

# WHISTLEBLOWING ON TAX FRAUD - THE ROLE OF MONETARY INCENTIVES AND SOCIAL DISCRIMINATION

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## Abstract

Revenue from tax has become the greatest income for Indonesia government, yet taxpayer's compliance seems underperformed. The tax authority needs to find an alternative way to increase the revenue and suppress the tax fraud activities among payers. Rather than heavily depends on tax monitoring by fiscus, optimization of whistleblowing system is more effective to detect such acts. In this research, we try to investigate the separate and joint influence of monetary incentives and social discrimination towards whistleblowers on the level of tax fraud reporting intentions. An experiment to 48 participants concludes that monetary incentives make significant increases in reported fraud between tax regime without incentives to whistleblowing and tax regime with incentives. On the contrary, social discrimination in which participants received from other colleagues doesn't make many differences in fraud reporting. We also investigate and find that the level of tax evasion before and after the incentives policy applied is not different, and the level of reporting from the person that experience losses from the fraudulent accounting (caused by the act of tax evader), significantly higher than others that didn't suffer directly from it. Overall, the regression model built from both incentives and social discrimination variables doesn't explain the behavior of tax fraud reporting from whistleblowers.

**Keywords:** Tax Fraud, Whistleblowing, Monetary Incentives, Social Discrimination

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## INTRODUCTION

Tax is one of the most notorious and primary revenues of Indonesia government, as stated in Constitution of Republic of Indonesia article 23A. Samson (2002) said that the existence of tax administration is proof for the existence of civilization. But for Indonesia Directorate General of Taxation (DJP), efforts to obtain such large money seems so difficult and not so good up till now. During 2012 - 2017, DJP only achieve tax revenue targets around 80% - 94% each year, with an average of 87,64% (Annual Report DJP, 2012 - 2017). Tax ratio in Indonesia, following World Bank ([data.worldbank.org](http://data.worldbank.org), 29/02/2019) never exceeds 14% to GDP, whereas International Monetary Fund - IMF in Arnold (2012) stated that Indonesia's tax ratio in optimal condition should be around 20%.

Director of Information, Service, and Public Relations of DJP, Hestu Yoga Saksama ([liputan6.com](http://liputan6.com), 27/11/2017) said that low tax compliance among Indonesian taxpayer is the primary cause of tax revenue shortfall. In 2015, the Ministry of Finance in that time, Bambang Brodjonegoro ([liputan6.com](http://liputan6.com), 19/06/2015) said that in percentage, only 50% of taxpayers are categorized as complied. Only 28 million people (or 11,2%) have tax ID (NPWP) from 250 million Indonesian residences, 10 million taxpayers that submit tax reports (SPT), and only 900 thousand of them that pay tax appropriately.

Sustaining the high government spending levels typical of

most advanced economies requires high fiscal capacity, it thus depends on institutions to detect and punish tax non-compliance (Besley et al, 2014). While tax administrators are concerned about enforcement, they also tend to place a great deal of emphasis on improving "tax morale," by which they generally mean increasing voluntary compliance with tax laws and creating a social norm of compliance (Luttmerand Singhal, 2014). Because, tax non-compliance as fraud also depends on intrinsic motives that curb individual desires to cheat the government (Besley et al, 2014).

*Fraud* differs from thievery, the latter done by physically force someone to give you what you want, but the formerly used trick to get assets of the victim, whom in tax evasion perspective, is the state and the people (Albrecht et al, 2011). Tax evasion is the crime of not declaring income to a tax authority that has a right to know about it and the crime of claiming expenses for offset against a taxable income when knowing that those expenses should not be claimed for that purpose (Murphy, 2014). In almost every country and every tax administration, tax evasion happens. Data from 38 Organization for Economic Co-operation and Development - OECD countries, on average per year from 1999 to 2010, tax evasion lies at 3,2% of GDP (Buehn & Schneider, 2012). Murphy (2014) said that tax evasion in the UK causes UK £73.4 Billion losses in 2011/2012 and increases to UK £82,1 Billion in 2013.

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Much research had conducted to analyze this phenomenon since the first systematic and analytical theory of tax evasion constructed by Allingham and Sandmoin 1972 (Alm, 2012). Richardson (2006) said that from 45 countries, the largest determinant for someone to deliberately cheat on their tax report are non-economic factors, such as complexity of tax administration in said countries, low tax education, tax inequality, and low of tax morale. Other factors such as the size of shadow economy and the complexity of financial development are also positively correlated with the size of tax evasion (Blackburn et al, 2012). Since 1950, it is already known that the involvement of behavioristic factors, also influences the intrinsic motivation for someone to do the vile act in tax reporting (Pickhardt and Prinz, 2014).

In Indonesia, research uncovers that evaded income tax (PPH) is around 84%-94% of the total individual income tax, and 76%-93% from the total corporate income tax (Grunberg, 1998). There is only 53% of value-added tax (PPN) potential in 2013 realized in PPN revenue (Sugana and Hidayat, 2014). According to IMF (2011), annually, only 50-60% of PPN potential realized to revenue. Although, ethically, Indonesian citizen doesn't tolerate the act of tax evasion (McGee, 2006), however former Director-General of Tax, A. Fuad Rahmany, (*ortax.org*, 25/11/2013) stated that in practice, tax evasion is still blooming among taxpayer, and tax institution still can't take many actions against it. So, what is the solution to optimize detection and reduce tax evasion?

Tax reform (Gillis, 1985), optimal use of business activities, and enhancing the perception of tax equality among payers (Stankevicius and Leonas, 2015) has and should be able to reduce evasion and increase tax revenue and compliance. In addition, there is a solution that doesn't get proper attention. Whistleblowing, a term that popular since the 1970's, and foreknown in the 18<sup>th</sup> century, when False *Claims Act* enacted by US Congress (*whistleblowersinternational.com*, no date). Since 1990, there is more and more law jurisdictions applying the system into practice (Latimer and Brown, 2008).

