Stockholm Institute of Transition Economics

WORKING PAPER

December 2017

No. 44

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STOCKHOLM INSTITUTE OF TRANSITION ECONOMICS

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Abstract

Whistleblower rewards have been used extensively in the US to limit procurement fraud and tax evasion, and their use has been extended to fight financial fraud after the recent financial crisis. In Europe there is currently a debate on their possible introduction, but authorities appear considerably less enthusiastic than their US counterparts. While it is important that these tools are scrutinized by a lively democratic debate, many things have been written, even by important institutional players, that have no empirical backing or that are in open contrast with the available evidence from independent research. In this paper we review some of the most debated issues regarding the potential benefits and costs of financial incentives whistleblowers trying to separate existing empirical evidence from conjectures with no empirical support, and myths in obvious contrast with available evidence.

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Introduction

Whistleblower reward programs, or "bounty regimes", provide financial incentives to witnesses that report information on an infringement helping authorities to convict culprits and recover or limit the damage they cause. Financial incentives for whistleblowers are not common, and many countries do not even protect whistleblower from retaliation from reported wrongdoers, often their employers. The only country we are aware of that has extensively experimented with whistleblower rewards in recent times, besides extensive protection, is the U.S. The False Claims Act (FCA), or the "Lincoln Law" as it is also called, was passed by congress already in 1863 to limit corruption in the procurement of military supply to the union army. The Internal Revenue Service (IRS) has also had a similar program for many years, which was amended in 2006 to make whistleblower rewards non-discretionary. As a response to the recent financial crisis, the US Congress enacted the Dodd-Frank act, which allows for rewards for financial and securities fraud. In Canada, the Ontario Securities Commission (OSC) implemented a reward program in 2016. A few other countries have introduced narrow reward programs for witnesses reporting cartels, typically with very low rewards (UK, South Korea, and Hungary are some examples).

Whistleblower rewards are widely praised in the US. An Assistant Attorney General said that they are "the most powerful tool the American people have to protect the government from fraud".[3] Similarly, the chairman of the Securities and Exchange Commission (SEC) claimed in a testimony before the House of Representative that their whistleblower program "has resulted in investigative staff receiving a substantial volume of high quality information."[4]

However, there is currently a drift across the Atlantic, as the whistleblower rewards programs praised in the US appear not to be welcome in Europe, where even an increase in the protection of whistleblowers is encountering strong resistance from the industrial and financial lobbies.

While there are very good reasons to be cautious about the ability of European agencies to successfully import tools from the US, the level of the recent policy debate on the relative costs and benefits of these programs has been unfortunately very low. In the UK, for example, the Bank of England's Prudential Regulation Authority and the Financial Conduct Authority

[3] National Whistleblower Center 2014, p.2
[4] National Whistleblower Center 2014, p.3

came out strongly against rewarding whistleblowers in a note for the U.K. Parliament, neglecting available evidence (even published academic studies) inconsistent with their claims, while not presenting alternative evidence to back their assessment.[5]

The subject is of primary policy relevance, and would deserve a more honest and research-informed debate. Corruption, fraud of various types, and related forms of economic crime is widespread almost everywhere in the world.[6] Criminal organizations like drug cartels, are using these economic crimes to soften enforcement and transfer revenue across countries. Their methods have become increasingly sophisticated and their ability to use the international financial markets has made it ever more difficult for law enforcement agencies to discover them with more traditional law enforcement tools.[7] Programs that encourage whistleblowing can help fighting organized crime, promote the accountability and integrity of public institutions, and foster a culture that supports those values.[8] It is also widely held that encouraging whistleblowing tend to increase transparency in organizations, and trust in markets.[9]

1.1 Recent cases show that protection is insufficient

Consider, for example, Volkswagen's emissions scandal in 2015, when the public learned that the company had installed defeat devices in millions of diesel cars to 'cheat' on environmental emissions standards. The response of management was to blame a set of "rouge engineers"[10], while we now know that power points on how to circumvent U.S. emissions tests by a top technology executive circulated widely within the company as early as 2006.[11] Further, the Korean Ministry of Environment now argues that Volkswagen had faked some 140 documents related to emissions and noise-level tests, which led to the indictment of a South

[5] Bank of England, PRA & FiCA (2014). They claim, among other things, that there is no evidence that rewards may increase the quantity and quality of claims. Several rigorous studies were instead publicly available at the time make this claim dubious. See e.g. Dyck et al (2010), Engstrom (2012), Engstrom (2013), Engstrom (2014). Experimental evidence were also available: Bigoni et al (2012), and Abbink & Wu (2017) but available since 2013. Data from the IRS and the SEC, as well as data on the FCA, stands in contrast to this claim as well.
[6] See e.g. Dyck et al (2014), and Global Crime Survey (2016).
[7] Radu (2016) details some of the complex schemes used by corrupt politicians and organized criminals.
[8] G20, 2011. Paragraphs (2), (38), (41).
[9] See eg., Senator Grassley <http://www.whistleblowers.org/resources/press-room/in-the-news/805>. Accessed 19/08/2017
[10] See Congressional Hearing of Volkswagens head of American Operations Michael Horn on October 8th 2015.
[11] <http://www.nytimes.com/2016/04/27/business/international/vw-presentation-in-06-showed-how-to-foil-emissions-tests.html?smid=tw-share&_r=1>. Accessed: 20/05/2017

Korean high level executive at Volkswagen.[12] One may be surprised that no single employee reported this to any authority for such a long time. However, looking at current cross-country legislations on whistleblower protection it is actually not surprising that so few whistleblowers have historically come forward in Germany. The country belongs to a group of nations in the EU that has some of the weakest protections for whistleblowers.[13] Even after the Siemens' scandal in 2008, when the company was discovered pursuing a long term, extensive and systematic strategy of bribing foreign governments and purchasing agencies, no steps were taken to our knowledge to improve the country's whistleblower protection.

More surprising is perhaps that even in countries with the highest level of protection whistleblowers continue to face severe retaliation. In the UK, which is regarded as having way stronger whistleblower protections than any other European country, there are still serious issues.[14] For example, in 2017 the CEO of Barclays' bank explicitly instructed his security team to try and unveil the identity of a whistleblower that authored a letter containing concerns about a longtime associate of the bank.[15]

The U.S, which arguably has the most extensive and better enforced whistleblower protection system, still has considerable problems with retaliation.[16] For example, the bank Wells Fargo recognized that it 'forced' its employees to use deceptive unscrupulous tactics, including opening up several additional bank accounts for customers without their conscious consent, to reach crazy sales targets (and fired 5,300 employees that did or could not make it).[17] The pressure on these employees to meet the target of "8 accounts per customer",

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[12] <http://www.nytimes.com/2016/08/03/business/international/south-korea-volkswagen-emissions.html?_r=0>. Accessed: 20/05/2017

[13]Whistleblowers in both small and large German companies frequently face retaliation with few protections available to them. An example includes The European Human Rights Court who condemned the German courts and awarded damage compensation to a German nurse who brought her whistleblowing claim to the court and was fired and not hired by any others healthcare See Heinisch v. Germany (2011). Another case is the DG Bank employee Andrea Fuchs. She reported her concern internally by pointing to possible illegal insider trading. When no satisfactory action was taken she reported externally, and as an outcome she has been in legal disputes with DZ Bank for over 12 years. For a ranking of EU protection programs, see G20 (2014).

[14] The UK´s Public Interest Disclosure Act is considered to be one of the more comprehensive whistleblower protection laws in Europe, see e.g. Transparency International (2014).

[15] <https://www.theguardian.com/business/2017/apr/11/barclays-whistleblower-bank-jes-staley-investigation>. Accessed: 25/05/2017.

[16] Although their whistleblower laws are sectorial: they apply only to a sector, or only to certain kinds of employees.

