and WaMu’s portion of the misdeeds in the FHFA complaint filed against JPMorgan:
By some estimates 70-80% of the deal making at the heart of the Justice Department complaint was carried out by the acquired companies rather than the pre-2008 version of JPMorgan. But legally, that doesn't matter; JPMorgan put itself on the hook for those misdeeds when it acquired the two firms. (2013)

The misrepresentations JPMorgan was charged with are outlined in the statement of facts for *FEDERAL HOUSING FINANCE AGENCY, etc., v. JPMORGAN CHASE & CO., et al.*, case number 11 Civ. 6188 (WestlawNext, 2012). In the statement of facts, JPMorgan is said to have:

- Repeatedly told investors the mortgage loans in securities complied with underwriting guidelines, when bank employees knew on a number of occasions that the loans in question did not. Furthermore, due diligence firms that reviewed some of those loans from JPMorgan . . . said that 27% of them did not meet underwriting guidelines, but the bank still packaged at least half of those into mortgage securities. (2013)

Along with fraudulent misrepresentation the FHFA also accused JPMorgan and its affiliates of making false statements and omitting material facts in their dealings with GSE’s from Sept. 7, 2005, through Sept. 19, 2007. In response to this, JPMorgan claimed that they were helping keep the economy afloat. The CEO of JPMorgan, Jamie Dimon stated, “had it not been for the sale to JPMorgan Chase for $1.9 billion, the failure of WaMu might have exhausted the entire $45 billion insurance fund of the FDIC” (Dimon, 2014). In response to this, the FHFA states that the government can’t “force” anyone to buy failed banks, as evidenced by the demise of Lehman Brothers. Although the government may have “encouraged” JPMorgan to buy WaMu, Jamie Dimon, is a savvy businessman and understood the risks his bank was taking on (WestlawNext, 2012). In a statement about the suit, Attorney General Eric Holder said:
Without a doubt, the conduct uncovered in this investigation helped sow the seeds of the mortgage meltdown. J.P. Morgan was not the only financial institution during this period to knowingly bundle toxic loans and sell them to unsuspecting investors, but that is no excuse for the firm’s behavior. (2013)

Eventually, JPMorgan would agree to settle the lawsuit with a record $13 billion dollar deal however, the settlement agreement did not stipulate that JPMorgan would be released from any future criminal charges filed by government agencies (Schoenberg, Kopecki, Son, & and Campbell, 2013). Tom Schoenberg elaborates on the magnitude of what the landmark 2011 settlement equates to for JPMorgan:

More than half of JPMorgan’s record $21.3 billion profit last year, or 1.5 times what the firm’s corporate and investment bank set aside to pay employees during this year’s first nine months. In fact, only seven companies in the Dow Jones Industrial Average earned more than $13 billion in 2012, and some portions of the deal, such as relief to homeowners, would be tax deductible for JPMorgan (2013).

However, the legal expenses incurred by JPMorgan seem to have little relevance to the company’s bottom line, “JPMorgan said it has set aside all the funds it needs to cover the settlement, meaning the deal will have no impact on earnings” (Viswanatha, 2013). And JPMorgan was right, after paying the $13 billion dollar settlement they experienced record profits and enjoyed record high stock prices. In fact, “JPMorgan’s shares have climbed 72 percent since the end of 2008, compared with a 48 percent gain in the KBW Bank Index of 24 U.S. firms” (Schoenberg, Kopecki, Son, & and Campbell, 2013). Marianne Lake, JPMorgan’s chief financial officer, emphasized that $7 billion of the settlement was tax-deductible (Protess &
Silver-Greenberg, 2013). In the past decade JPMorgan has spent over $29 billion in regulatory and other settlements (Wall Street Journal, 2013). Possibly as a result of the subprime mortgage crisis, JPMorgan has begun to earmark even larger portions of the budget for legal defense. In 2010, JPMorgan set aside $28 billion dollars to cover impending legal expenses for the year (Schoenberg, Kopecki, Son, & and Campbell, 2013).