Based on document by *Association of Certified Fraud Examiner* - ACFE (2018a), whistleblowing ortip is the most effective and well-known method to detect fraud, where more than 40% of fraud detection resulted from this method, much more than internal audit (17%), management review (13%), and others (30%). Whistleblowing system will make an effective and optimal instrument for tax fraud detection if the system is good enough. So, what kind of whistleblowing system that we should assemble? Feldman and Lobel found that regulation of the whistleblowing system should consist 4 factors, that is Protect - Command - Fine - Pay. "Protect" refers to a set of regulation to protect the whistleblower from treatments, "Command" is the strategies in which regulation make the act of whistleblowing compulsory, or at least advised. "Fine" refers to a sum of punishment when the whistleblower doesn't inform (for compulsory whistleblowing) or intentionally declare false information, and "Pay" will be given to whistleblower in accordance of their willingness to inform and assist the investigation of the fraud. The "Pay" strategies in tax whistleblowing are already applied in countries such as Canada (*cra-arc.gc.ca*, 27/03/2018), UK (*telegraph.co.uk*, 31/07/2012), and the US since 2007 (IRS, 2018). In other words, monetary incentive schemes in tax reporting fraud are widely applied in many countries (Blount and

Markel, 2012).

### LITERATURE REVIEW

The effect of monetary incentives towards tax reporting fraud is already investigated by many academicians, although not all of the research is shown here. Breuer (2013) experiment with 186 subjects and find that when small and large monetary incentives for whistleblowing are introduced, subjects decide significantly more often to blow the whistle on tax evaders. In addition, when taxpayers face a whistleblowing mechanism with large monetary incentives for whistleblowing, subjects declare a significantly larger share of their income compared to no incentives and small incentives tax regime, in which indicate that tax compliance increased. These findings are reinforced by Schmolke and Utikal (2016), by an experimental study that involved 505 participants, both find that financial rewards for whistleblower and sanction applied to subjects that conceal information regarding fraud, increase the number of subjects that blow the whistle. They added that subject that suffers direct losses from fraud by other subjects significantly tends to make more fraud report than others that don't directly suffer. Givati (2016) said that rewards given to whistleblowers makes better outcome in fraud detection than investigation conducted police and investigators if the risk of false information is minimal.

Not all of the researchers agreed with those conclusions. Berger et al (2017) said that in a specific context, incentive programs oppositely make the level of tax reporting fraud declined. The effectiveness of monetary incentives in whistleblowing general (Miceli et al, 2009), as well as tax whistleblowing in specific terms (Yaniv, 2001 in Farrar et al, 2018), on such complex level that we do not understand fully, particularly when it combined with intrinsic motivational factors (Farrar et al, 2018) or social factors such as social discrimination.

### Fraud

According to ACFE in Septarini (2014), fraud is "An intentional untruth or a dishonest scheme used to take deliberate and unfair advantage of another person or group of persons. It includes any means, such as surprise, trickery, or cunning, by which one cheats another". *Webster's New World Dictionary* in Albrecht et al (2011) defined *fraud* as "A generic term and embraces all the multifarious means which human ingenuity can devise, which are resorted to by one individual, to get an advantage over another by false representations. No definite and invariable rule can be laid down as a general proposition in defining fraud, as it includes surprise, trickery, cunning and unfair ways by which another is cheated. The only boundaries defining it are those which limit human knavery."

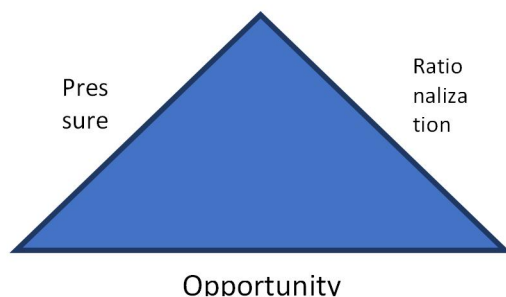
Fraud types fall into 2 categories, namely fraud against organization and fraud in the name of organization (Albrecht et al, 2011). ACFE divides fraud into 3 types, which are: (1) asset misappropriation (2) corruption, or abuse of authority for self-interest (3) fraudulent statement. Tax fraud usually falls in fraud against organization (in this case, the organization is the state), and also can be counted as a fraudulent statement.

Anyone can be fraud perpetrators (Albrecht et al, 2011), who generally can't be easily identified by demographic or psychologic characteristics only. Many of fraud actors looks honest and have low profile personality (Greenlee et al, 2007). The motivation of fraud can be pictured in 3

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key elements: (1) pressure, (2) opportunity, (3) rationalization. These 3 elements are known as the *Fraud Triangle* (Cressey, 1950 in Albrecht et al, 2011).

**Figure 1.** Fraud Triangle  
Source: Cressey, 1950 in Albrecht et al, 2011



### Tax Evasion

Tax evasion is an unlawful practice that has the effect of reducing the government revenues needed for the provision of infrastructures, public services, and public utilities (Otusanya, 2011). Tax evasion happens when a taxpayer does not declare income to a tax authority that has a right to know about it and the crime of claiming expenses for offset against a taxable income when knowing that those expenses should not be claimed for that purpose. (Murphy, 2014). In other definition, tax evasion is an effort to evade tax liabilities which is done by the taxpayer to decrease or wipe off tax debt, where the act contradicts the tax regulations and if known by fiscus, the taxpayer can be sanctioned (Setiawan, 2008). Academician usually distinguishes between tax evasion and tax avoidance. In accordance to it, Holmes (in Slemrod and Yitzhaki, 2002) stated that "when the law draws a line, a case is on one side of it or the other, and if on the safe side is none the worse legally that a party has availed himself to the full of what the law permits. When an act is condemned as evasion, what is meant is that it is on the wrong side of the line." Tax evasion is closer to a criminal act, where there is a/some regulation(s) being violated, while tax avoidance covers broader aspects, including mistakes by accident (despite against regulations). Both have a harmful effect to state finance (Cobham, 2005). Despite that, in practice, there is always some grey area between them that makes the distinction more complicated (Slemrod and Yitzhaki, 2002).

