

# A STUDY ON TAX COMPLIANCE IN TAX AMNESTY POLICY

*by*

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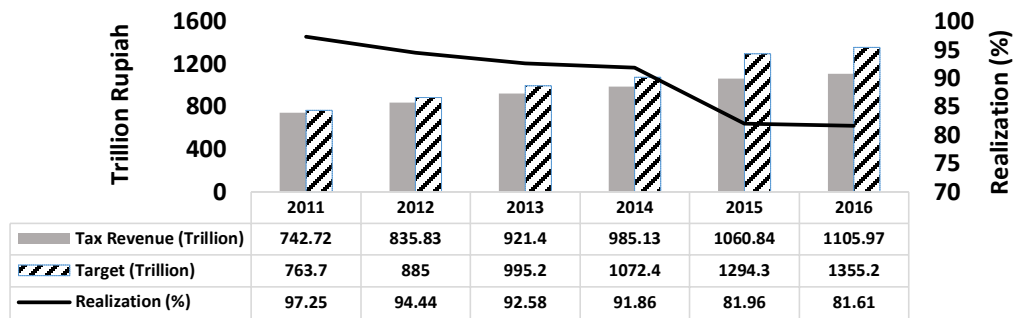
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# INTRODUCTION



Source : Ministry of Finance (2016), processed

## Target and Realization of Indonesia Tax Revenue in 2011-2016

- to support infrastructure development nationally, the Government needs to prepare large funds so that development can proceed according to a predetermined plan
- in 2016** the amount of tax realization only reached **82%** from the target, and **89.3% in 2020**

## The Reflection of Tax Compliance

The problem faced by the Government of Indonesia regarding tax collection:

- there are still many taxpayers (WP) who are not aware of their tax obligations
- there are still a lot of workers who have not obtained Tax Identification Number (NPWP)

**ONLY around 29.4% of them are registered in the tax system** (Directorate General of Taxes/DGT, 2016)

Year	Taxpayer registered	Taxpayer required to report SPT	Taxpayer reported SPT	SPT Compliance (%)
2006	4.083.536	3.871.823	1.240.571	32,04
2007	4.478.032	4.231.117	1.278.290	30,21
2008	6.776.241	6.341.828	2.097.849	33,08
2009	10.289.590	9.996.620	5.413.114	54,15
2010	15.469.590	14.101.933	8.202.309	58,16
2011	18.640.757	17.694.317	9.332.626	52,74
2012	22.030.583	17.659.278	9.482.480	53,70
2013	24.347.763	17.731.736	9.416.457	53,11
2014	27.945.570	18.357.833	10.828.808	58,99
2015	30.044.103	18.159.840	10.944.103	60,27

Source : Ministry of Finance (2016)



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# INTRODUCTION

## Law Number 11 of 2016 concerning Tax Amnesty

tax amnesty is the elimination of taxes that should be owed, not subject to administrative sanctions and criminal sanctions in the field of taxation, by disclosing previously unreported assets and paying a ransom.

Tax amnesty policies have been implemented in many countries around the world

TAX  
AMNESTY

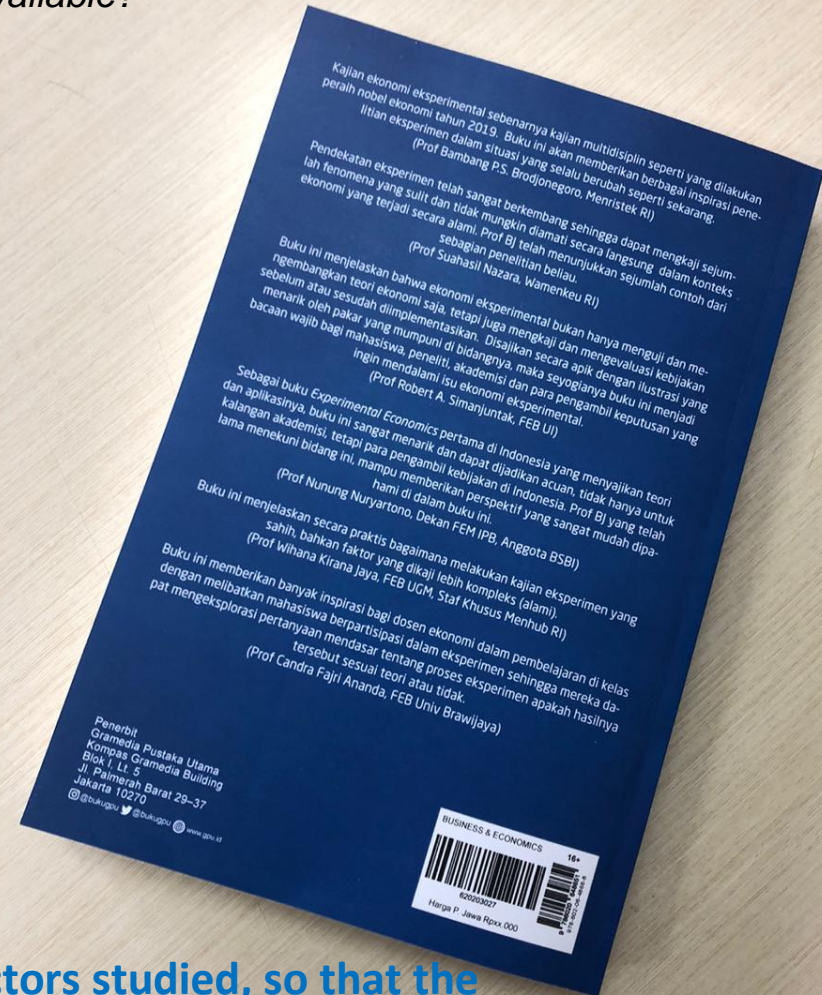
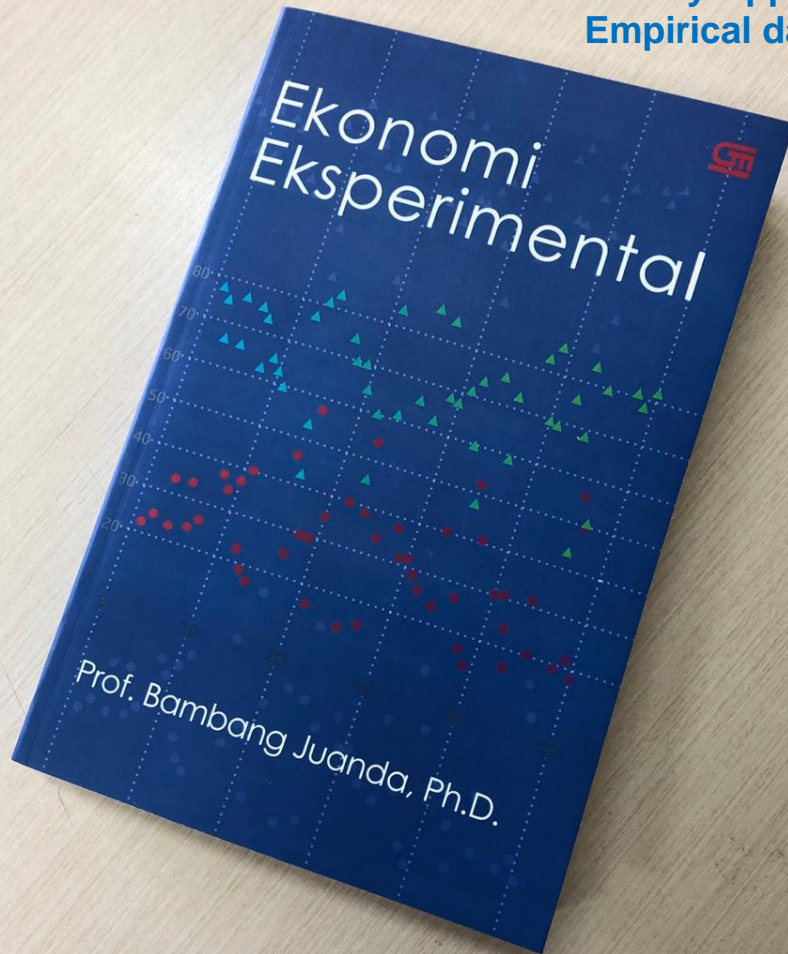
## Benefit and Goal