[17] The Financial Times recently ran an article on Wells Fargo that details the absurd and fraudulent methods used to open up new accounts. Well´s executives now admits that they had a "broken culture in the retail banking division", see <https://ig.ft.com/special-reports/whistleblowers/?utm_content=Whistleblowers&utm_source=Marketing_email>. Accessed 11/17/2017

together with the management threatening to fire the cross-sellers who did not meet the quotas, was determined to be cause of the wrongdoing.[18] Most importantly for this piece, there are reports of employees at Wells Fargo blowing the whistle internally with their management and being fired as a result.[19] We recently found out that at least some of these whistleblower claims were serious, as Wells Fargo was then ordered by the investigating authorities to pay 575 000 USD and reinstate a whistleblower who had complained about the accounts.[20]

Even in these high protection countries, then, retaliation against whistleblowers remains commonplace. The Ethics Resource Center reports that in 2013, 21% of whistleblowers in the US, the country with the highest level of whistleblower protection, suffered retaliation as a result of blowing the whistle.[21] The retaliation can often be quite significant, as shown by interviews conducted by Rothschild & Miethe (1999) on the kinds of damages whistleblowers suffer when retaliated against:

Occupational Damages		**Personal Damages**	
Lost their job or were forced to retire	**69%**	Severe depression or anxiety	**84%**
Received negative job performance evaluations	**64%**	Feelings of isolation or powerlessness	**84%**
Had work more closely monitored by supervisors	**68%**	Distrust of others	**78%**
Were criticized or avoided by coworkers	**69%**	Declining physical health	**69%**
Were blacklisted from getting another job in their field	**64%**	Severe financial decline	**66%**
		Problems with family relations	**53%**

If this is the situation in the US, the country with the highest level of protection, one can understand why there is so little whistleblowing in Europe. In a report from 2013, Transparency International rated a disappointing four countries in Europe as having advanced legal protections for whistleblowers, the best rating. These were Luxembourg, Romania, Slovenia and the United Kingdom.[22]

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[18] <https://www.theguardian.com/business/us-money-blog/2016/sep/22/wells-fargo-scandal-john-stumpf-elizabeth-warren-senate>. Accessed: 20/05/2017

[19] <http://money.cnn.com/2016/09/21/investing/wells-fargo-fired-workers-retaliation-fake-accounts/>. Accessed: 20/05/2017 and <http://uk.reuters.com/article/uk-wells-fargo-accounts-whistleblower-idUKKCN12D2MJ>. Accessed: 20/05/2017

[20] <https://www.reuters.com/article/us-wells-fargo-accounts-whistleblower/wells-fargo-ordered-to-pay-575000-reinstate-whistleblower-idUSKBN1A62AV>. Accessed: 14/09/2017

[21] Ethics Resource Center 2014, p.27. Although other studies suggest higher retaliation rates, see e.g. those cited in (Modesitt 2013, p.167).

[22] Transparency International 2013, p.5.

The UK's Public Interest Disclosure Act (PIDA) protects whistleblowers and can compensate for proven retaliation damages suffered by whistleblowers, compensation is capped at 5 million GBP. Between 2011 and 2013 7.3 million GBP were rewarded as damage compensation, counting only the cases that reached final hearings, presumably the amount rewarded is much greater if we could count settlements. PIDA compensates "injury to feelings" and reputational damages, and in one pharmaceutical case 3.4 million GBP was rewarded due to the reputational damages one whistleblower had suffered.[23] PIDA also protects the confidentiality of the whistleblower and the person(s) who is the subject of the disclosure.[24] According to a G20 report from 2014, France is instead on par with China with respect to its protection programs.[25] Germany and Italy are in an even worse situation, lagging significantly behind with respect to almost all aspects of whistleblower protection law. Sweden and Norway only very recently improved their whistleblower protection laws.[26]

There is still an inability of even the most extensive legal protection laws to prevent retaliation against whistleblowers, and the whistleblowing protection in many European countries is inadequate with respect to at least some dimensions of protection. In the light of this, financial incentives for whistleblowers could, or even should be thought of as a means of partially compensating truthful whistleblowers for the many forms of retaliation from which they cannot be protected from, rather than as a monetary premium for reporting corporate misbehavior.

2. Overview of existing whistleblower rewards programs

Let us start with some information on existing programs. The US False Claims Act is the most well-known whistleblower reward program, and was originally signed into law in 1863 under President Lincoln to curb fraud in military procurement for the Union army. This program has seen significant changes throughout the years. It was amended in 1943 to reduce the maximum reward from no more than 50% to no more than 25% of recovered money if the relator litigated the case, but if the government litigated the case the maximum reward was

[23] Public Concern at Work 2014, p.20.
[24] Department of the Premier and Cabinet, "Public Interest Disclosures, Internal Procedures", p.7. Available at: <https://www.dpc.wa.gov.au/Documents/procedures_public_interest_disclosures.pdf>. Accessed 20/05/2017
[25] G20, 2014. p.4. They assess the laws of G20 countries with respect to 14 different criteria, on a scale from 1-3 (1 is good, 3 bad). They also distinguish between public and private sector laws.
[26] See (Swedish) <https://www.arbetsgivarverket.se/nyheter--press/nyhetsbrev/arbetsgivarverket-informerar/2016/ny-lag-om-starkare-skydd-for-visselblasare/.> Accessed 16/09/2017

only 10%.[27] Perhaps for this reason, between 1943 and 1986 the whistleblower or "*qui tam"* provisions fell almost completely out of use.[28] The most significant amendments came in 1986 which seems to have been vital in increasing the claims received; these amendments included retaliation protection for whistleblowers, an increase in the maximum award to 30%. [29] Other changes included extended statutes of limitations, a lowering of the governments' burden of proof, and allowing for whistleblowers to bring suits with information known to the government, but that the government has not released publicly.[30]

The US IRS whistleblower office was established in 2006. Before that, the IRS could provide rewards "for detecting and bringing to trial and punishment persons guilty of violating the internal revenue laws or conniving at the same."[31], but whether to provide any reward at all was completely at the agency´s discretion.

The whistleblower provisions of the Dodd-Frank Act were implemented as a response to the financial crisis of 2008. And in 2016 the Ontario Securities Commission implemented a bounty program inspired to the one of the SECs, although with fundamental differences.

The Korean Fair Trade Commission (KFTC) has a narrow bounty regime pertaining to cartels that dates back to 2002, although by 2006 it had only been used on 8 occasions. The cap on the reward was at that time 20 million Won (19 000$), while amendments in 2012 increased the maximum possible award to 3 billion Won (2.8$ million).[32] Due to the limited applicability of this regime (only to cartels), we mention this program only in passing.[33]

The European Parliament suggested that financial incentives can be provided to whistleblowers by member states to detect and deter infringements of REGULATION (EU) No 596/2014 that covers securities trading among other things.[34] Presently, we do not know of any member state that has taken this initiative.

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[27] Doyle 2009, p.7.
[28]See < https://www.phillipsandcohen.com/false-claims-act-history/>. Accessed 16/9/2017
[29] Doyle 2009, p.8.
[30] Metzger & Goldbaum 1993, p.685/86.
[31] <https://www.irs.gov/uac/history-of-the-whilstleblower-informant-program>. Accessed: 25/05/2017.
[32] Stephan, 2014, p. 5-7

[33] For researchers, we suggest visiting the English version of the KFTC's website that contains annual reports on their bounty regime. Available at: <http://www.ftc.go.kr/eng/>. Accessed: 20/05/2017. For an overview of the reward programs in the UK and Hungary, see Sullivan, K., Ball, K., Klebolt, S, 2011

[34] REGULATION (EU) No 596/2014, Section (74). For a discussion of the European context see Fleischer & Schmolke (2012).