Analysis

This case study provides an example of a relatively large penalty paid by a public company to the FHFA. Again, to demonstrate that the probability of getting caught can reduce crime from rational decision makers, assume that there is a 13.8% chance of being convicted of a white-collar crime. According to the complaint filed against JPMorgan received $33 billion in sales through fraudulent misrepresentation and as a result paid a fine of $13 billion (FEDERAL HOUSING FINANCE AGENCY, etc., v. JPMORGAN CHASE & CO., et al., 2011).

The expected utility from committing white-collar crime in this situation would be $31.206 billion dollars.\(^{16}\) This can be compared to the $16 billion in profits JPMorgan could have made legitimately (Gongloff, 2013). However, according to the condition in (5), a rational decision maker would choose to commit the crime in this scenario.

Now assume the probability of being caught after committing a white-collar crime is doubled to \(p = 27.6\%\), ceteris paribus. This results in an expected utility from committing the

\[\begin{align*}
EU &= pU(E_c - F) + (1-p)U(E_c) \\
EU &= .138 \cdot ($33,000,000,000 - $13,000,000,000) + .862 \cdot ($33,000,000,000) \\
EU &= $31,206,000,000
\end{align*}\]

\(^{16}\)
white-collar crime of $29.412 billion dollars. Again, this can be compared to the legitimate earnings of $16 billion dollars, and according to the condition in (5), a rational decision maker would choose to commit the crime in this scenario too.

\[ EU = pU(E_c - F) + (1-p)U(E_c) \]
\[ EU = .276 \cdot ($33,000,000,000 - $13,000,000,000) + .724 \cdot ($33,000,000,000) \]
\[ EU = $29,412,000,000 \]
CONCLUSION

White-collar crime covers panoply of violations, regulatory discretion’s, crimes and inchoate. As a result, there are a multitude of different definitions addressing the concept. To accurately analyze white-collar crime the FBI’s definition was utilized to discern possible benefits and drawbacks of prevention and punishment. Case studies evidenced that for rational decision makers increases in punishment and prevention decrease expected values of potential criminals.

Through the cases of Countrywide Financial and JPMorgan Chase & Co. it became clear that in many scenarios doubling the punishment or probability of apprehension did not reduce expected values enough to deter rational criminals. The important implication is that a potential criminal’s perception is one of the most important factors in their decision to commit or abstain from crime. A potential rational criminal considers the severity of punishment and likelihood of apprehension when considering crime. Over the past decade, if accused of committing a white-collar crime by the U.S. Department of Justice (DOJ) there was a 26% chance, on average, that criminal charges would be filed. If a potential criminal believed there was a relatively low chance of being caught and knew that there was a 73% chance they would only be subject to civil penalties the decision to commit crime, could begin to seem more rational from a casual observers perspective. The costs associated with white-collar crime are astounding and significant enough that solutions to the problem need to be addressed.\textsuperscript{18}

\textsuperscript{18} The Federal Bureau of Investigation’s “Crime in the United States” report estimates white-collar crime to cost the United States over $300 billion a year.
Although a conclusive definition is still debated among academic circles, preventative and punitive measures have increased in the past few years.\(^{19}\) When estimating the effect of possible changes in legislation it is important to remember that effectiveness is also dependent on enforcement. A possible preventative measure against white-collar crime is education. Many undergraduate and MBA courses have ethics components built into them however, according to the DOJ the majority of white-collar criminals knew what they were doing was wrong (U.S. Department of Justice, 2012). In this respect, increased education would not prevent these individuals from committing crimes.