- the **increase in tax revenue** in the short term through ransom and in the long term the state will also **receive repatriated funds** that can stimulate the economy
- to **improve the attitude or behavior of non-compliant taxpayers** to become obedient taxpayers in the future, so that it will increase long-term tax compliance and income (Lerman, 1986; Leonard and Zeckhauser, 1987)
- This **experimental approach** can not only be used to develop an economic theory but can also help **provide considerations for policy makers** (Juanda, 2021)

- **Successful** countries such as Ireland, South Africa, and Italy implemented tax amnesty policies; **by law enforcement**
- The **failure** of several countries was due to **too many policies** being implemented in those countries, such as India (11 times), Bangladesh (**18 times**), and Sri Lanka (11 times) (Ibrahim *et al.*, 2017)



**Survey Approach:** are obedient in paying tax?  
**Empirical data:** available?



It can control other factors outside of the factors studied, so that the influence of the factors studied can be clearly identified. In addition, the absence of data in the field can be generated through an experiment

# INTRODUCTION

Indonesia implemented a **pull** and **push** strategy in 2016 TA

- **2%** in period I (July–September 2016)
- **3%** in period II (October–December 2016)
- **5%** in period III (January–March 2017)

**This lower tax penalty, compared to the tax that should be borne, is expected to increase the declaration of property that was previously hidden by taxpayers**

According to Nar (2015), taxpayer compliance is determined by psychological factors. Andreoni *et al.* (1998) also argued that researchers need to examine more deeply the psychological, moral, and social influences on compliance and include these factors in an economic model of compliance

## The second tax amnesty

The behavior of people who will register for tax amnesty at the end of each period shows that people think rationally by maximizing low amnesty rates

Based on public response like this, by implementing the strategy of determining the right tariff period system, of course, it can increase the income from the ransom