2.1 Design Dimensions

Under most bounty regimes a whistleblower brings a claim against a wrongdoing party and, in the event of a successful judicial or administrative action, the whistleblower receives a percentage of the fine imposed (or money recovered). In this section we look at some other fundamental design dimensions along which existing whistleblower reward programs differ.[35]

First, a dividing line among programs is whether they enthrall individuals with independent enforcement action, sometimes called a *qui tam* approach. Presently only the FCA gives private citizens independent enforcement authority that is not dependent on the Department of Justice (DOJ) to pursue the claim on the citizens' behalf.[36] All other programs are what may be called "administrative", or adopt what some call a "cash for information" approach.[37] Under the latter approach it is entirely up to the agency whether the claim should be pursued administratively, judicially or not at all.

Second, programs differ with respect to how much as a percentage the whistleblower is eligible to receive. Under the U.S programs the minimum varies, but the upper limit is 30%. The exact percentage a whistleblower receives within the range will depend upon how vital the whistleblower's information was to detecting and punishing the wrongdoing. The OSC program has instead a maximum of 15% and a nominal cap at 5 million Canadian dollars.

Third, programs may differ in terms of the role of complicity and/or culpability. Wrongdoing *per se* does not usually make the whistleblower ineligible to receive a reward under the mentioned regimes. A whistleblower may however have their reward reduced, or be denied any reward, if he or she "planned and initiated" the wrongdoing. The OSC and SEC programs do not grant rewards to those convicted of criminal conduct related to the wrongdoing.[38] In 1986 the FCA was amended with the same restriction concerning criminal conduct.[39] The IRS has granted rewards to those convicted of criminal conduct related to the wrongdoing, an example being the banker Brankley Brinkenfield who received 104$ million despite serving time in jail for his part in the wrongdoing.[40] Under all regimes we mention

[35] For the most thorough and detailed overview of design dimensions see Engstrom (2016), we also suggest Engstrom (2014) and Engstrom (2012).
[36] Engstrom 2016, p.4. The DOJ retain the right to terminate privately litigated actions (Engstrom 2014, p.612).
[37] Engstrom 2016, p.4
[38] OSC Policy 15-601, 15. (1)(l), Dodd-Frank Section 748, (c) (2) (B).
[39] Vogel 1992, p.599, 600.
[40] Pacella 2015, p.345.

here, there is the wording that "criminal conduct" makes whistleblowers ineligible, yet there seems to be a difference in practice.

Fourth, these programs differ with respect to rewards' "threshold", i.e. the minimum amount needed for a claim to be considered. In the case of Dodd-Frank the monetary sanction need to exceed 1$ million for the case to be considered. To qualify under the IRS's 7623(b) the information provided by the whistleblower must "relate to noncompliance matter in which the tax, penalties, interest, additions to tax, and additional amounts in dispute exceed 2 million USD". [41] The FCA rewards whistleblowers based on the recoveries made due to the whistleblowers information. Where DOJ decides to join the suit, the whistleblower is eligible to receive between 15-25% of recoveries, whereas if DOJ declines to intervene in the case, the whistleblower is eligible to receive 25-30% of recoveries.[42]

Fifth, some programs cap the absolute amount of the rewards, others don't. Other than the upper percentage limit, the OSC's program for example caps rewards' absolute value at 5 million Canadian dollars.

Sixth, the degree of confidentiality granted to the whistleblower is another aspect where bounty regimes differ. The SEC allows whistleblower anonymity through legal representation: only when receiving the reward at the end of a successful action the whistleblower must disclose his identity to the SEC. [43] The FCA does not guarantee anonymity to its whistleblowers,[44] as the citizen has to bring the claim to court, it does however have the benefit that if the DOJ declines to join, the citizen has the option to take the claim to court anyway. The OSC will "make all reasonable efforts to protect the identities of whistleblowers", there are conditions such as the identity being "necessary to permit a respondent or defendant to respond to allegations or to prepare their defence[sic]" or when the disclosure is required by law, that the identity may be disclosed.[45] The IRS writes that it will "protect the identity of the whistleblower to the fullest extent permitted by the law"[46]; when the identity of the whistleblower is necessary to pursue investigation or examination, the IRS will inform the whistleblower before deciding whether to proceed.[47]

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[41] IRS Whistleblower Office Annual report 2014, p.3.
[42] Engstrom 2016, p.3
[43] Annual Report on the Dodd-Frank Whistleblower program 2015, p.17. See also Engstrom, 2016, p.4.
[44] Engstrom, 2016, p.3.
[45] <http://www.osc.gov.on.ca/en/protections.htm>. Accessed: 20/05/2017
[46] <https://www.irs.gov/uac/confidentiality-and-disclosure-for-whistleblowers>. Accessed: 20/05/2017
[47] <https://www.irs.gov/uac/confidentiality-and-disclosure-for-whistleblowers>. Accessed: 20/05/2017

	FCA	IRS	SEC	OSC
Reward %:	15-30%	15-30%	10-30%	5-15%
Ineligible if:	Criminal Conduct	Criminal Conduct	Criminal Conduct	Criminal Conduct
Threshold:	None	2 Million USD	1 Million USD	1 Million CAD
Cap:	No Cap	No Cap	No Cap	5 Million CAD
Confidentiality:	No	Yes	Yes	Yes

3. Myths and numbers in the current debate

In this section we go through some of the central arguments that have been put forth against whistleblower rewards, and report what existing studies and other reliable sources of evidence we are aware of says about them.

3.1 Ineffective: quality, quantity, deterrence, and administration costs

A first argument brought against bounty regimes is that they are ineffective with respect to two of their fundamental aims: increasing the quantity and quality of information received by the agencies. The FCA & Bank of England-PRA's 2014 note to the U.K. parliament, for example, argued in key point b) that "*There is as yet no empirical evidence of incentives leading to an increase in the number or quality of disclosures received by regulators*".[48] Unfortunately, independent academic research by Dyck, Morse & Zingales, circulating since 2007 and published in the most important scientific journal for finance in 2010, indicates that this statement is deeply incorrect. In comparing whistleblowing in the health care sector where rewards are available through the False Claim Act with non-healthcare sectors where they are not, they found that 41% of fraud cases are detected by employees in the healthcare sector. That number is only 14% for other sectors, a difference highly statistically significant (at the 1% level) despite a small sample size.[49]

3.1.1 Quality

More recently, Call et al (2017) examined empirically the link between whistleblowing and (i) penalties, (ii) prison sentences, and (iii) duration of regulatory enforcement actions for financial misrepresentation. They found that whistleblowers' involvement in financial misrepresentation enforcement actions is correlated with higher monetary sanctions for the

[48] PRA & FiCA, p.2. Italics in original
[49] Dyck, Morse & Zingales 2010, p. 2247.

wrongdoing firm and increased jail time for culpable executives. They also found that enforcement proceedings began quicker, and further that whistleblower involvement increases the likelihood that criminal sanctions are imposed by 8.58%, and that criminal sanctions are imposed against the targeted wrongdoer by 6.64%. [50] This evidence suggests that whistleblowing and whistleblower rewards do increase the quality of information received by the agencies and is inconsistent with the opposite claim.