Much research had conducted regarding tax evasion and its crucial factors. Becker (1968) had a notion that tax evasion influenced by the probability of tax audit detection and level of punishment. In the economic self-interest model by Allingham and Sandmo (1972), the behavior of tax evasion motivates by factors such as tax rate, unemployment rate, income per capita, and dissatisfaction to government regime (Cebula and Feige, 2012). The probability of tax evasion will also be significantly increased in high-income citizens with an annual income at least 10 times more than average income per capita (Alstadsæter et al, 2017).

Economic self-interest model describes taxpayers as a party who always want to maximize their economic benefit. The choices furthermore divide between comply with tax regulations (with economic loss in tax paid), or evade the liabilities, in regards that there is a chance for more additional economic benefit from the unpaid tax, although it also increases the risk of tax audit (Wenzel, 2002). Form of act such as doesn't submit annual tax

report, submit but doesn't fill the information required honestly, fabricated false accounting/record-keeping, doesn't pay or collect tax, doesn't register to get tax ID, and bribe or another intimidation act towards fiscus, generally can be called tax evasion (Zain, 2008 in Kiswanto, 2014).

### Whistleblowing

Despite no agreed definition among researchers, whistleblowing can be viewed as a deliberate process to reveal information regarding illegal, immoral, or unrighteous activities, by member or ex-member of organization, which because of that information, organization or another entity can take actions (Near and Miceli, 1985). JubbinVandekerckhove (2006), define whistleblowing involves 6 key elements, which is: action, outcome, actor, subject, target, and recipient. The full definition as shown below:

*"Whistleblowing is a deliberate non-obligatory act of disclosure, which gets onto public record and is made by a person who has or had privileged access to data or information of an organization, about non-trivial illegality or other wrongdoing whether actual, suspected or anticipated which implicates and is under the control of that organization, to an external entity having potential to rectify the wrongdoing."*

Whereas whistleblower refer to term for someone who reveal the information regarding illegal, immoral, or unrighteous activities to stop the act, but doesn't have the power and authority to do so, so that he/she make tip regarding the information to someone or institution that have authorities to do so (Vandekerckhove, 2006). That information can be classified into some categories, such as violation of organization & state rules, threats to organization or public interest, and corruption (Near and Miceli, 1985). A good whistleblower, in the essence, is someone that believes that the truth must prevail against any sort of power abuse (Martin, 2003).

In tax perspective, whistleblowing refers to any measure to report tax fraud to the tax authority, and whistleblower is taxpayer or citizen that do the tip, and do not have to be the member or ex-member of the reported party (Farrar et al, 2018). DJP itself already provided a regulation for tip information analysis by PER-18/PJ/2014. In that regulation, information by whistleblowing regarding tax violations can be given by any party to DJP, and DJP can do the follow-up and measures base on that information.

Some research investigates factors that cause why someone wants to blow the whistle, regardless that the act of whistleblowing itself raises debate among researcher. Whistleblowing considered as a form of social ethics, a proof that people must and tends to protect public interest from fraud by individual or organizations (Delmas, 2015). In another side, some people see whistleblowing as a form of unethical behavior, because whistleblowing violates the foundation of privacy, especially for business and industry that have sensitive information's around it (Firtkoand Jackson, 2005).

Whistleblower often confronted with a dilemma, that he/she has to choose between loyalty to his/her social circle where the fraudulent act happens, or to prevail the justice norm (Bok, 1983; Hersh, 2002 in Breuer, 2013). Legislation of law protection to whistleblowers is a must, but the government must assure that the implementation is not diverted from it. Eventhough, that is not ensuring the safety of whistleblowers from the act of revenge or

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other jurisdiction problems (Delmas, 2015).

Social acceptance of the whistleblowing system has to pay attention to several important factors. First, not all legal aspects are supported along with social norms, and the level of social norms in society varies depending on culture, demographics, and so on. In general, the weaker social norms in society, the stronger the level of rejection of the whistleblowing system. Second, whistleblowing almost always results in a breakdown of social relations or loyalty between two parties (whistleblowers and those who are reported), but the strength of this relationship can vary (for example, only close friends or relatives, etc.). The stronger social expectations that a social relationship is not damaged, the greater the rejection of the whistleblowing system (Koch, 2007 in Breuer, 2013).

### Social Discrimination

In social psychology research, social discrimination is often interpreted as an act of favoritism, that is, preferring one individual or group compared to another individual or group (Mummendey and Wenzel, 1999). Allport et al (1954) define social discrimination as an act of rejection of equal treatment expected by individuals or groups. The categorization of individuals is considered sufficient as a form of favoritism that leads to social discrimination (Mummendey and Otten, 1998). Several studies were conducted to see the impact of social discrimination on a person's behavior. There is a strong relationship between one's creativity and social relationships that he/she has (Perry-Smith, 2006).

Individuals who want to increase their creativity, need to maintain social relations that are few but useful, compared to strong social relationships that make negative psychological influences on him.