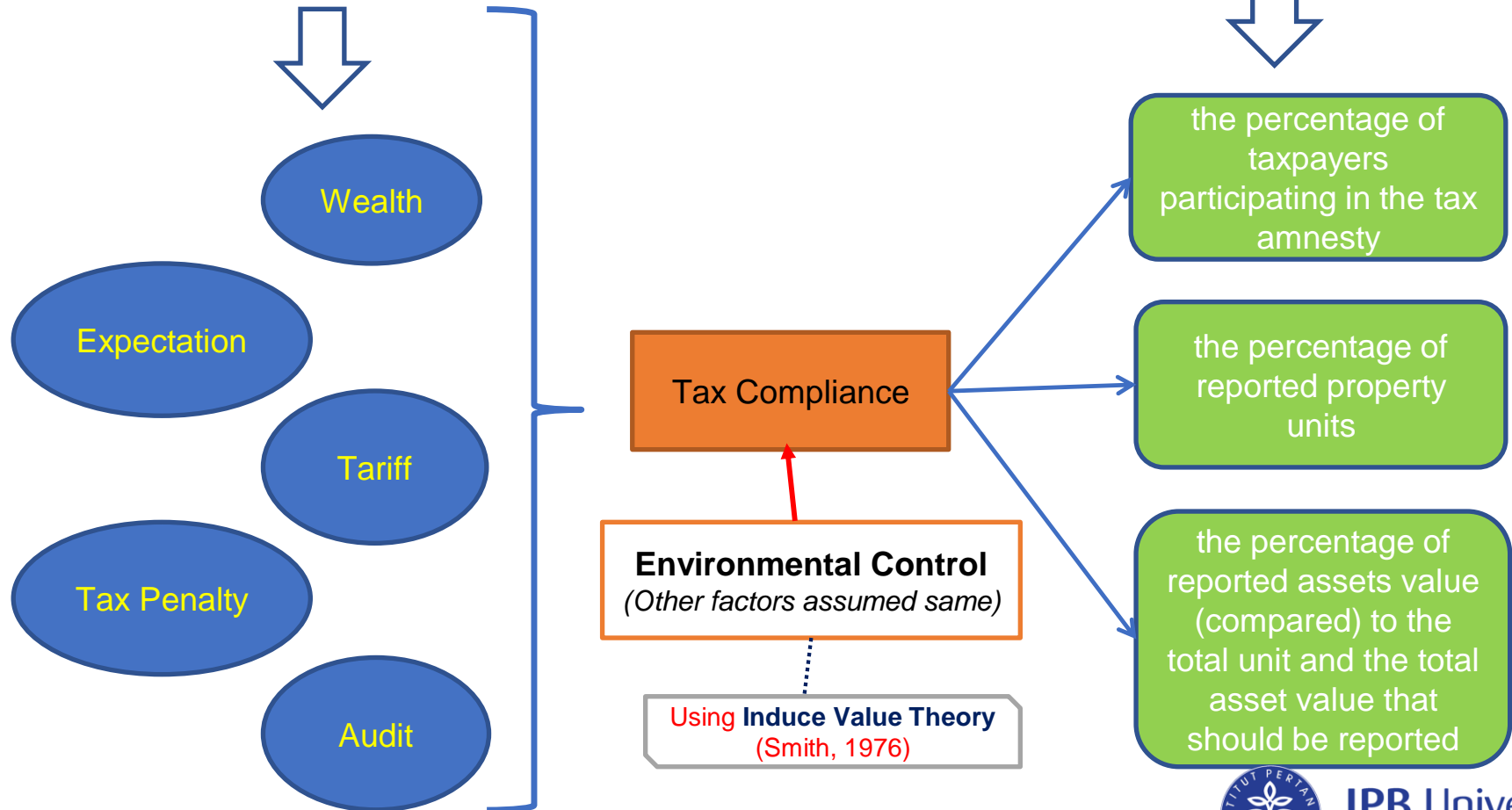




# RESEARCH OBJECTIVES

Factors

Responses



# Experimental design: Factorial Randomized Block Design

## Factors and Levels in the Tax Amnesty Economic Experiment

Factor	Level	Explanation
<b>Wealth (W)</b>	Wealthy( $W_1$ )	12 units property
	Less Wealthy( $W_2$ )	6 units property
<b>Expectation (E)</b>	No expectation of future tax amnesty ( $E_1$ )	Probability 0%
	Expectation of future tax amnesty ( $E_2$ )	Probability 75%
<b>Tariff periods (T)</b>	3 periods ( $T_1$ )	(2%, 3%, 5%)
	2 periods ( $T_2$ )	(2%, 5%)
	2 periods ( $T_3$ )	(2%, 8%)
<b>Tax Penalty (D)</b>	No tax penalty ( $D_1$ )	0%
	Lowertax penalty ( $D_2$ )	200%
	Hightax penalty ( $D_3$ )	400%
<b>Audit (P)</b>	Loose audit ( $P_1$ )	Probability 25%
	Tighter audit ( $P_2$ )	Probability 75%

There are ( $2 \times 2 \times 3 \times 3 \times 2 =$ ) 54 treatment combinations. → **162 subjects**  
 Each treatment is assigned to 3 experimental subjects



## PRIMARY DATA



## ECONOMIC EXPERIMENT



54 treatment combinations

- For efficiency, **each student conducted the experiment 3 times**
- The **162 students** were randomly assigned to the **54 treatments** in every replication

When the tax amnesty policy is implemented, **the taxpayers know very well the consequences of their actions to decide whether to participate and report all or part of their assets**

When taxpayers participate or report all their assets, they lose money to pay the tariffs, but they feel safe because they will not be subject to a 200% fine after an examination after the tax amnesty period ends

It is different if they do not participate in the tax amnesty or do not report all their assets, they are lucky because they do not pay the ransom, but after the tax amnesty period ends, there is a possibility that they will be subject to a 200% fine when investigated.

If each subject behaves in his decision making based on this incentive structure, then the environmental control principle in the experiment has been fulfilled so that its innate characteristics can be controlled according to the **induced-value theory** (Juanda, 2021).





# MODEL: Factorial Randomized Block Design (RAKF)

$$Y_{ijklmn} = \mu + \alpha_i + \beta_j + \delta_k + \gamma_l + \theta_m + \Phi_n + (\alpha\delta)_{ik} + (\alpha\gamma)_{il} + (\alpha\theta)_{im} + (\alpha\beta)_{ij} + (\delta\gamma)_{kl} + (\delta\theta)_{km} + (\delta\beta)_{kj} + (\gamma\theta)_{lm} + (\gamma\beta)_{lj} + (\theta\beta)_{mj} + (\alpha\beta\delta)_{ijk} + \dots + (\alpha\beta\delta\gamma\theta)_{ijklm} + \varepsilon_{ijklmn} \quad 1)$$

where  $i = 1, 2$ ;  $j = 1, 2$ ;  $k = 1, 2, 3$ ;  $l = 1, 2, 3$ ;  $m = 1, 2$ ;  $n = 1, 2, 3$

with,

- $Y_{ijklmn}$  1. Percentage of assets unit declared for the factor of the  $i$ -th wealth,  $j$ -th expectation in the future,  $k$ -th tariff periods,  $l$ -th tax penalty, and  $m$ -th audit at the  $n$ -th replication.  
2. Percentage of assets value declared for the factor of the  $i$ -th wealth,  $j$ -th expectation in the future,  $k$ -th tariff periods,  $l$ -th tax penalty, and  $m$ -th audit at the  $n$ -th replication.
- $\mu$  Overall average percentage of reported assets unit (regardless of 5 factors)
- $\alpha_i$  Effect of the  $i$ -th wealth factor ( $i = 1$  for low wealth,  $i = 2$  for high wealth)
- $\beta_j$  Effect of the  $j$ -th expectation factor ( $j = 1$  for probability 0%,  $j = 2$  for probability 75%)
- $\delta_k$  Effect of the  $k$ -th tariff period factor, ( $k = 1$  for the tariff of 3 periods,  $k = 2$  for the tariff of 2 periods,  $k = 3$  for the tariff of other 2 periods)
- $\gamma_l$  Effect of the  $l$ -th tax penalty factor ( $l = 1$  for a 0% penalty,  $l = 2$  for a 200% penalty,  $l = 3$  for a 400% penalty)
- $\theta_m$  Effect of the  $m$ -th audit factor, ( $m = 1$  for probability 25%,  $m = 2$  for probability 75%)
- $\Phi_n$  Effect of the  $n$ -th replication or block, ( $n = 1, 2, 3$ )
- $(\alpha\beta)_{ij}$  Effect of the interaction between the  $i$ -th wealth factor and the  $j$ -th expectation factor
- $\varepsilon_{ijklmn}$  Error term for the factor of the  $i$ -th wealth,  $j$ -th expectation in the future,  $k$ -th tariff periods,  $l$ -th tax penalty, and  $m$ -th audit at the  $n$ -th replication