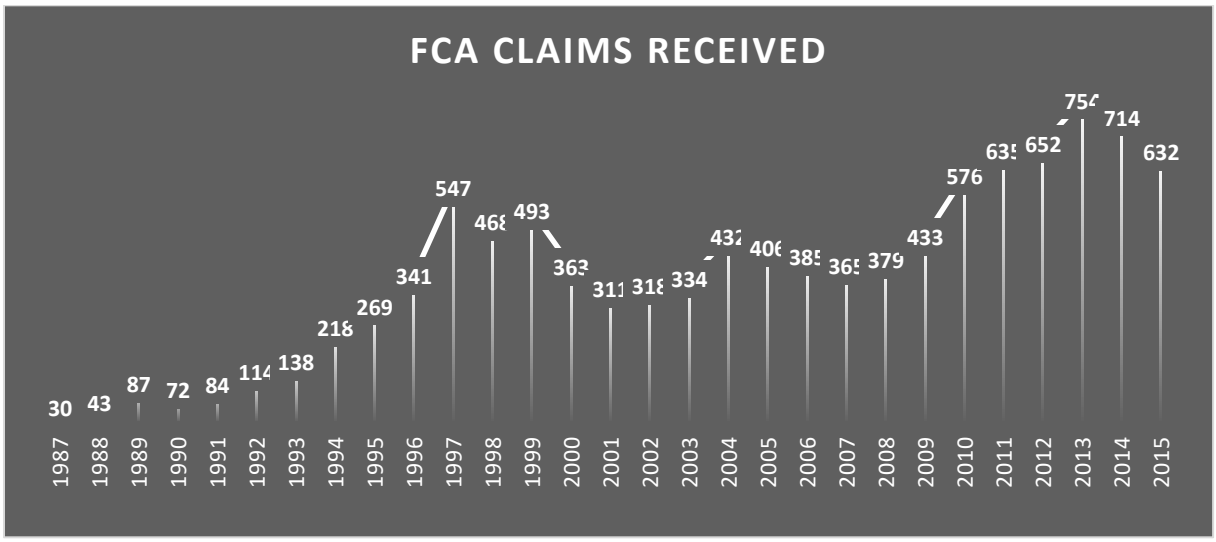
3.1.2 Quantity

Assessing the relation between the quantity of claims and regulatory effectiveness across time is not straightforward. First, monetary thresholds are there to reduce the administrative burden of having to consider too many low-stake claims.[51] Second, the deterrence effects of bounty regimes and the closing of cases by the relevant agency should not lead us to necessarily expect a steady rise in the observed quantity of claims.[52] A large initial increase in claims received generated by the introduction of a new policy may be temporary in the sense that a well-run, sufficiently powerful and advertised scheme should have deterrence effects that will reduce the overall number of cases, and therefore of claims received, even if the percentage of corruption cases that are reported increases. If the program is so powerful that all corporate crime is always reported, and sanctions are sufficiently robust, no crime will take place and therefore no reports will be observed, though the percentage of reported cases is one. This is a relevant concern, as recent evidence points at whistleblowing having a sizable deterrence effect on corporate crime (Johannesen and Stolper, 2017).

It is still interesting to note that since the IRS made rewards non-discretionary the number of claims received has increased significantly in the long run. Although we do not have pre-enactment data, and the number of claims received decreased in the first year after making rewards non-discretionary (which is somewhat counterintuitive). In 2006 the number of claims received was 4295, in 2007 it was 2751. In 2013-2015 they received over 10.000

[50] Call et al 2017, p.4
[51] Dennis J. & Ventry, 2008, p. 385.
[52] It is notoriously hard to infer from observed cases to total amount of cases for crimes like cartels, fraud and corruption where the victims are not aware of the crime if it is not detected by law enforcers. Miller (2009) provides a way to identify deterrence effects of a policy change from detected or observed cases. See also Perrotta et al. (2017).

claims annually.[53] Similarly, after FCA´s 1986 amendments the quantity of claims they received steadily increased, as can be seen by the graph below.[54]



As for Dodd-Frank, the SEC has also seen a steady increase in the number of claims received since its enactment.[55] A large increase in quantity of claims together with a low percentage of rewards being paid out suggests that improvements can be made in terms of the average quality of the claims.[56]

These numbers make it hard to understand the empirical basis for the claim of the note by the Bank of England that "There is as yet no empirical evidence of incentives leading to an increase in the number or quality of disclosures received by regulators". The numbers are suggestive, but cannot really prove that they increased it either because of the absence of a reliable counterfactual. The steady increase in reported cases may have been caused by other provisions, such as extended statutes of limitations, or by the removing of other barriers to whistleblowers, or an increasingly positive cultural view of whistleblowers.[57]

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[53] Numbers are from the IRS whistleblower's office annual reports to Congress 2008-2016

[54] The data on *qui tam* cases is taken from: Fraud Statistics, U.S Department of Justice Civil Division. 2015. Available at: <https://www.falseclaimsact.com/wp-content/uploads/2016/05/FCA-Statistics-Update.pdf>. Accessed 20/05/2017

[55] In 2012 they received 3001 claims, 3620 in 2014, and 4218 in 2016. SEC Annual Report to Congress (2016)

[56] Engstrom 2016, p.7/8

[57] A case could be made that whistleblowers are viewed more favorably today than two or three decades ago, and this could have affected the social acceptability of whistleblowing, in turn making employees more willing to report wrongdoing (Pacella, 2015, p.346). We have moved from a culture exemplified by Senator Harry Reid

There is also experimental evidence on the effects of rewards on quantity of claims received. Butler et al (2017) found that rewards increased the likelihood of whistleblowing. Abbink & Wu (2017) also found a positive effect on the likelihood to blow the whistle in their reward treatment. Bigoni et al (2012) also found in their reward treatment, that detection (reporting) rates were higher in a reward context than in a leniency context alone (see next section for further details).

In conclusion, the available evidence consistently suggest that a well-designed and administered reward program will likely increase the quantity and quality of disclosures received by regulators, although of course poorly designed and administered program may not.

Whether increased quantity or quality of disclosure is a good measure of regulatory success is harder to assess. It could be that the cost of administering these programs, for example reviewing larger quantities of claims, outweighs the benefits gained in terms of corporate crime detection and deterrence (see 3.1.4).

3.1.3 Deterrence

As for empirical evidence for deterrence, Johannesen & Stolper (2017) found that whistleblowing had deterrence effects of whistleblowing in the off-shore banking sector. They studied the stock market reaction before and after the whistleblower Heinrich Kieber leaked important tax document from the Liechtenstein based LGT Bank. They found abnormal stock returns in the period after the leak, and the market value of banks known to derive some of their revenues from offshore activities decreased. The authors interpret their results as follows "Our preferred interpretation is that the leak induced a shock to the detection risk as perceived by offshore account holders and banks, which curbed the use of offshore bank accounts and ultimately lowered the expected future profits of banks providing access to such tax evasion technologies."[58]

Wilde (2017) also provide evidence that whistleblowing deters financial misreporting and tax aggressiveness. Using a dataset of retaliation complaints filed with OSHA between 2003 through 2010 on violations of paragraph 806 which outlaw's retaliation against employees who provide evidence of fraud, he finds that firms subject to whistleblower allegations

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reference to the IRS whistleblower program as the "Rewards for Rats Program", to a culture that recognizes the social value of whistleblowing.

[58] Johannesen & Stolper 2017, p.21/22.

exhibited decreases in financial misreporting and tax aggressiveness. The deterrence effect persists for at least two years after the allegations. The firms were also more likely to have engaged in accounting irregularities in the years before the allegation compared to control firms.

As for experimental evidence, Abbink and Wu (2017) conducted laboratory experiments studying collusive bribery, corruption, and the effects of whistleblower rewards on deterrence. They find that amnesty for whistleblowers and rewards strongly deter illegal transactions in a one-shot setting, but in repeated interaction the deterrence effect is limited. Their results support a reward mechanism, especially for petty forms of bribery (which are more like one-shot games).

Bigoni et al (2012) conducted laboratory experiments on leniency policies and rewards as tools to fight cartel formation. They found that rewards financed by the fines imposed on the other cartel participants had a strong effect on average price (returning it to a competitive level). In the model setting, this implies that rewards have a deterring and desisting effect on cartel formation. The authors also take it that the results are significant for real world scenarios as well. They also found that cartel formation was significantly lower in a reward environment rather than a leniency environment alone.

3.1.4 Costly to administer

Whistleblower rewards programs have been considered as a highly cost-effective tool to fight organized economic crime at many times in history, and has been re-popularized in an age where many countries adopt austere fiscal policies and want to cut their budgets.[59] Giving regular citizens the ability to bring claims to the government or an agency, what is sometimes called "social enforcement", is normally assumed to be much cheaper than classical "command and control" enforcement methods. On the latter enforcement approach, law enforcement personnel must search for that information in expensive random investigations. Their cost-effectiveness is also the main reason why they were introduced historically, for example in middle age England.