The problem with strong punishment of white collar crime is that it is not “a material deterrent to crime, but rather a society’s policy for dealing with the consequences of those found guilty of it . . . no criminal finds morality and stops committing crime simply because another criminal went to jail. He got caught, and that is unfortunate for him, but I will not get caught” (Antar, 2006). This is why our current white-collar criminal punishment system could benefit from different approaches. Due to the importance of a potential criminal’s perception, a possible way to increase current punitive measures would be to force criminals to a life of unskilled labor and stipulated lengthy supervised release periods. If we tied felony convictions to the removal from all professions and trades we could possibly facilitate rehabilitation while avoiding the some of the costs devoted to institutionalizing white-collar criminals, in other words, It could be more effective to require criminals to perform community service work than serve time in prison. With respect to prevention, if more people understood that committing a white-collar crime is a career mistake society could benefit from a reduced number of violations.

\(^{19}\) See Appendix D Table 3
Drawing upon conclusions from the case studies, it is clear that the right combination of increased preventative and punitive measures can alleviate some of the financial pain and hardships resulting from white-collar crime. Whether or not the United States is enforcing white-collar violations with the correct resources is up for debate however, by amending or creating additional preventative measures the United States has the potential to reduce the probability of subjecting citizens to the aftermath that white-collar crime creates.
APPENDIX A: DATA
Appendix A - Data

Due to the previously discussed definitional issues with white-collar crime, readers should approach white-collar crime data skeptically. “Historically, the FBI has provided limited data on four white collar crimes (fraud, forgery, embezzlement, and counterfeiting) through its Uniform Crime Reports (UCR), and more recently through the non-mandatory National Incident-Based Reporting System (NIBRS)” (Helmkamp, Townsend, & Sundra, 2001). One of the major limitations of UCR data is that it only reflects arrest information, which does not permit one to estimate the monetary cost of crime. This led to the implementation of the NIBRS in 1992 (Helmkamp, Townsend, & Sundra, 2001). There are other clearinghouses and institutions that report white-collar statistics but, “Besides UCR and NIBRS, there is no other standardized system for the routine and consistent collection of more comprehensive data on white collar crimes particularly relating to their cost.” (Helmkamp, Townsend, & Sundra, 2001).

The Transactional Records Access Clearinghouse (TRAC) at Syracuse University compiles records on white-collar offenses. TRAC data is used only in this section to illustrate the numerous agencies that aid in the capture of white-collar criminals. According to TRAC data, white-collar cases are brought forth primarily by five governmental agencies; 30% of cases are filed by the FBI, 15% by the Secret Service, 19% by the IRS, 5% by the Department of Homeland Security, and 20% by other agencies (Syracuse University, 2014). According to the U.S. Sentencing Commission, 90% of white-collar crime cases filed against organizations did not involve the forfeiture of any assets, even though, over 50% of the company’s had a prior history of misconduct (Payne, 2012). The above mentioned estimates provide motivation to analyze white-collar crime critically.
APPENDIX B: NIBRS CLASSIFICATIONS OF WHITE-COLLAR OFFENSES
Appendix B: NIBRS Classifications Of White-Collar Offenses

Academic crime
Adulterated food, drugs, or cosmetics
Anti-trust violations
ATM fraud
Bad checks
Bribery
Check kiting fraud
Combinations in restraint in trade
Computer crime
Confidence game
Contract fraud
Corrupt conduct by juror
Defense contract fraud
Ecology law violations
Election law violations
Embezzlement
Employment agency and education-related scams
Environmental law violations
False advertising and misrepresentation of products
False and fraudulent actions on loans, debs, and credits
False pretenses
False report/statement
Forgery
Fraudulent checks
Health and safety laws
Healthcare providers’ fraud
Home improvement frauds
Impersonation
Influence peddling
Insider trading
Insufficient funds checks
Insurance Fraud
Investment scams
Jury tampering
Kickback
Land sale frauds
Mail fraud
Managerial fraud
Misappropriation
Monopoly in restraint in trade
Ponzi schemes
Procurement fraud
Racketeering Influenced and Corrupt Organizations (RICO)
Religious fraud
Sports bribery Sports
Strategic bankruptcy
Subornation of perjury
Swindle
Tax law violations
Telemarketing or boiler room scams
Telephone fraud
Travel scams
Unauthorized use of a motor vehicle [lawful access but the entrusted vehicle is misappropriated]
Uttering
Uttering bad checks
Welfare fraud
Wire fraud
APPENDIX C – SIMPLE RISK AVERSE UTILITY FUNCTION
Appendix C: Simple Risk Averse Utility Function