## EXPERIMENT PROCEDURE

- The experimental design here uses experimental subjects (students) who are motivated to get cash rewards (*induced value theory*) which represents the incentives obtained by taxpayers in reality when making decisions, so that their innate characteristics can be controlled (Friedman and Sunder, 1994; Juanda, 2009, 2021)
- The **population** of this research is *all the tax evaders who should have joined tax amnesty with the understanding of the consequences*
- At the end of the experiment, the student will be given **incentive** converted into rupiah according to how many of the wealth is left. The incentive that each subject will receive as above explained is a function of

$$(\text{cash} + \text{assets} - \text{ransom} - \text{fine})$$



## RESULT AND DISCUSSION

- The flow of discussion in this study that will be divided based on the response of this study, namely declared assets units, the value of reported assets and taxpayer participation
- Analysis of variance (ANOVA) will be used since it fulfilled normal distribution and homogeneity assumptions, after that the study will be followed by a simple bar chart graphics to see the means between the level of each factor



# ANOVA of Percentage of Assets Unit Declared by 5 Factors (Wealth, Expectation, Tariff Periods, Tax Penalty, and Audit Probability)

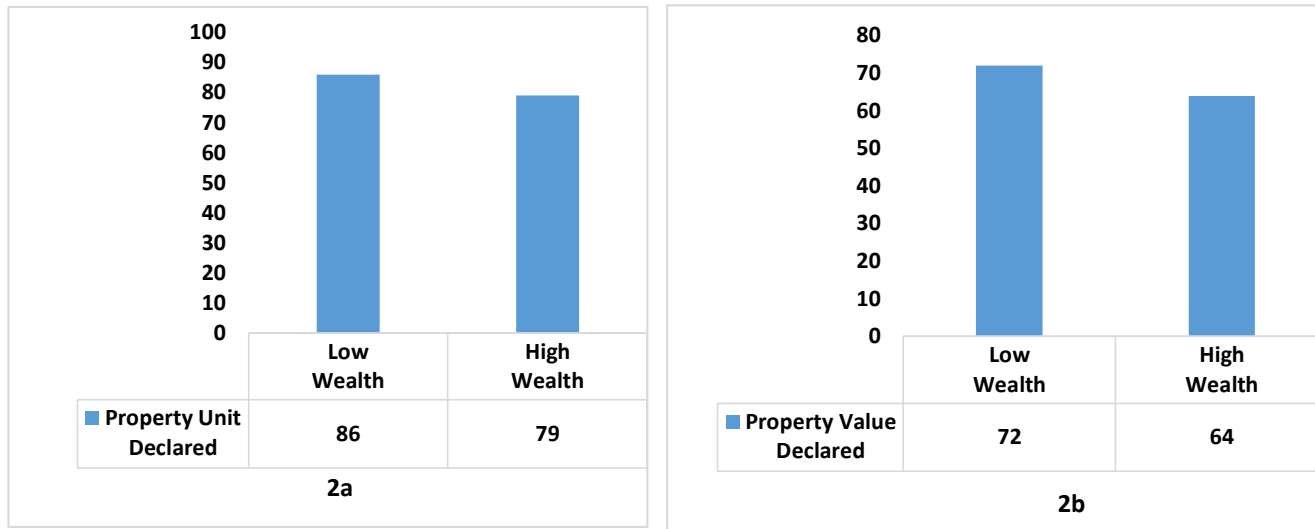
Dependent Variable:Unit_Declaration					
Source	Type III Sum of Squares	df	Mean Square	F	P-value
Corrected Model	107879.490 <sup>a</sup>	73	1477.801	3.539	0.000
Intercept	1009816.002	1	1009816.002	2418.543	0.000
Wealth	3411.593	1	3411.593	8.171	0.005
Expectation	10303.98	1	10303.980	24.678	0.000
Tariff	1650.694	2	825.347	1.977	0.142
Tax Penalty	35426.137	2	17713.069	42.423	0.000
Audit	2090.241	1	2090.241	5.006	0.027
Replication	2555.036	2	1277.518	3.060	0.050
Wealth * Tariff	4458.915	2	2229.458	5.340	0.006
Wealth * Tax Penalty	1713.076	2	856.538	2.051	0.132
Wealth * Audit	1216.433	1	1216.433	2.913	0.090
Wealth * Expectation	162.717	1	162.717	0.390	0.533
Tariff * Tax Penalty	1337.554	4	334.389	0.801	0.527
Tariff * Audit	1614.108	2	807.054	1.933	0.149
Tariff * Expectation	125.107	2	62.554	0.150	0.861
Tax Penalty * Audit	6610.28	2	3305.140	7.916	0.001
Tax Penalty * Expectation	1338.785	2	669.393	1.603	0.205
Audit * Expectation	5290.203	1	5290.203	12.670	0.001
Interaction of 3,4, and 5 factors	28574.633	45	634.992	1.521	0.034
Error	59289.356	142	417.531		
Total	1176984.848	216			
Corrected Total	167168.846	215			

a. R Squared = .645 (Adjusted R Squared = .463)

Significant at 5% and 10% (red colour) level of significance

Source : Data processed





**The Difference between High Wealth and Low Wealth in Assets**

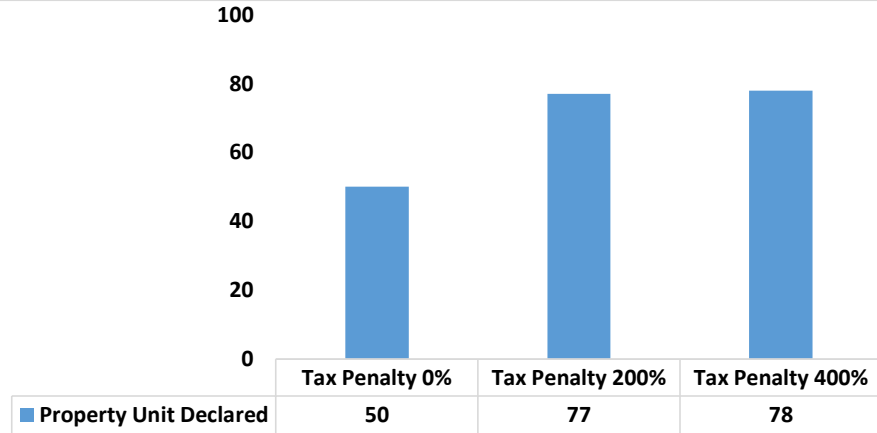
**Taxpayers with lower wealth tend to include more their assets** to be reported in tax amnesty program

This data is convenient with the finding in the current condition in Indonesia where high wealth or higher income taxpayers tend to avoid paying their taxes.

taxpayers with higher wealth have 7% less unit declared in the program compared to unit of low wealth ones (Figure 2a)

This means that the difference of a taxpayer's wealth affect the taxpayer's willingness to report the value of his assets. Taxpayers with lower wealth tend to include more their assets to be reported in tax amnesty program.