[59] Engstrom 2014, p.608. See also Howse & Daniels, 1995, p.525.

Yet, concerns have been recently expressed that whistleblower rewards will come with a costly government structure[60], primarily with respect to the administrative burden of having to look at each submitted claim.

Unfortunately, these concerns are typically misplaced, as they fail to associate the costs of administering these schemes to the benefits they induce in terms of information obtained, and to compare these costs with the costs of alternative methods to obtain *the same levels of benefits/amount of information.* If one does not keep the benefits stable when considering costs, it follows immediately that the way towards efficient law enforcement is not to enforce the law at all.

Still, these schemes must be administered, and if a bounty regime is poorly designed and implemented, it may attract a lot of low value claims for a chance at a reward, producing larger administration costs and little enforcement benefits.[61]

A reward program that illustrates the issue is the IRS regime. The IRS (under the U.S. taxcode section 7623) has two different sections of their reward program: 7623(b) deals with claims that have the potential to pass a "monetary threshold" at 2 million USD of disputed tax money; 7623(a) deals with claims that for some reason don't meet the thresholds of 7623(b), primarily because they fail to meet the monetary threshold, and under this law rewards are still discretionary.[62] The number of claims under 7623(a) far outweighs claims that qualify for 7623(b). For example, the number of claims received in fiscal year 2014 under 7623(a) were 12 083 while the number of 7623(b) claims were 2282.[63]The amount of claims determined to have merit at the IRS suggests that improvements can be made. In 2015 over 35 000 claims at the IRS were still open. Only 2 % of all cases closed in 2015 resulted in an award being paid out in full.[64] The average time between the submission of a claim and the reward payment has not been less than 4 years since 2006.[65] This uncertainty and the damages whistleblowers suffer in the meantime may also deter future whistleblowing. The backlog issues were largely dealt with according to their report to congress in 2016.

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[60] PRA & FiCA, 2014. "Introducing incentives has been accompanied by a complex, and therefore costly, governance structure."
[61] Ebersole 2010, p.14.
[62] The tax evader also has to have had a gross income exceeding 200 000 USD during at least one of the tax years in question for the whistleblower claim to qualify under 7623(b). IRS Whistleblower Office, Annual Report to Congress 2014, p.3
[63] IRS Whistleblower Office, Annual Report to Congress 2014, p.14.
[64] IRS Whistleblower Office, Annual Report to Congress 2015, p.17.
[65] In 2015 the average time to process reward was 6 years. This delay is mostly due to the taxpayer being allowed to exhaust all his appeal rights before the case can be closed and rewards paid out.

How costly a program is to administer depends heavily on how we choose to adjust the program along the design dimensions. To avoid large amounts of low stakes claims, one can impose a minimal monetary value threshold for claims to be considered. But again, there is no evidence whatsoever that reward programs are costlier to obtain a given enforcement result, compared to other methods of enforcement. They have been instead been considered a highly cost-effective tool all along the history of law enforcement, and recent benefit to cost estimates of the FCA suggest that - at least regarding false claims against the government - it's purely monetary benefits largely outweigh the costs. Carson et al (2008) estimates the ratio of benefits to costs to be between 14-1 and 52-1 for recoveries under the FCA.[66]

3.2 Malicious Whistleblowers

Concerns have been raised on the risk of various forms of 'gaming' the whistleblower reward scheme, including using false or fabricated information. Let us consider them separately in descending order of severity: entrapment, fraudulent claims, and incorrect claims made in good faith.

3.2.1 Entrapment

Observers have raised the concern that some employees might induce others to break the law in order to report them and cash the reward. PRA & FiCA, for example, wrote in their joint note to the UK parliamentary commission that: "Some market participants might seek to 'entrap' others into, for example, an insider dealing conspiracy, to blow the whistle and benefit financially." There are, however, straightforward ways to prevent this potential problem.

The FCA states, for example, that when the relator initiated or planned the wrongdoing, courts can reduce the reward below 15% as they see fit.[67] The IRS has similar restrictions that in cases where the whistleblower planned and initiated the tax evasion, they may considerably reduce or deny any reward. If the whistleblower is convicted of criminal conduct related to the suit, then they should deny her any reward.[68] This is probably the reason why, judging from the reports by the U.S agencies, entrapment has not emerged as a salient issue in the US

[66] Carson et al 2008, p.369.
[67] False Claims Act (d)(3)
[68] Internal Revenue Code 7623(b)(3)

experience with the various programs. This of course does not exclude the possibility that a poorly run European agency/regulator might mismanage the whistleblower program to the point where this indeed becomes an issue; a sufficiently incompetent administration can generate problems even with the most robust and effective tools.

As for evidence, the National Whistleblower Center claims they did not find a single case of entrapment in over 10 000 cases in which the planner and initiator of the wrongdoing received an award.[69] In terms of research, the only relevant paper we know of is Bigoni et al (2012). In their experiment, they found that participants initially tried to entrap others inducing them to enter an illegal deal when a reward for whistleblowing was present, but quickly realized that this strategy led to bad outcomes (because everyone did the same) and stopped right away. In the cartel context they studied, a player agrees upon a price with the other cartel participants, with the unspoken intention to undercut the cartel participants and then at the same time turn them in to reap a reward. This initially led to more cartels forming (opposite of deterrence) than without rewards, but after this initial learning phase the detection rates generated by rewards kicked in and were astonishing: 118 out of 120 cases of cartel formation was detected in the first period. This may explain why entrapment seems like an issue initially, but not in the long run: subjects learn that other subjects are not stupid enough to be entrapped, or are themselves trying to entrap the others.

3.2.2 Fraudulent claims

A very common concern raised in the debate is that financial incentives could encourage employees to submit fraudulent claims, e.g. to "fabricate claims of wrongdoing for personal profit".[70] A similar concern is that: "Financial incentives might lead to more approaches from opportunists and uninformed parties passing on speculative rumors or public information. The reputation of innocent parties could be unfairly damaged as a result".[71] Analogously, opportunistic whistleblowers will force "corporations into financial settlements in order to avoid the adverse reputational and related effects caused by highly public, albeit ill-founded, accusations".[72]

[69] National Whistleblower Center 2014, p.18
[70] Howse & Daniels, 1995, p.540. See also Rose 2014, p.1283.
[71] PRA & FiCA, 2014. See also Vega 2012, p.510.
[72] Howse & Daniels 1995, p.526/27. These authors go on to strongly recommend a bounty approach to Canadian regulators.

Although evidence on this is hard to find, judging from the agencies' reports, fraudulent and malicious This is probably the case because fraudulent reporting is a crime, and a whistleblower that report fake/fraudulent information exposes itself to a legal fight with the falsely accused employer and to the severe sanctions against perjury and defamation. Indeed, in the case of the IRS, the information is submitted under penalty of perjury[73], which is also the case of the SEC if the whistleblower is represented by an attorney.[74] In the case of the FCA, should the whistleblower lie to the Court, he risks felony charges punishable by up to five years in jail for perjury, claims based on false information has not emerged as a major problem in the US experience. and the possibly of being convicted of other crimes related to lying under oath. Further, the FCA has a reverse fee-shift for obviously frivolous claims.[75]

This is not to say that fraudulent claims never occur. In some situations, fraudulent reports are an issue even in the absence of rewards. The only two clear examples we found on malicious whistleblowing was a case when an employee falsely accused another employee of threatening him with a knife[76], and another involving more general concerns about malicious whistleblowing in the healthcare sector.[77] These two cases, however, do not seem a consequence of the incentive structures endemic to whistleblower rewards, which were not available in these specific cases.