Discrimination in the workplace has been shown to affect job satisfaction, organizational commitment, community behavior, and complaining habits (Ensher et al, 2001; Sanchez and Brock, 1996; Redman et al, 2006). This is an indication that discrimination can negatively affect one's work and social function, which causes him to be unable to earn income and contribute to society optimally. Regarding social discrimination over whistleblowing of financial crimes, Butler et al (2017) through a survey of 471 participants, found that only 4% of respondents disagreed with whistleblowing about an embezzlement case. This proves that most of the people around the whistleblowers tend to agree and support a whistleblowing regarding financial crimes, including the crime of tax evasion. However, it cannot be denied that there are still people who do not like the whistleblowers and have the potential to take discriminatory actions.

### METHODOLOGY

This study uses quantitative - experimental methods, namely fully crossed experiment design with factorial 2 (monetary incentives: existing and nonexisting) x 2 (social discrimination: existing and non-existent), pretest-posttest design, and regression models. The type of data from an experimental study is primary data from experimental participants.

**Table 1.** Interaction Model of Variables

Discrimination		Incentives	
		Not exists	Exist
	Not exists	Type 1	Type 2
	Exist	Type 3	Type 4

Source: Data Processing

There are 2 independent variables and 1 dependent variable in this study. The monetary incentive variable as an independent variable is defined as awarding money in the form of whistleblowing made by the community. This variable is operated in an experiment in the form of giving points to participants who report tax fraud. The second independent variable is social discrimination, which is defined as unfair or unbalanced attitudes, behaviors and actions carried out by individuals or groups towards other individuals or groups, so that the

social functions of victims of discrimination are disrupted, such as employment in search of income. The variable of social discrimination is proxied by the reduction of points by other participants besides the whistleblowers. The dependent variable in this study is the level of whistleblowing on tax evasion, which is whistleblowing over attempts to deliberately oppose tax laws and generate profits in the form of reduced reported income values and an increase in the amount of income or economic wealth that can be consumed.

**Table 2.** Rules of Each Experiment Types

Type	Name	Rules
Type 1	No Incentives	Tax fraud reporter does not get any reward.
Type 2	Incentives	Tax fraud reporter does not get any reward 15 points.
Type 3	Discrimination	Same with type 1 (without reward), however, if the subject blows the whistle, the whistleblower's name will be passed to all participants of the experiment, and each participant may provide social discrimination resulting in a reduction of the whistleblower's point between 0 sd. 5 points from each other participant (other than the whistleblower), and then aggregated. (Note: discrimination resulted in a reduction in the social function of the whistleblower, see Ensher et al, 2001; Sanchez & Brock, 1996; Redman et al., 2006).
Type 4	Incentives & Discrimination	Both rule types 2 and 3 combined and applied.

Source: Data Processing

The sample target (the subject of experiments) as a minimum of 48 students and selected by purposive sampling method. The target number of participants was

based on Roscoe (1975) in Sekaran and Bougie (2016), where for simple experimental research with rigorous experimental control, it only needed a sample of 10 to 20 respondents. Because there are 4 types of experiments, each type of experiment contains 12 respondents.

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The experimental participants targeted to be selected were students majoring in Accounting, Tax, Customs, Financial Management, Economics, Banking, or Management. Students who do entrepreneurship or have more entrepreneurial experience are preferred to participate in the experiment. This selection is based on the assumption that these majors have a good understanding of taxes and monetary transactions, and that the attitude patterns that emerge in the experiment are consistent with the pattern of homo economicus attitudes (Becker (1968) in Schmolke and Utikal (2016)), namely someone who is rational-minded and self-interested, and makes decisions wisely and optimally in viewing taxation and imposition.

Another reason is that experimental research is intended to test a theory/event, is it in line with certain causes/results (Creswell, 2014), not to explore or define an event (Sekaran and Bougie, 2016), so that it does not require research objects with high heterogeneity. Schmolke and Utikal (2016) state that the conduct of experiments involving students as potential whistleblowers in the future can pave the way for further research in the future. Students in the future will become employees and entrepreneurs and will come in direct contact with the deviant behavior tested in this experiment.

This study uses experiments in the form of simulations, with room facilities with enough space for 5 people and with good

air circulation. The experimental design used, based on Schmolke and Utikal (2016) and Breuer (2013) with sufficient adjustments. The experiment was conducted on

**Table 4.** Scheme 1 and 2 of Each Role

	PT. Joni		PT. Putri		PT. Riko		PT. Syaiful	
	Scheme 1	Scheme 2	Scheme 1	Scheme 2	Scheme 1	Scheme 2	Scheme 1	Scheme 2
Sales	230	230	250	250	320	320	220	220
Expenses	-90	-150	-90	-90	-140	-100	-80	-80
Gross Profit (EBT)	140	80	160	160	180	220	140	140
Tax (25%)	-35	-20	-40	-40	-45	-55	-35	-35
Earnings After Tax	105	60	120	120	135	165	105	105
Δ Economic benefit		120		120		125		105

Source: Data Processing

In scheme 1, all participants earn annual income as shown in table 4, then if the practice of tax evasion is carried out by Joni, the allocation of annual income becomes changed to Scheme 2. With the accounting fraud committed by Joni, there was an increase in economic benefits for Joni in Scheme 2, from 105 to 120, while the decline in economic benefits was experienced by Riko, from 135 to 125. Putri and Syaiful did not experience changes in income received due to the scheme and remain at levels 120 and 105.