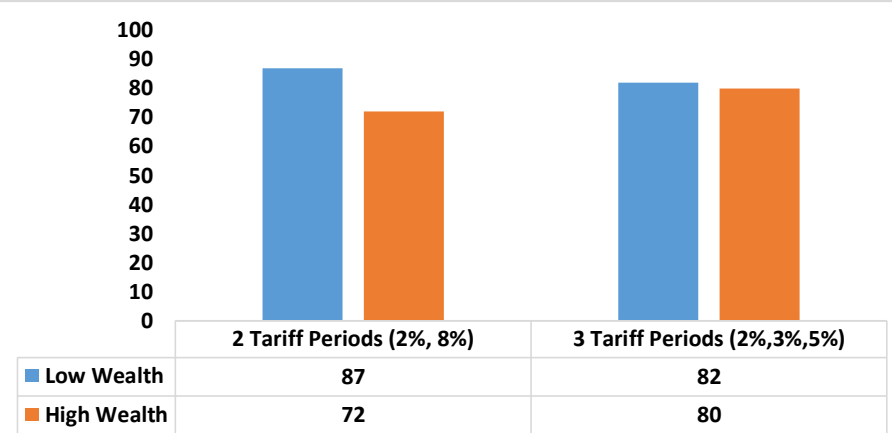




**The Difference between Tax Penalty 200% and Tax Penalty 400% in Assets Unit**

Commonly, **the higher the rate of tax penalties encourages the taxpayer to be more compliant.**

In the 2016 tax amnesty, the lowest rates are in the first three months—and according to data collected from DJP—the most assets declared are in the first period. For this experiment, we tried to extend the lowest tariff period of 2% for six months (July-December 2016), so in total the tax amnesty only had two periods tariff (2% and 8%).



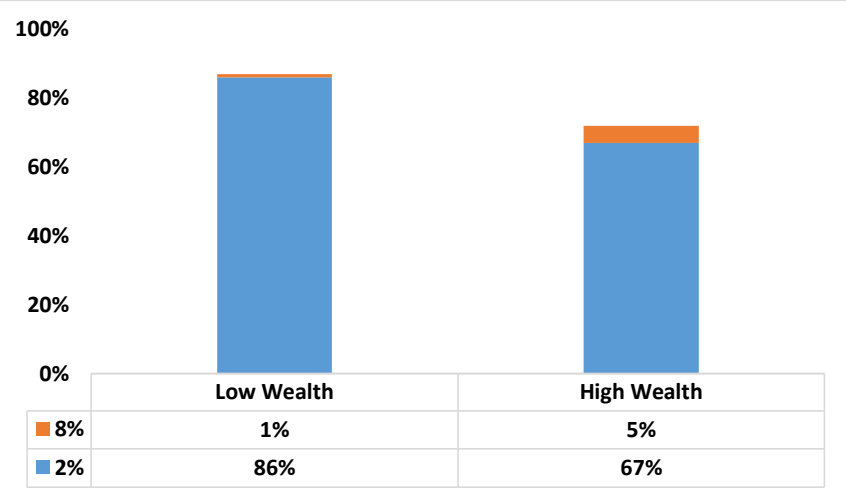
**The Interaction between Wealth and Tariff Periods in Assets Unit Declared**

there is significant difference in the response in 2 tariff periods between low wealth and high wealth taxpayers

the **amount of assets unit declared from low wealth taxpayers is still higher than those declared from high wealth**—no matter how the periods are regulated—the lowest rate tariff would always be the favorite



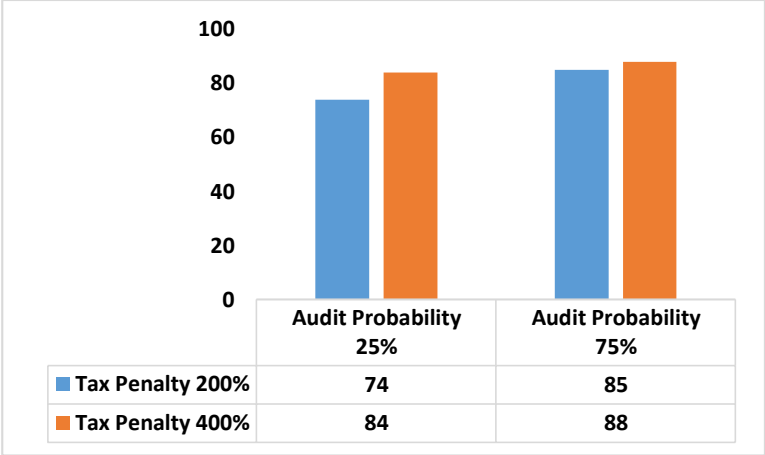




### Detailed Assets Unit Declared during 2 Tariff Periods

each assets unit reported in 2 tariff periods can be seen above—and as in the 2016 tax amnesty—the **lowest rate in the first period is the favorite especially for lower class taxpayers**, but in the last period, more high-wealthy taxpayers have participated. So **the effect of wealth depends on the tariff period applied** or there is an interaction between the two factors.

*If viewed from lower tax penalty, the reported units increased by 11% when the taxpayer faced with more stringent audit probability*



### The Interaction between Tax Penalty and Audit Probability in Assets Unit Declared

*when taxpayers are faced with loose audit probability and lower tax penalty—the amount of units declared is much smaller when compared to the units declared in the condition of stricter audit probability and higher tax penalty*

Taxpayers would think twice before deciding to avoid paying their taxes in higher audit so that in this condition the level of compliance is high



# ANOVA of Percentage of Assets Value Declared by 5 Factors (Wealth, Expectation, Tariff Periods, Tax Penalty, and Audit Probability)