Whether fraudulent claims are a concern for the efficacy of a whistleblower reward program very much depends on the precision of the court system. Buccirossi et al. (2017) analyze this concern within a formal economic model. They show that this argument is entirely irrelevant for countries with sufficiently precise/competent court systems, provided strong sanctions against perjury, defamation and lying under oath are there to balance the incentives generated by large bounties. Where the judicial system makes a lot of mistakes, instead, this may not be sufficient for the scheme to have crime deterrence effects, which may make it preferable not to introduce large rewards for whistleblowers.

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[73] <https://www.irs.gov/uac/how-do-you-file-a-whistleblower-award-claim-under-section-7623-a-or-b>. Accessed: 27/12/2016.
[74] <https://www.sec.gov/about/offices/owb/owb-faq.shtml>. Accessed: 27/12/2016
[75] Engstrom 2016, p.10.
[76] See <http://www.mcmillan.ca/The-Whistleblower-Who-Cried-Wolf-Arbitrator-Upholds-Termination-of-False-Whistleblower >. Accessed 15/09/2017
[77] Bolsin et al (2011), and also Wright (2010).

3.2.3 Incorrect claims

Consider now purely incorrect claims, i.e. claims that are false/without merit but where the whistleblower reported them in good faith, so that the claim is not fraudulent/malicious. Concerns about the large number of meritless claims elicited by financial rewards have been raised with respect to the Occupational Safety and Health Administration (OSHA), which has the task of reviewing whistleblower complaints under SOX, among other statutes.[78] For example, of the claims closed by OSHA in fiscal year 2016, 50% were dismissed, 21% withdrawn, and the remaining 29% were decided as "positive outcome for complainant", a category that almost exclusively involves settlements, as only 63 cases out of 3405 were determined to "have merit".[79] These numbers are not the ones we should have liked to see, and they are suggestive that there is some inefficiency in how claims are received and dealt with. At a first glance the numbers would suggest that the whistleblowers are bringing bad information or false claims, however, the low percentage of claims determined to have merit appears to be more complex and the result of a set of factors.

First, OSHA is severely under-resourced.[80] There have even been accusations by former employees at OSHA that whistleblower claims are not properly investigated at the agency due to resource constraints and the desire to close cases quickly to meet quotas.[81] Tom Devine, legal director at the Government Accountability Project, also implied the bad numbers may be due to whistleblowers often going up against powerful interests: "Some of these defendants are very powerful special interests: Wells Fargo, JPMorgan, [aerospace manufacturer] Lockheed Martin".[82]

Second, the large number of dismissed claims is related to the more stringent burden of proof set by the courts to allow whistleblower protection against retaliation, with respect to whether there was a causal link between the whistleblowing and the retaliatory measure.[83] The mere fact that retaliation took place at around the same time as the whistleblowing is not sufficient to establish cause, and *a fortiori* not sufficient to establish that retaliation took place.

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[78] Earl & Madek 2007, p.3

[79] Numbers taken from:.<https://www.whistleblowers.gov/factsheets_page.html#stats>. Accessed 12/07/2017.

[80] Engstrom 2014, p.631.

[81] <http://www.nbcbayarea.com/news/local/OSHA-Whistleblower-Investigator-Blows-Whistle-on-Own-Agency--293711041.html>. Accessed 20/08/2017.

[82] See, <https://ig.ft.com/special-reports/whistleblowers/?utm_content=Whistleblowers&utm_source=Marketing_email>. Accessed 07/12/2017.

[83] See Moberly 2007, p.120-130. Modesitt (2013) found similar issues with establishing cause at the state level.

This has led many courts to reject protection of employees who can only establish a temporal proximity between whistleblowing and retaliation.

Third, part of the claims will be based on a misunderstanding of the scope or applicability of whistleblower protection statutes, leading to instant rejection after the first round of review by the agency. An example of this is a man who filed a whistleblower retaliation claim under the Sarbanes-Oxley act alleging that his employer fired him for complaining about poor ventilation. Sarbanes-Oxley covers fraud and protects investors and not what the man had filed a claim about, which led to a quick dismissal of the claim.[84]

Incorrect claims are never going to be entirely eliminated under even a well-designed and carefully implemented regime. Adequate and accessible information on the scope of the law should help potential whistleblowers to decide whether their claim can qualify them for protection or reward. This is not unlike other governmental programs, applications will be submitted and denied from time to time at just about any governmental agency. So, we do not see how these costs are specific to whistleblower rewards (although it may exacerbate them), or good reasons for why we should consider this a significant differentiating factor between reward regimes and other government programs. Although an issue, it can be made less concerning if implemented cautiously.

4. Conclusion

A lively debate is necessary and welcome on the implementation of any new policy. However, in the case of whistleblower rewards the debate has systematically disregarded available empirical evidence and has put emphasis on claims and potential drawbacks that the US experience has shown that a competently designed program can overcome.

Some suggest that the European hesitation over improving whistleblower protection and introducing bounty regimes may have partially historical roots, as both Nazi Germany and Soviet Russia relied heavily on citizens reporting on one another.[85] But the lack of voices speaking out against what the Nazi were doing should suggest the opposite, and it is not clear how these parallels should be relevant when we are talking about rewarding whistleblowers in financial offices of private corporations.

[84] https://www.publicintegrity.org/2010/07/22/2606/federal-bureaucracy-dismisses-most-sarbanes-oxley-whistleblower-claims- Accessed 13/08/2017

[85] Givati 2016, p.26.

A more likely concern driving European firms and law-makers opposition to give a fair evaluation to available evidence is that fostering whistleblowing can impose costs on firms. Consider the implementation of SOX, during which there was a spike in the number of companies that were privately sold and an increase in the number of companies that cancelled their plans to list on U.S exchanges.[86] Several non-domestic publicly held company's decision not enlist on the U.S exchange cite the compliance costs associated with SOX as a reason for not enlisting.[87] Instead, many of them chose to enlist on the London Stock Exchange.

Consider further the benefits of playing loose with regulation of this kind: in Germany bribe payments were tax deductible until 1999, as a result German firms enjoyed a significant advantaged over responsible international competitors with respect to foreign bribery.[88] There are thus strong incentives at the nation-state level to allow national firms to pay bribes to secure procurement contracts when firms from other countries are prevented to do so.[89]

There is a concern that policymakers can be guided by special interests to an unreasonable degree by special interest in evaluating whistleblower reward laws. Several special interest's groups have large stakes in favor and against rewards.

Baloria et al (2015) for example found that opinions offered on the whistleblower provisions of the Dodd-Frank act varied drastically depending on whether the opinion came from a corporate lobbyist or not. While 99% (75 out of 76) of individuals supported the possibility of reporting externally and not mandating internal reporting, corporate lobbyist unanimously disapproved of employees being able to directly go to the SEC (N=283) (ibid, p.59). While some have also suggested that the trial lawyer lobby is pushing in the opposite direction, in favor of rewards.[90]

Policymakers should also be aware of present employee incentives. Call et al (2016) found in a sample of misreporting firms that during the years of misreporting the amount of option grants offered to rank and file employees were significantly greater (2,49%), relative to the years before the misreporting (2.17%) and even greater relative to the period after the

[86] Jahmani & Dowling 2008, p.57
[87] Jahmani & Dowling 2008, p.60.
[88] See Berghoff (2017).
[89] The examples here are endless. The telecommunication firm Telia in Sweden paid a multi-million-dollar bribe to the daughter of a dictator in Uzbekistan to secure 3G licenses in the country. See, e.g. <https://www.sydsvenskan.se/2017-09-22/har-ar-bakgrunden-till-teliaharvan>. Accessed 10/06/2017.
[90] Ebersole 2011, p.21

misreporting ended (1.67%).[91] This is suggestive evidence that the sample of employers incentivize their employees to remain silent by providing them option grants during the time of misreporting. Further ways employers can chill whistleblowers is by putting non-disclosure provisions in the employee's contracts.[92] If an employee is under the false impression that reporting wrongdoing would violate the employment contract, whistleblowing may be deterred.