### Steps of The Experiments

The experiment began with an explanation regarding the rules of the experiment, as well as filling out the control questions and evaluating the answers to the control questions, to ensure that all participants understood the rules of the experiment. The first session of the experiment began with the No

Incentives rule, i.e. there were no monetary incentives or social discrimination received by participants. After the experiment starts, each participant asked to decide within 10 seconds for each round. In each round, they

1 group of participants consisting of 4 people. Each experiment was divided into 2 implementation sessions where each implementation session consisted of 4 rounds (8 rounds in total), where each implementation session had different experimental rules. 4 people roles as shown in table 3. 4 of these roles are 4 different taxpayers who have an affiliate relationship (have businesses that work together in one group). Each participant assigned to be one of these roles, and switched to other roles along with the turn.

**Table 3.** Roles Description

Roles name	Description
Joni	taxpayer, potential as a tax evader
Putri	taxpayer, potential as a whistleblower
Riko	taxpayer, potential as a whistleblower
Syaiful	taxpayer, potential as a whistleblower

Source: Data Processing

A tax evasion usually provides benefits to the perpetrator in the form of an increase in economic benefits that he/she can enjoy, for example by not reporting the full amount of income, the actor can reduce the amount of income tax to be paid, so said amount of income will be available for consumption (Schmolke and Utikal, 2016). The accounting fraud that can be taken by Joni as a potential perpetrator of tax evasion is by deducting some expenses that should not be deducted from calculation of income before tax because it is not related to the business of the Joni company, where the mechanism is reflected in the experiment as a change from Scheme 1 to Scheme 2 below.

play one of the four roles. The participant who becomes Joni is asked to choose between Scheme 1 or Scheme 2. Consequently, if he chooses Scheme 1, he will not get an additional economic benefit (in points) of 15 points. If he chooses Scheme 2 (i.e. doing tax evasion), the economic benefits received will increase to 120 points, but it will be risky if a tax audit is carried out and penalties for paying unpaid tax principal + sanctions of 45 points, calculated from the principal underpayment 15 points + 200% sanction as stated in article 38 of General Requirements and Taxation Procedures Act (*UU No. 16 Tahun 2009*).

Then, in the same round, other roles namely Putri, Riko, and Syaiful were allowed to choose whether or not to blow the whistle about Joni to the tax institution. The three roles are asked to assume that Joni has committed tax evasion on the rounds played, regardless of how Joni's decision was. To provide a psychological model and costs arising from whistleblowing (e.g. the cost of preparing whistleblowing evidence, administrative costs, etc.), each report is charged a fee of 2 points. Then, to avoid the bystander effect (Schmolke and Utikal, 2016) from 3 potential whistleblowers, in each round randomly chosen 1 role out of the 3 roles whose actions will be applied in the round in question. Joni will be sanctioned if the role

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chosen in said round blows the whistle. Recapitulation of actions and consequences of actions for each role are

presented in table 5.

**Table 5.** Compilation of Actions and Consequences for Each Role

Joni's act	Putri/Riko/Syaiful's act	Applied Scheme	Point Decreased for Tax Evader	Point Decreased for Whistleblower
No evade	Not reporting Joni	Scheme 1	-	-
No evade	Reporting Joni	Scheme 1	-	2 points
Evade tax	Not reporting Joni	Scheme 2	-	-
Evade tax	Reporting Joni	Scheme 2	45 points*	2 points

Source: Data Processing

The scheme above keeps repeating for 4 rounds in Session 1, and for those 4 rounds, participants played different roles. In Session 2, manipulation/treatment began, which differed in each type of experiment as explained below. During the experiment, we avoid non-neutral suggestions and expressions that lead participants to choose a certain decision for the experiment. Responses from participants collected through an experimental paper. After the experiment was completed, participants were given a questionnaire regarding the participants' demographics. The experimental paper is then collected back to the researcher to be recapitulated as experimental data.

### HYPOTHESES AND HYPOTHESES TESTING

Based on previous research and literature studied, we build hypotheses for this study as shown below:

- Ha1 = The number of reports on tax evasion cases is not the same between when whistleblowers are given monetary incentives compared to not being given monetary incentives.
- Ha2 = The number of reports about tax evasion cases is not the same between when whistleblowers are socially discriminated against compared to not being socially discriminated against.
- Ha3 = The amount of tax evasion before the incentive scheme is applied, higher than after the incentive scheme is applied.
- Ha4 = The number of whistleblowing made by parties who are directly harmed by the practice of tax evasion is higher than the number of whistleblowing made by parties that not directly harmed by the practice of tax evasion.
- Ha5 = Monetary incentives and social discrimination affect the level of tax evasion whistleblowing.

This study is a non-parametric study, so it does not use the assumption of data distribution, but rather the data distribution is continuous (Kraska-Miller, 2013). The types of tests to be carried out are as follows:

- Homogeneity test with Levene test Levene test is one of the testing techniques used to assess the homogeneity/similarity of variance from data. Levene test uses absolute deviation from observation in each treatment (Montgomery, 2001; Oehlert, 2010). Homogeneity test is needed as a condition to test alternative hypotheses 1 and 2 with the Mann-Whitney U test.
- Hypothesis tests 1 and 2 with the Mann-Whitney U test  
The Mann-Whitney U test is a nonparametric testing technique that evaluates whether two samples took from two different populations with the same mean (Kraska-Miller, 2013). The reason for using the Mann-Whitney U test is to apply a cross-test pattern between samples, where later the pretest from sample one will be juxtaposed with the posttest from

another sample. Besides, the Mann-Whitney U test was considered better because this test not only assessed the relationship of a median score, but the ranking of the values of each data observation was also calculated (Kraska-Miller, 2013). The Mann-Whitney U test has also been used by Breuer (2013) where the research conducted is the only study related to the effect of monetary incentives on whistleblowing of tax evasion with empirical methods in the form of experiments (Farrar et al, 2018).