## Tests of Between-Subjects Effects

Dependent Variable: Value_Declaration					
Source	Type III Sum of Squares	df	Mean Square	F	P-Value
Corrected Model	107456.721 <sup>a</sup>	73	1472.01	3.137	0.000
Intercept	1106559.542	1	1106559.542	2358.142	0.000
Wealth	1330.165	1	1330.165	2.835	0.094
Tariff	2300.524	2	1150.262	2.451	0.090
Tax penalty	39106.748	2	19553.374	41.669	0.000
Audit	3682.87	1	3682.870	7.848	0.006
Expectation	5655.701	1	5655.701	12.053	0.001
Replication	4485.801	2	2242.901	4.780	0.010
Wealth * Tariff	4044.58	2	2022.290	4.310	0.015
Wealth * Tax penalty	2292.301	2	1146.151	2.443	0.091
Wealth * Audit	1376.323	1	1376.323	2.933	0.089
Wealth * Expectation	1072.795	1	1072.795	2.286	0.133
Tariff * Tax penalty	860.804	4	215.201	0.459	0.766
Tariff * Audit	1021.069	2	510.535	1.088	0.340
Tariff * Expectation	336.888	2	168.444	0.359	0.699
Tax penalty * Audit	6431.537	2	3215.769	6.853	0.001
Tax penalty * Expectation	1625.894	2	812.947	1.732	0.181
Audit * Expectation	3920.757	1	3920.757	8.355	0.004
Interaction of 3,4, and 5 factors	27911.966	45	620.266	1.322	0.112
Error	66633.578	142	469.251		
Total	1280649.841	216			
Corrected Total	174090.299	215			

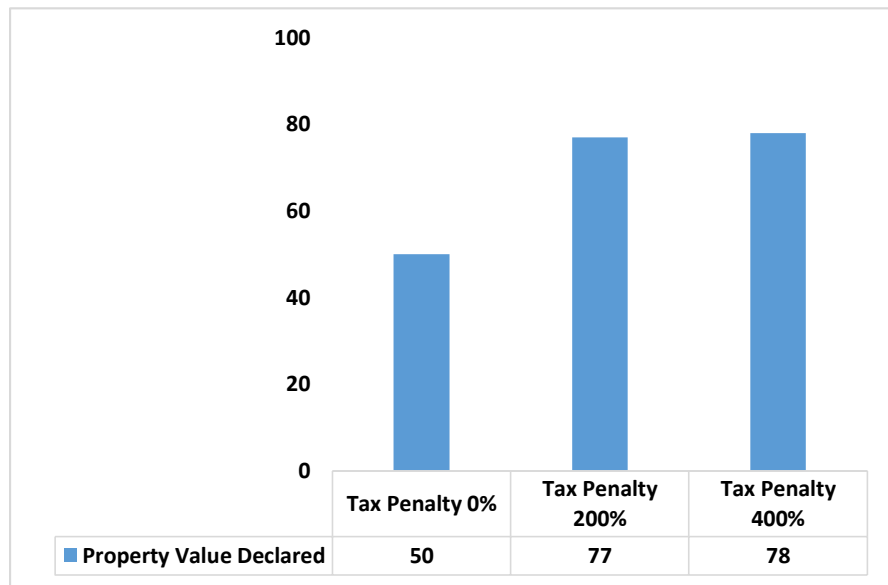
a. R Squared = .617 (Adjusted R Squared = .420)

Significant at 5% and 10% (red colour) level of significance

Source : Data processed : 10%

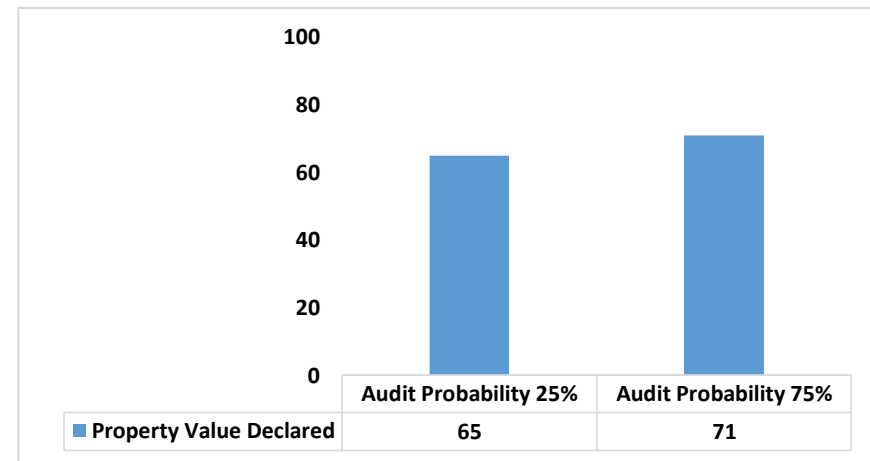


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### The Difference between Tax Penalty 200% and Tax Penalty 400% in Assets Value Declared

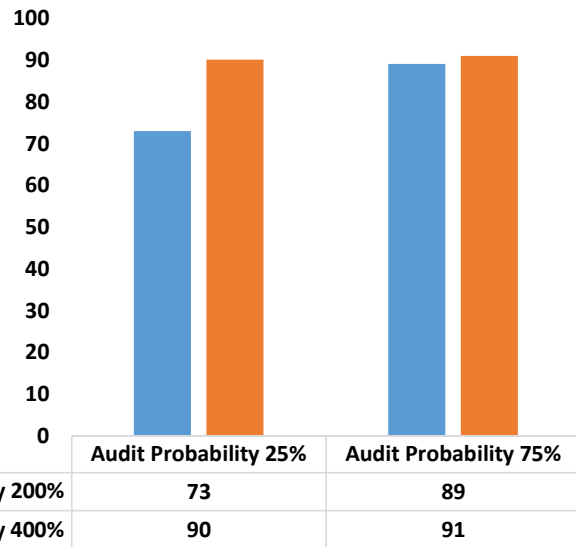
for the response of assets value declared, *the higher tax penalty will increase assets value stated*. There are 1% more of assets value declared when taxpayers are faced with a higher penalty. This is calculated as a percentage of the value of billions of rupiah.