With an urgent need to curb fraud and corruption, and when evidence shows that whistleblower reward programs can be effective if designed properly, it is irresponsible for important regulatory agencies (like the PRA & FiCA) to spread unsubstantiated information to the disadvantage of policies that may be effective in combating crime and corruption.

The Ontario Security Commission had an admirably rigorous process before adopting their bounty regime[93], yet we believe that capping reward at 5 million Canadian dollars is likely to diminish the regimes effectiveness at taking on high-stakes cases. Carson et al (2008) suggests that rewards be capped at between 1$ million and 2$million and that this would "provide adequate compensation for whistle-blowing without making it an alluring temptation to gain windfall rewards."[94] We believe that this may be insufficient in incentivizing the people with quality information to come forward, as those most likely to possess information about wrongdoing are higher up in the organization, people who also have more to lose in blowing the whistle.[95] If the intention is not to combat high-stakes crime, then such a cap could be advisable. The OSC regime, however, covers securities. This is an area where a cap at 2$ million (and, one could argue, even at 5$ million) is unlikely to be a sufficient incentive relative to the retaliatory measures and economic costs the whistleblower could suffer.

If European countries and their regulatory and law enforcement institutions are not capable of having an open and honest debate, competently based on the available evidence from rigorous research and from previous experiences in other countries, then they would hardly be able to competently design and properly administer a system of rewards for whistleblowers. Following Buccirossi et al. (2017), in such weak institution countries high powered tools like

[91] Call et al 2016, p.2
[92] Engstrom 2016, p.18
[93] They went far in trying to separate lobbyist's argument from the opinions of more non-partial researchers and requested opinions from a vast range of interests.
[94] Carson, Verdu & Wokutch, 2008, p.374.
[95] See Engstrom, 2016, p.24. Higher ups are more likely to possess sick leave and delayed remuneration, and also have more to lose in the case of retaliation.

whistleblower rewards should better be avoided, as in the hand of incompetent law makers and corrupt of captured regulators they would likely produce more damage than good.

References

Abbink, Klaus & K. Wu. Reward Self-Reporting to Deter Corruption: An Experiment on Mitigating Collusive Bribery. Monash University, Discussion Paper 42/13, 2013.

Aron, D. 2010. "´Internal` Business Practices?: The Limits of Whistleblower Protection for Employees Who Oppose or Expose Fraud in the Private Sector". ABA Journal of Labor & Employment Law, Vol.25, No.2 (Winter 2010), pp.277-298.

Baloria, V. Marquardt, C. Wiedman, C. 2015. "A Lobbying Approach to Evaluating the Whistleblower Provisions of the Dodd-Frank Reform Act of 2010", unpublished working paper. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1923310

Bank of England: Prudential Regulations Authority & Financial Conduct Authority. 2014." Financial Incentives for Whistleblowers", available at: https://www.fca.org.uk/news/financial-incentives-for-whistleblowers

Berghoff, H. 2017. "´Organized irresponsibility´"? The Siemens corruption scandal of the 1990s and 2000s" *Business History*, DOI: 10.1080/00076791.2017.1330332

Breuer, L. (2013), .Tax Compliance and Whistleblowing .The Role of Incentives,.
The Bonn Journal of Economics, Vol 2, No. 2, pp. 7-44.

Bigoni, M., C. Le Coq, S. Fridolfsson and G. Spagnolo. Fines, Leniency and Rewards in Antitrust. RAND Journal of Economics, 43(2), 368-390, 2012.

Blount, J., Markel, S. 2012. "The End of the Internal Compliance World as We Know It, or an Enhancement of the Effectiveness of Securities Law Enforcement? Bounty Hunting under the Dodd-Frank Act's Whistleblower Provision.", *Fordham Journal of Corporate & Financial Law*, Volume 17, Issue 4.

Buccirossi, P., Immordno, G., and G. Spagnolo. Whistleblower Rewards, False Reports, and Corporate Fraud. Unpublished manuscript, 2017.

Butler, J., Serra, D., and G. Spagnolo. Motivating Whistleblowers. Unpublished manuscript, 2017. Available at: <https://www.aeaweb.org/conference/2017/preliminary/1658> accessed 8/1/2017.

Call, A.C., Kedia, S., and Rajgopal, S. 2016. "Rank and file employees and the discovery of misreporting: The role of stock options", Journal of Accounting & Economics (JAE), Forthcoming *Columbia Business School Research Paper* No. 16-41

Carson, T. Verdu, M. Wokutch, R. 2008. "Whistle-Blowing for Profit: An Ethical Analysis of the Federal False Claims Act", *Journal of Business Ethics*, Vol. 77, No. 3, pp. 361-376.

Casey, A. Niblett, A. 2014. "Noise Reduction: The Screening Value of Qui Tam", Washington University Law Review, Volume 91, Issue 5.

Case of Heinisch v. Germany. 2011. Available at: https://www.google.se/search?q=Heinisch+vs+Germany&oq=Heinisch+vs+Germany&aqs=chrome..69i57j0l4.864j0j7&sourceid=chrome&ie=UTF-8

Earle, B., Madek, G. 2007. "The Mirage of Whistleblower Protection Under Sarbanes-Oxley: A proposal for Change", American Business Law Journal, Volume 44, Issue 1, pp.1-54.

Ebersole, D. 2011. "Blowing the Whistle on the Dodd-Frank Whistleblower Provisions", 6 *Ohio St. Entrepen. Bus*. L. J. 123.

Engstrom, D. 2016. "Bounty Regimes", in RESEARCH HANDBOOK ON CORPORATE CRIMINAL ENFORCEMENT AND FINANCIAL MISDEALING (Jennifer Arlen ed., Edward Elgar Press, forthcoming 2016)

Engstrom, D. 2014. "Whither Whistleblowing? Bounty Regimes, Regulatory Context, and the Challenge of Optimal Design", 15 *Theoretical Inquiries in Law* 605.

Engstrom, D. 2012. "HARNESSING THE PRIVATE ATTORNEY GENERAL: EVIDENCE FROM QUI TAM LITIGATION", *Columbia Law Review*, Vol. 112, No. 6 (OCTOBER 2012), pp. 1244-1325

Ethics Resource Center, 2014. "National Business Ethics Survey of the U.S. Workforce", Available at: http://www.ethics.org/ecihome/research/nbes, accessed 31/10/2016.

Feldman, Y., Lobel., O. 2010. “The Incentives Matrix: The Comparative Effectiveness of Rewards, Liabilities, Duties and Protections for Reporting Illegality”, *Texas Law Review*, Vol 87

Fleischer, H. Schmolke, K. 2012. “Financial Incentives for Whistleblowers in European Capital Markets Law? Legal Policy Considerations on the Reform of the Market Abuse Regime.” *ECGI – Law Working Paper* No. 189/2012.

Givati, Y. A Theory of Whistleblower Rewards. Journal of Legal Studies, 45, 2016.

Goldsmith, M., King, C. 1997. “Policing Corporate Crime: The Dilemma of Internal Compliance Programs”, *Vanderbilt Law Review*.

Gordon, S. 2012. “Implementation of Effective Compliance and Ethics Programs and the Federal Sentencing Guidelines”, Corporate Compliance Answer Book 2012-13, Vol 1, Hollad & Knight LLP.

Geradin, D. 2013 “Antitrust Compliance Programmes & Optimal Antitrust Enforcement: A Reply to Wouter Wils” (March 29, 2013). *Journal of Antitrust Enforcement*, Available at SSRN: https://ssrn.com/abstract=2241452

G20. 2012.” Anti-Corruption Action Plan: Protection of Whistleblowers”. Study on Whistleblower Protection Frameworks, Compendium of Best Practices and Guiding Principles for Legislation.

Henning, P. 2012. “Be Careful What You Wish For: Thoughts on a Compliance Defense Under the Foreign Corrupt Practices Act”, *Law Faculty Research Publications*, Wayne State University.