- Hypothesis test 3 with Fisher Test  
Fisher test is used to determine the relationship of 2 nominal scale variables (Sekaran and Bougie, 2016). The Fisher test aim to evaluate the differences between two dichotomous variables, where the responses of two independent groups will be divided into a category exclusively (Kraska-Miller, 2013). Fisher's test is usually used in hypothesis testing for 2 x 2 variable interaction tables.
- Hypothesis test 4 with paired T-test  
Paired T-tests are conducted to examine differences in results in one group before and after the effect/treatment is given (Sekaran and Bougie, 2016). The influence given was in the form of direct losses received by Riko's role due to tax evasion carried out by Joni's Role, while Putri and Syaiful's role did not suffer losses (did not receive influence/treatment).
- Hypothesis test 5 by compiling an interaction model between variables through logistic regression  
Logistic regression aims to find the most appropriate and most efficient model and can be interpreted clinically to describe the relationship between the dependent variable and the independent variable (Hosmer, 2013). The difference between logistic regression and linear regression is in logistic regression, the value of the independent variable is dichotomous or binary (Hosmer, 2013), so this regression technique is more appropriate to use in research.

### FINDING AND DISCUSSION

#### Levene Test

Levene test results for data to be used in testing hypothesis 1 (pretest data type Discrimination - posttest data type Incentives) shows Sig. p-value in the pretest data group was  $0.646 > \alpha 0.05$ , indicating that each data group came from a population with the same variance. Likewise, with the posttest data group where the value of Sig. p-value of  $0.317 > \alpha 0.05$ . Both pretest and posttest for hypothesis 1 data were concluded to be homogeneous. Then, the results of the Levene test data that will be used in testing the hypothesis 2 (data pretest type Incentives - data posttest type Discrimination) shows the value of Sig. p-value in the pretest data group was  $0.646 > \alpha 0.05$ , indicating that each data group came from a population with the same variance. Likewise, with the posttest data group where the value of Sig. p-value of  $1,000 > \alpha 0.05$ .

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Both pretest and posttest for hypothesis 2 data were concluded to be homogeneous. Thus, two sets of data to be tested for hypotheses using the Mann-Whitney U test have proven to be homogeneous in their variance and feasible to test hypotheses.

### Test for Hypothesis 1

For the amount of data tested on the testing of hypothesis 1 as many as 72 rows data, contains data on the behavior of experimental subjects, with 36 rows data for each group (pretest and posttest). The 36 rows of data came from 12 experimental subjects, who played 3 times the role of the potential whistleblower of tax fraud (ie the role of Putri, Riko, and Syaiful). The mean or average of whistleblowing made is 0.58 (the value of the behavior is 1 for blow the whistle, and 0 for not blow the whistle), meaning that out of a total of 72 subject behavior data, 58% of them, the subject blows the whistle. Sig value. for 2 tailed tests is 0.018 ( $< \alpha 0.05$ ), which proved that the average value of whistleblowing from pretest / Session 1 where the influence of monetary incentives has not been given, with Session 2 where incentives began to take effect, differed significantly. From these differences, it can be concluded that the provision of monetary incentives to whistleblower influences the level of whistleblowing on tax evasion. So, from the test results, Ha1 is accepted and H0 is rejected.

The results of this test are in line with the conclusions obtained by Breuer (2013) where the application of rewards in the form of money to whistleblower has a significant impact on the increase in the frequency of whistleblowing. The greater the number of prizes given, the higher the number of whistleblowing. Schmolke and Utikal (2016) also found that giving rewards in the form of money to whistleblower significantly increased the desire for prospective whistleblowing about the crime. Farrat et al (2018) also found that promised respondents received monetary incentives when filing reports to tax institutions, tending to make reports more than without incentives.

### Test for Hypothesis 2

As explained by Fehr and Schmidt in Schmolke and Utikal (2016), that everyone has certain standard preferences, which means that they do not like to be treated unfairly. The influence of social discrimination, or in a broader perspective, is the mutual influence of intrinsic and extrinsic motivation on whistleblowing of tax evasion, which has not been tested empirically by other studies. Only in 2018, Farrar et al (2018) included an independent variable in the form of revenge motivation as one of the factors that needed to be tested for its influence on someone's motivation to blow the whistle about peer tax evasion.

However, following the findings of Laursen et al (1982), close peers such as business partners, friends, relatives and such, who have close relationships, are more careful in avoiding conflict and maintaining relations with their peers. When a conflict occurs, for example, if there is a threat in the form of discrimination from the peer, someone will tend to refrain from actions that harm him and his relationship with the close peer he has. The logical implication of this term is that people who are discriminated against will try as hard as possible to avoid the cause of the discrimination they receive, or in other words, social discrimination decreases the utility or motivation of someone to reports. Therefore, logically,

social discrimination should be able to have a negative influence on the frequency of whistleblowing.

For the amount of data tested on the testing of hypothesis 2 as many as 72 rows data, it contains data on the behavior of experimental subjects, with 36 rows data for each group (pretest and posttest). The 36 rows of data came from 12 experimental subjects, who played 3 times the role of the potential whistleblower of tax fraud (ie the role of Putri, Riko, and Syaiful). The mean or average of whistleblowing made is 0.61 (the value of the behavior is 1 for blow the whistle, and 0 for not blow the whistle), meaning that out of a total of 72 subject behavior data, 61% of them, the subject blows the whistle.

Sig. value of 2 tailed tests was 0.337 ( $> \alpha 0.05$ ), which proved that the average value of reports from Session 1 where the effect of social discrimination has not been given, with Session 2 where discrimination began to take effect, did not differ significantly. So, it was concluded that the existence of social discrimination carried out by the peer did not affect the level of reports on tax evasion. So, from the test results, Ha2 is rejected and H0 is accepted.