### The Difference between Audit Probability of 25% and Audit Probability of 75% in Assets Value Declared

This suggests that a tax amnesty program with a higher tax penalty rate will improve compliance, as seen in the previous response of declared asset units. High tax penalties forced the taxpayer to report his assets when the rate of tax penalties is increased to 400% the amount of assets value indicated by the taxpayer increases 1%

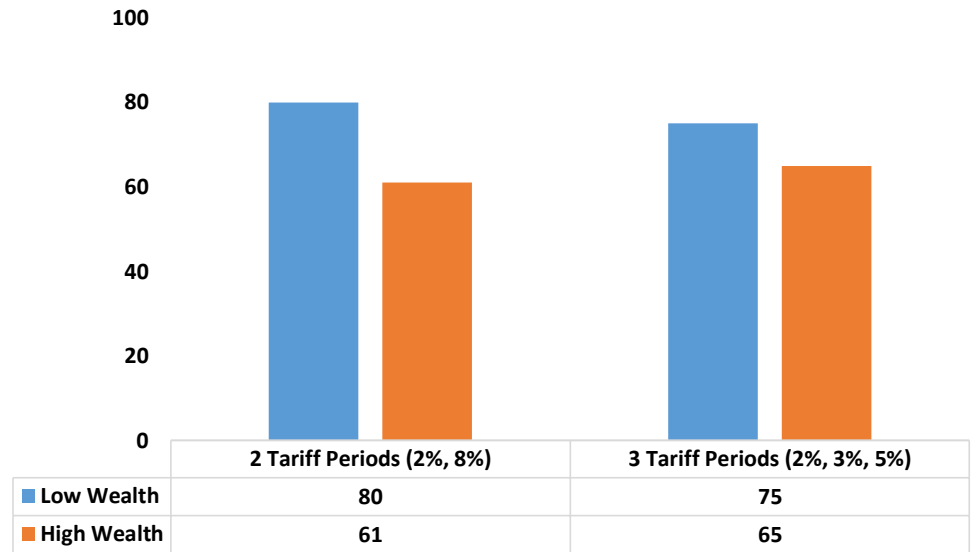
Juanda *et al.* (2010) have conducted research with an experimental setting—the tax penalty of 200% and audit probability of 75%—and found that the higher the tax penalty rate is, the higher the level of compliance will be. The same also happens with the factor of audit probability where *the higher the chance of being audited the higher the value reported will be*



### Interaction between Tax Penalty and Audit Probability

at a 200% tax penalty there is a difference in response when the taxpayer faced with higher audit probability—*when the audit probability opportunity increased into the stricter chance of being audited—the number of reported assets value increases by 14%*

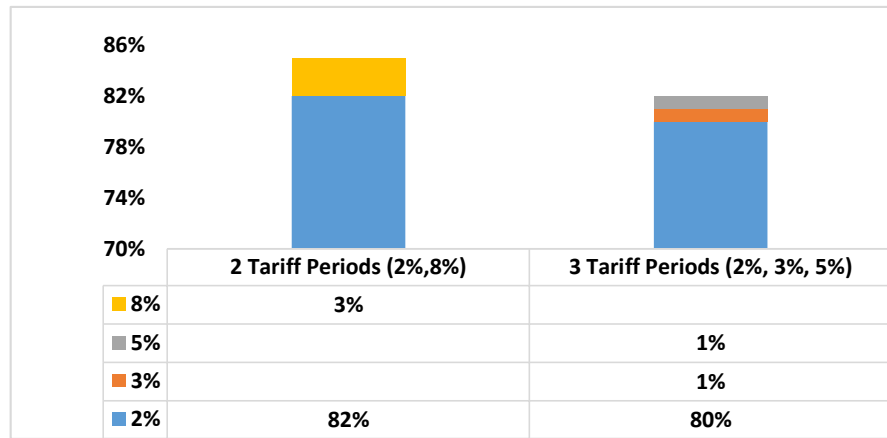
in a tax penalty of 400% —because the tax penalty rate is high—*there is no difference in response when taxpayers are faced higher audit probability*



### The Interaction between Wealth and Tariff Periods in Assets Value Declared

*the amount of assets value declared from low wealth taxpayers is always higher than those declared from high wealth*—no matter how the periods are regulated—the lowest rate tariff would always be the favorite





### Detailed Participation between 2 Tariff Periods and 3 Tariff Periods on Property Value Declared

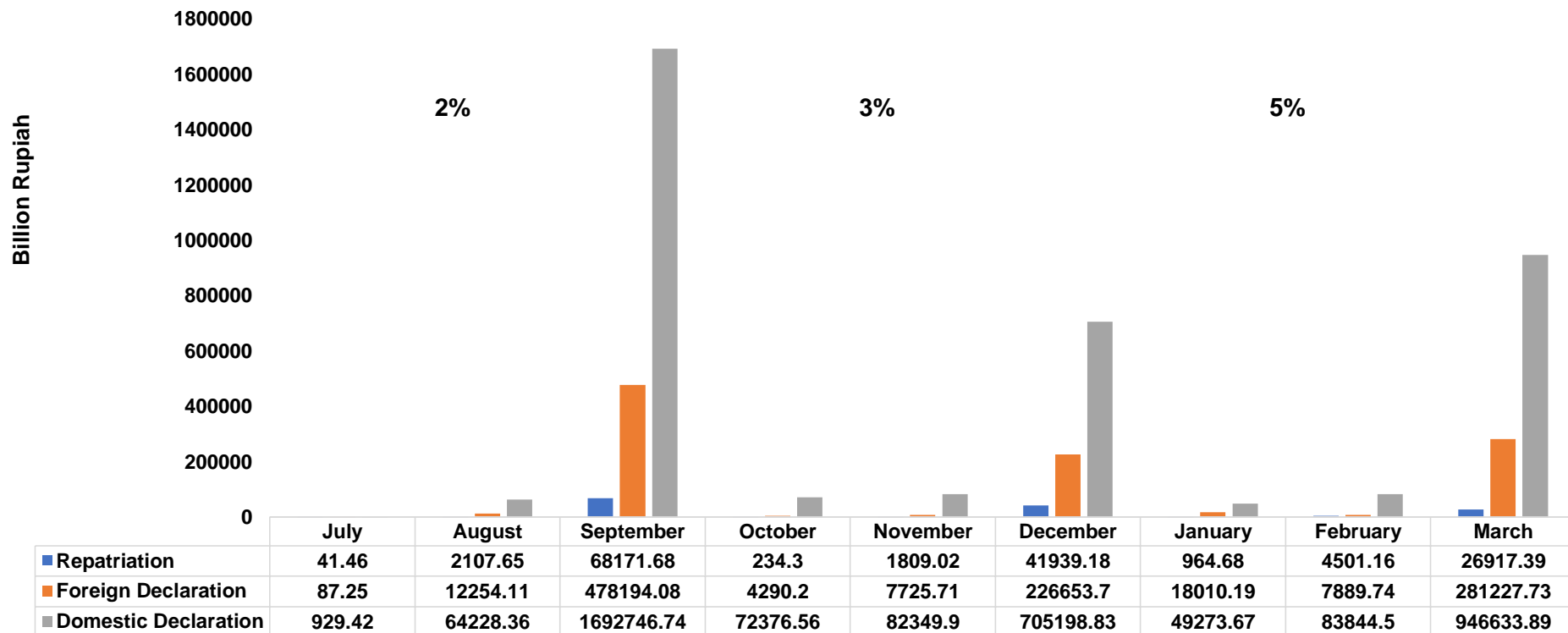
The taxpayers who want to join the tax amnesty programs will consider paying them in the first period because having the lowest tariff—to pay with their previously avoided tax—is considered profitable for them. The number of value assets each of taxpayers has it the decision to comply. Taxpayers need to consider which periods they need to join in paying the smallest possible tariff value. Therefore ***the first period with the lowest tariff of 2% has the most significant amount of assets value declared.***