Howse, R., Daniels, R. J. 1995. “Rewarding Whistleblowers: The Costs and Benefits of an Incentive-Based Compliance Strategy.” 525-549. Retrieved from: http://repository.upenn.edu/law_series/4

Jahmani, Y. Dowling, W. 2008. “The Impact of Sarbanes-Oxley Act”, *Journal of Business & Economic Research*, Vol 6, Number 10.

Lobel, O. 2012. “New Governance as Regulatory Governance”, *Legal Studies Research Paper Series,* University of San Diego School of Law.

Mesmer-Magnus, J., Viswesvaran, C. 2005. “Whistle-blowing in Organizations: An Examination of Correlates of Whistleblowing Intentions, Actions, and Retaliation.” *Journal of Business Ethics*, 62:277-297.

Metzger, R., Goldbaum, R. 1993. “Retroactivity of the 1986 Amendments to the False Claims Act”, *Public Contract Law Journal*, Vol.22, No.4, pp.684-705.

Nyreröd, T. Spagnolo, G. 2017b. “Whistleblower Rewards to fight corruption?” Free Policy Brief, FREE Network. Avaliable at: http://freepolicybriefs.org/2017/10/23/rewarding-whistleblowers-fight-corruption/

Nyreröd, T. Spagnolo, G. 2017b. “Whistleblower Rewards in the Fight against Corruption?” (in Portuguese), forthcoming in the book Corrupção e seus múltiplos enfoques jurídi

Pacella, J. 2015. “Bounties for bad behavior: rewarding culpable whistleblowers under the Dodd-Frank act and Internal Revenue Code”, *University of Pennsylvania Journal of Business Law*, Volume 17, 2015.

Petty, A. 2006. “*How* Qui Tam *Actions Could Fight Public Corruption”*, 39 *U. Mich. J.L. Reform* 851, 852.

Public Concern at Work, “Is the law protecting whistleblowers? A review of PIDA claims”, http://www.pcaw.org.uk/files/PIDA%20REPORT%20FINAL.pdf accessed 02/06/2016

Regulation (EU) No 596/2014 of the European Parliament and the Council of 16 April 2014. 2014. On market abuse (market abuse regulation). *Official Journal of the European Union*, L173/1.

Rose, A. 2014. “Better Bounty Hunting: How the SEC’s New Whistleblower Program Changes the Securities Fraud Class Action Debate”, *Northwestern University Law Review*, Vol.108, No. 4.

Rothschild, M. 1999. “Whistleblower Disclosures and Management Retaliation”, *Work and Occupations*, Vol. 26 No. 1, pp.120-21.

SEC Annual Report to Congress 2015. Available at: https://www.sec.gov/whistleblower/reportspubs/annual-reports/owb-annual-report-2015.pdf

Schmolke, K.U. and Utikal, V. Whistleblowing: Incentives and Situational Determinants. FAU - Discussion Papers in Economics, No. 09/2016. 2016. Available at SSRN: <https://ssrn.com/abstract=2820475> accessed 8/1/2017.

Spagnolo, Giancarlo. Divide et Impera: Optimal Leniency Programs. CEPR Discussion Papers 4840, 2004.

Stephan, A. 2014. "Is the Korean Innovation of Individual Informant Rewards a Viable Cartel Detection Tool?", Forthcoming Draft of Book Chapter in: T Cheng, B Ong, and S Marco Colino, Cartels in Asia (Kluwer 2014), CCP Working Paper 14-3.

U.S Chamber of Commerce, 2010. "Proposed Rules for Implementing the Whistleblower Provisions of Section 2W of the Securities Exchange Act of 1934, File Number S7-33- 10.", available at: http://www.centerforcapitalmarkets.com/wp-content/uploads/2010/04/CCMC-ILR-WB-Comment-Letter-12.17.2010.pdf

Vega, M. 2012. "Beyond Incentives: Making Corporate Whistleblowing Moral in the New Era of Dodd-Frank Act 'Bounty Hunting'", *Connecticut Law Review*, Vol. 45.

Vogel, R. 1992. "Eligibility Requirements for Relators under *Qui Tam* Provisions of the False Claims Act", *Public Contract Law Journal*, pp.593-619.

Webb, D., Molo, S. 1993 "Some Practical Considerations in Developing Effective Compliance Programs: A Framework for Meeting the Requirements of the Sentencing Guidelines", *Washington University Law Review*, Volume 71, Issue 2.

Calcot, P. 2010. "Mandated self-regulation: the danger of cosmetic compliance", *Journal of Regulatory Economics*, October 2010, Volume 38, Issue 2, pp.-167-179

Wils, W. 2013. "Antitrust compliance programmes and optimal antitrust enforcement", *Journal of Antitrust Enforcement*, Vol. 1, No.1, pp.52-81

Jaron H. Wilde. (2017). "The Deterrent Effect of Employee Whistleblowing on Firms' Financial Misreporting and Tax Aggressiveness", *The Accounting Review*, In-Press.

Call, Andrew C. and Martin, Gerald S. and Sharp, Nathan Y. and Wilde, Jaron H., Whistleblowers and Outcomes of Financial Misrepresentation Enforcement Actions (April 2017). Available at SSRN: https://ssrn.com/abstract=2506418 or http://dx.doi.org/10.2139/ssrn.2506418

Chassang, S. Miquel, G. Forthcoming. "Corruption, Intimidation, and Whistleblowing: A Theory of Inference from Unverifable Reports", Revise and Resubmit for *Review of Economic Studies*

Moberly, R. 2007. "Unfulfilled Expectations: An Empirical Analysis of Why Sarbanes-Oxley Whistleblowers Rarely Win", *William & Mary Law Review*, Vol 49, Issue 1.

Modesitt, N. 2013. "Why Whistleblowers Lose: An Empirical and Qualitative Analysis of State Court Cases", *University of Kansas Law Review*, Vol. 62, No.1, pp. 165-194.

Miller, Nathan, (2009), "Strategic Leniency and Cartel Enforcement", American Economic Review, 99(3), 750-768.

Stikeleather, B. 2016. "When do employers benefit from offering workers a financial reward for reporting internal misconduct? ", *Accounting, Organizations and Society*, Vol.52, pp.1-14.

Mechtenberg, L. Muehlheuseer, G. Roider, A. *forthcoming*, "Whistle-Blower Protection: Theory and Experimental Evidence".

Ventry, D. 2008. "Whistleblowers and Qui Tam for Tax", 61, *TAX LAW*, 357.

Wolfe, S. et al. 2014. "Whistleblower Protection Laws in G20 Countries, priorities for Action", Available at <http://schd.ws/hosted_files/16iacc/0b/IACC%20whistleblower%20improvements%209.3.15.pdf>

Wright, T. 2010. "The Stoke CNEP Saga – how it damaged all involved", *Journal of the Royal Society of Medicine*, 103, pp.277-282.

Bolsin, S. Pal, R. Wilmshurst, P. Pena, M. 2011. "Whistleblowing and patient safety: the patient´s or the profession´s interests at stake?" *Journal of the Royal Society of Medicine*, 104, pp.278-282.

Radu, P. 2016. “Follow the Money: A Digital Guide for Tracking Corruption”, International Center for Journalists, Romanian Centre for Investigative Journalism. Avaliable at: https://www.icfj.org/sites/default/files/Follow_Money.pdf

Johannesen, Niels and Stolper, Tim B.M., The Deterrence Effect of Whistleblowing – An Event Study of Leaked Customer Information from Banks in Tax Havens (May 29, 2017). Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2017-4. Available at SSRN: https://ssrn.com/abstract=2976321 or http://dx.doi.org/10.2139/ssrn.2976321

Perrotta Berlin, Maria & Spagnolo, Giancarlo & Qin, Bei, 2015. "Leniency, Asymmetric Punishment and Corruption: Evidence from China," SITE Working Paper Series 34, Stockholm Institute of Transition Economics, Stockholm School of Economics, revised 25 May 2017.