Figure 1- Simple Risk Averse Utility Function
APPENDIX D: UNITED STATES ATTORNEYS’ ANNUAL STATISTICAL REPORT SPREADSHEET
## Appendix D – United States Attorneys’ Annual Statistical Report Spreadsheet

### Table 3- United States Attorneys’ Annual Statistical Report Spreadsheet

<table>
<thead>
<tr>
<th>Year</th>
<th>NG</th>
<th>Dismissed</th>
<th>Rule 20</th>
<th>Other</th>
<th>Total</th>
<th>Defendants Accused</th>
<th>Criminal Matters Declined</th>
<th>% of cases where criminal charges are declined</th>
<th>% when criminal charges were filed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>64</td>
<td>594</td>
<td>121</td>
<td>41</td>
<td>2822</td>
<td>8820</td>
<td>8309</td>
<td>94.21%</td>
<td>5.79%</td>
</tr>
<tr>
<td>2003</td>
<td>73</td>
<td>560</td>
<td>147</td>
<td>29</td>
<td>2812</td>
<td>8658</td>
<td>7726</td>
<td>89.24%</td>
<td>10.76%</td>
</tr>
<tr>
<td>2004</td>
<td>90</td>
<td>532</td>
<td>110</td>
<td>105</td>
<td>2841</td>
<td>8437</td>
<td>7008</td>
<td>83.06%</td>
<td>16.94%</td>
</tr>
<tr>
<td>2005</td>
<td>74</td>
<td>516</td>
<td>84</td>
<td>120</td>
<td>2799</td>
<td>7822</td>
<td>7071</td>
<td>90.40%</td>
<td>9.60%</td>
</tr>
<tr>
<td>2006</td>
<td>59</td>
<td>573</td>
<td>84</td>
<td>121</td>
<td>2843</td>
<td>8036</td>
<td>5910</td>
<td>73.54%</td>
<td>26.46%</td>
</tr>
<tr>
<td>2007</td>
<td>76</td>
<td>541</td>
<td>66</td>
<td>118</td>
<td>2808</td>
<td>8566</td>
<td>5911</td>
<td>69.01%</td>
<td>30.99%</td>
</tr>
<tr>
<td>2008</td>
<td>83</td>
<td>572</td>
<td>68</td>
<td>103</td>
<td>2834</td>
<td>8684</td>
<td>5490</td>
<td>63.22%</td>
<td>36.78%</td>
</tr>
<tr>
<td>2009</td>
<td>73</td>
<td>558</td>
<td>56</td>
<td>133</td>
<td>2829</td>
<td>8610</td>
<td>5920</td>
<td>68.76%</td>
<td>31.24%</td>
</tr>
<tr>
<td>2010</td>
<td>68</td>
<td>487</td>
<td>77</td>
<td>119</td>
<td>2761</td>
<td>9525</td>
<td>5857</td>
<td>61.49%</td>
<td>38.51%</td>
</tr>
<tr>
<td>2011</td>
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<td>497</td>
<td>61</td>
<td>146</td>
<td>2782</td>
<td>10133</td>
<td>5814</td>
<td>57.38%</td>
<td>42.62%</td>
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<tr>
<td>2012</td>
<td>61</td>
<td>609</td>
<td>74</td>
<td>145</td>
<td>2901</td>
<td>8927</td>
<td>5616</td>
<td>62.91%</td>
<td>37.09%</td>
</tr>
</tbody>
</table>


Average rate of criminal charges

26.07%
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