This fact is the best tariff for tax evaders who reason because once they pay their share of 2% from their wealth, they will be free from their previous tax evasions, so the participation in the first three months is the highest. The dishonest taxpayers who seek forgiveness will join the first period where the rate is the lowest. This taxpayer indeed ***in line with the fact that most of the tax collected in the tax amnesty programs are mostly from the first period***, taxpayers use this first three months with the lowest rates to pay the taxes

The two tariff periods makes no difference to increase the amount of tax collected or in this matter the number of people participating. In the two tariff periods, the tariff increased drastically to 8% that only have 3% taxpayers participating in this period. The huge gap between the first period and the second period affect the taxpayers to join tax amnesty in the first period

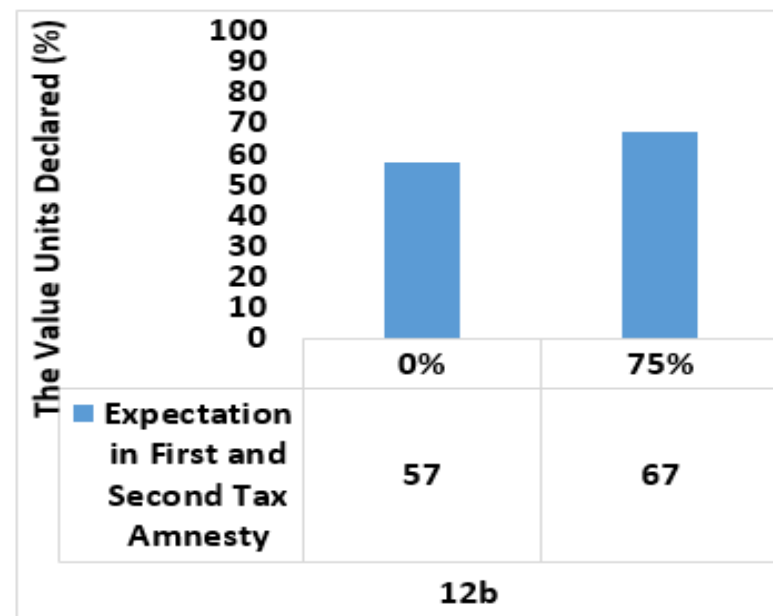
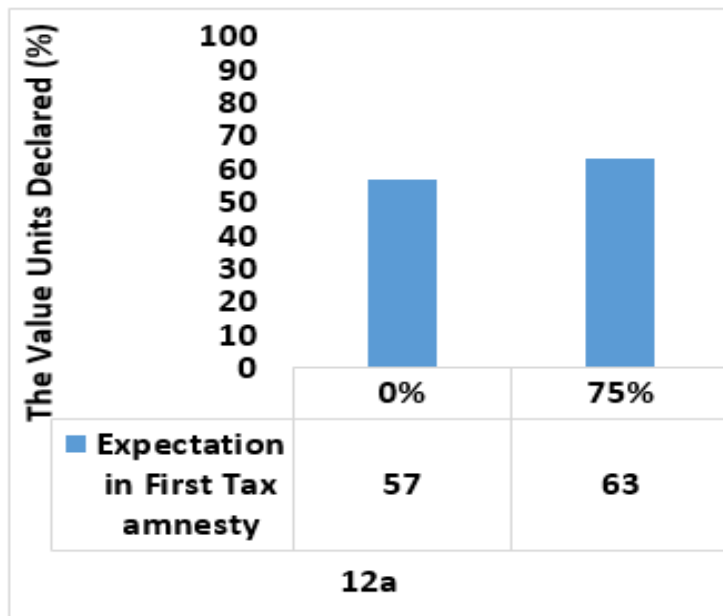


## Summary of Indonesian Tax Amnesty in 2016 based on Statements of Assets (SPH) declared (Billion Rupiah)



Source : (Directorate General of Taxes/DGT, 2016)





### Probability of Tax Amnesty in Future

Figure 12a is the response of the property value reported in the first tax amnesty. It can be seen that the response on property reported by taxpayers is relatively the same or not statistically significant difference—between those who may have tax amnesty in the future and those who have no opportunity of tax amnesty in the future. However, *when there is a second tax amnesty policy—shown in Figure 12b—there is an additional percentage of the reported property value of 4%*. The results of this experiment have an implication that taxpayers become **disobedient** when there is an opportunity for tax amnesty in the future.

## CONCLUSION

1. The level of **taxpayer wealth** affects the tax compliance—proven by the three responses observed in this experiment—that the higher wealth taxpayers tend to disobey
2. The government effort to impose **fines and audit** shows a greater effect on tax compliance
3. Indonesia should **focus on taxpayers with high wealth** to create stronger law enforcement to increase taxpayer compliance.



# THANK YOU!

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# The Scenario between First and Second Tax Amnesty

## The First Tax Amnesty

Based on Law (UU) No. 11 of 2016 concerning Tax Amnesty, when implementing the tax amnesty in 2016, the government set three ransom rates based on the period of implementation of the tax amnesty program

- Ransom rate of **2%** for **domestic** and **4%** for **foreign** declaration in period I (July–September 2016)
- Ransom rate of **3%** for **domestic** and **6%** for **foreign** declaration in period II (October–December 2016)
- Ransom rate of **5%** for **domestic** and **10%** for **foreign** declaration in period III (January–March 2017)

## The Second Tax Amnesty

- A final income tax of **15% of the asset value for taxpayers who have participated in the first tax amnesty**. If the assets are placed on the **state bond market**, the tariff is **12.5%**. The tariff is higher than the 2016 program.
- **Assets acquired** for the period **2016 to 2019** will be subject to final income tax of **30%** and **20%** for assets **invested in the state bond market**.

*Note: This second tax amnesty is also included in the priority national legislation program (prolegnas).*



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