Although these results contradict the results in Laursen et al (1982), these results can still be explained by findings from Aldinger (2014), Blount and Markel (2012), and Gundlach et al (2003) in Farrar et al (2018), where a person's decision to reports about the existence of a tax evasion is fairly complex and difficult to guess, because it involves intrinsic and extrinsic motivations that influence simultaneously and are at different levels for each person. Because of this complexity, the level of reports after the experimental subjects were given discrimination increased, and did not decrease. Perhaps because, the discrimination motivates subject to uphold ethics to prevail justice properly, or to simply fight against the discrimination he receives, which may be similar to the motivation for revenge as investigated by Farrar et al (2018).

Koch in Breuer (2013) also explained that social acceptance of the whistleblowing system seems to have to pay attention to several important factors. First, not all legal aspects are supported along with social aspects, and the level of social norms in society varies depending on culture, demographics, and so on. In general, the weaker social norms in society, the stronger the level of rejection of the whistleblowing system. Second, whistleblowing almost always results in a breakdown of social relations or loyalty between two parties (whistleblowers and those who are reported), but the strength of this relationship can vary (for example, only close friends or relatives, and for example). The stronger the social expectation that a social relationship is not damaged, the greater the rejection of the whistleblowing system.

### Test for Hypothesis 3

Breuer (2013) found in his research that experimental subjects tended to be "braver" to do tax evasion when there was no reward in the form of monetary incentives provided for whistleblowers of tax evasion. Monetary incentives in high numbers can provide a good crowding-in effect on the level of whistleblowing, so that potential subjects as tax evaders report greater amounts of income compared to when monetary incentives are not applied or only applied in small amounts. The tendency of someone to react to be more obedient in their tax reporting when the risk of a higher level of whistleblowing is applied needs to be proven in this

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study. Testing the hypothesis using the 1-sided p-value Fisher test, with the test output as follows. The test results show a p-value of 0.2 ( $> 0.05 \alpha$ ), so it can be concluded that  $H_{a3}$  is rejected and  $H_0$  is accepted. In short, this is not in line with the results of Breuer's research (2013). However, it should be understood that the amount of incentives given plays an important role in determining the tendency of tax evasion. Feldman and Lobel (2009) state that the number of incentives is relatively small, does not have a significant impact on the level of whistleblowing, even causing crowding-out effects, where the number of whistleblowing decreases. Breuer (2013) also proves that even though the subject of the tax evasion does not anticipate the existence of crowding-out effects, they are still convinced that giving a small incentive value does not have a significant impact on the whistleblowers.

For this exact reason, it is necessary to prove whether the value of incentives applied in this study is relatively small or not. As seen in Table 6, it can be seen that in Breuer's large reward scheme (2013), the percentage of incentives given to subject income is 15.95%, which is greater than this study (12,5%). Thus, the conclusion that the amount of tax evasion before the incentive scheme is applied, is not higher than after the incentive scheme is applied, can still be explained because of the difference in the value of monetary incentives compared to Breuer (2013).

**Table 6.** Comparison of Incentives between Breuer (2013) and This Research

	Breuer (2013)	This Research
Incentives	12,000	15
Income	75,250	120
% Incentives	15,95%	12,5%

Source: Breuer (2013) and Data Processing

### Test for Hypothesis 4

Fehr and Schmidt in Schmolke and Utikal (2016) assume that everyone has certain standard preferences, which means that they do not like to be treated unfairly, especially if the unfair treatment they receive is negative inequality  $>$  positive inequality aversion;  $\alpha > \beta$ ). In this experiment, it can be interpreted that Riko's role would be to see an injustice caused by Joni's tax evasion behavior. Look at the income scheme before and after the tax evasion was carried out in the experiment (see Table 4). It appears that only Riko's role has decreased the economic benefits due to tax evasion carried out by Joni's role. This was due to the transfer of costs carried out by Joni, from the costs that should have been charged to Riko's company to the bookkeeping of Joni's company. In Riko's perspective, the only way to repay Joni's actions is to reports Joni to the tax institution, so that Joni is subjected to taxation sanctions.

Although the consequences of Riko's reports did not directly benefit him, the difference between his income and Joni's income dropped. From this fact, the reason for prospective whistleblowers to report about tax evasion increases, and also increases their desire to blow the whistle. From the explanation above, it is predicted that Riko's role will blow the whistle more compared to other roles. Because Riko's role has more utility/reason to blow the whistle compared to other roles whose income is not affected by the actions taken by Joni's role. Based on the test results, the Sig. (2-tailed) in both comparisons (Riko with Syaiful and Riko with Putri), shows the number 0.00

( $< \alpha 0.05$ ), which means that the difference in the average number of reports between Riko's role and other roles is significantly different.  $H_0$  is rejected and  $H_{a4}$  is accepted.

### Test for Hypothesis 5

After testing hypotheses 1 through 4, then a regression model needs to be developed that explains the prediction model between variables, so that the extent of the influence of independent variables on the dependent variable can be known, or in other words how much influence the two independent variables have in an influence framework which is intact towards the dependent variable.

The data used in regression testing are all the main data from the experimental results, namely types of No Incentives, Incentives, Discrimination, and Incentives-Discrimination. The test in logistic regression uses Chi-Square value from the difference between -2 Log-Likelihood before the independent variable enters the model and -2 Log-Likelihood after the independent variable enters the model. This test is also called the maximum likelihood test.

Logistic regression testing is carried out in 2 stages: block 0 and block 1. Block 0 is the stage where the independent variables are not included in the model. In the model in block 0 and on the third repetition, where the amount of data is 288 data, the Log-Likelihood value of -2 is 376.74, and the constant-coefficient is 0.571. To find out whether the regression model built on block 0 is fit or not, the test hypothesis is presented as follows.

$H_0 =$  The regression model in block 0 is fit with data

$H_1 =$  The regression model in block 0 is not fit with the data

The value of -2 Log-Likelihood then we compare it with the value of the chi-square table in the degrees of freedom 287 (288 - 1) and  $\alpha 0.05$  is equal to 327.51. The value of -2 Log-Likelihood is greater than chi-square value (376.74  $>$  327.51), which means that  $H_0$  is rejected and  $H_1$  is accepted. In conclusion, in block 0, the regression model between variables is said to be not fit with the data.

Then, we enter the second stage where the model calculation is done in block 1, which is when the independent variable is entered into the model. In the model in block 1 and on the third repetition, where the data amounted to 288 data, the Log-Likelihood value of -2 was 375.38, and the incentive constant-coefficient was 0.309 and discrimination was 0.061.

To find out whether the regression model built in block 1 is fit or not, we make the hypothesis as follows.

$H_0 =$  The regression model in block 1 is fit with the data

$H_1 =$  The regression model in block 1 is not fit with the data

The value of -2 Log-Likelihood is then compared with the value of the chi-square table to the degrees of freedom 285 (288 - 2 (number of independent variables) - 1) and  $\alpha 0.05$  is 325.37. Value of -2 Log-Likelihood is greater than chi-square value (375.38  $>$  325.37), which means that  $H_0$  is rejected and  $H_1$  is accepted. In conclusion, in block 1, even though independent variables have been included, the regression model between variables is said to be not fit with the data.

From this logistic regression test, it can be seen that the interaction model between independent variables in the form of monetary incentives and social discrimination proved to be inadequate and inefficient in explaining the



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dependent variable in the form of the level of whistleblowing on tax evasion cases. So it can be concluded that  $H_{a5}$  is rejected and  $H_0$  is accepted. These results are not in line with the findings of Breuer (2013), which by using Tobit regression, the provision of monetary incentives can effectively increase the number of whistleblowing.

The result of hypothesis 5 can be explained for the following reasons. First, there are differences in hypothesis testing methods between this study and Breuer (2013). Breuer (2013) chose Tobit regression as a hypothesis testing tool, although Tobit regression is a linear regression that is not suitable for use in dichotomous data as produced in research like this. The difference between logistic regression and linear regression is in logistic regression, the values of independent variables are dichotomous or binary (Hosmer, 2013), while linear regression, data must meet normal distribution requirements and tests such as normality, multicollinearity, heteroscedasticity, and autocorrelation. Second, there are differences in the amount of reward given in the experiment. The sum of reward given in a lower than expected limit can lead to crowding-out effects, which minimize a person's intrinsic motivation to blow the whistles (Feldman and Lobel, 2009). The explanation regarding the difference in the amount of reward given in this study by Breuer (2013) has been explained in the testing section of hypothesis 3.

### CONCLUSION

This study has analyzed through a psychological experiment, how the level of whistleblowing on tax evasion changed after the "pay" strategy was implemented, that is when monetary incentives were given to whistleblowers, and when the "protect" strategy was abolished, that is when discrimination was received by the whistleblower. The following are conclusions obtained from the study. There are significant differences in the number of whistleblowing of tax evasion between the time when the rewards of monetary incentives are applied and not applied, but there are no significant differences in the number of whistleblowing for social discrimination treatments. The amount of tax evasion before an incentive scheme for whistleblowers is applied, no higher than after the incentive scheme is implemented. Thus, the application of regulations to provide rewards for whistleblowers of tax evasion cases (if the case of tax evasion is able to be verified), is a promising thing to do, in order to increase tax revenues, but not optimal to increase efforts to eradicate tax evasion or to prevent fraud tax. The protection system for whistleblower is also an important thing to implement. The tendency of people who are discriminated against to increase the number of reports, although not at a significant level, can provide a space for the risk of great social discrimination that will be accepted by whistleblower.

Furthermore, the number of whistleblowing from people who suffered a direct loss due to tax evasion carried out by the perpetrator was significantly higher than other people who did not experience a direct loss. Based on these findings, if a monetary incentive-based whistleblower system is implemented, DJP also considers giving more motivation to parties who are directly harmed by the behavior of tax evasion, to blows the whistle. Finally, by using logistic regression to build an interaction model between variables, it is known that the independent variables in the form of monetary incentives

and social discrimination, proved to be inadequate and inefficient in explaining the dependent variable in the form of the level of whistleblowing on tax evasion cases. So, DJP or other policy maker needs to consider that monetary incentives are not the main factor that motivates a person to blows the whistle. If DJP intends to make incentives-based whistleblowing and protection program for whistleblower as the focus of the program to be carried out in the context of safeguarding tax revenues, further research needs to be done to identify the biggest motivating factor for someone to reports about tax evasion that he knows.

There are some limitations faced by this study. First, this study has not been able to examine the interaction between monetary incentives with other intrinsic motivational factors, such as ethical motivation. Also, to provide good external validity, this study promises a prize of real money for each point collected by the experimental subjects. However, due to funding limitations, the conversion value of points to currency is relatively not too large and may interfere with the external validity that is built. This study is also limited to the operationalization of the independent variables studied, namely monetary incentives and social discrimination. The value of monetary incentives and the value of social discrimination under the research does not vary in size, so that the results of the study may differ if there are treatments of values on different scales. And, due to limited time and resources, the experimental means used in collecting the main data of the experiment are only paper-based. Last, this experiment cannot reflect more complex real-world events that might affect the experimental results, such as the feeling of attachment as a close-peer between experimental subjects and perceptions of the complexity of taxation rules.

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