

# Tax Avoidance Towards Tax Ratio After Tax Amnesty Program

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## Abstract.

**Purpose** - This paper aims to examine whether the influence of tax avoidance on tax ratio after implementing Tax Amnesty of listed companies in Banten province

**Design/methodology/approach** - This study is based on a sample of firms in the province of Banten for the period 2014–2017 which consists of the annual financial reports of 15 Indonesian listed companies (N=60). And also uses multivariate regression to statistically analyses the data.

**Findings** - The results show that changes in the Tax Ratio of the Banten province that caused by the implementation of Tax Amnesty correlated with Tax Avoidance carried out by listed companies located in the region

**Originality/value** - It is the first paper to explore the impact of tax avoidance on tax ratio after implementing Tax Amnesty in Banten province, Indonesia. Also, this study uses a two-area regression methodology both nationally and regionally to see a comparison of the Indonesia and Banten Province tax ratios.

**Keywords** Tax Avoidance, Tax Amnesty, Banten Province, Tax Ratio

## 1 Introduction

The low level of public compliance with tax obligations in Indonesia is reflected in the condition where based on the population census of the Central Statistics Agency in 2020 there are around 163 million and of this number based on the 2020 DGT annual report, only 46.3 million (28%) are registered taxpayers and if you look back this number is far in the 40s compared to other countries. (Nar, 2015). Then from that amount around 77% fulfilled their tax obligations and this had an impact on the tax ratio which is the comparison between tax revenue and gross domestic product (GDP) of around 8.33%, this figure is still far from other developing countries which are above the figure. The implication of tax avoidance or tax evasion is a reduction in national tax revenue, which reflects the tax ratio. The tax ratio has increased rapidly in many countries in the twentieth century, ranging from 5 to 10% in the early twentieth century and reaching 30 to 40 percent in the late twentieth century.

Indonesia's low tax revenue is due tax evasion and tax avoidance, as well as the underground economy which accounts for 8% of GDP (Hajawiyah et al., 2021). In addition, the low tax revenue is also caused by business profits, or assets, belonging to Indonesian citizens and those in circulation are not immediately recorded in the national tax system. Most of these assets are placed in countries with lower tax rates or even zero tax rates. (tax haven country).

This eliminates potential government tax revenue and shows that the government can do more to explore potential tax sources. If these are fixed assets in the Indonesian financial system, these funds can make a significant contribution to the economies of developing countries. To overcome this problem, the Government of the Republic of Indonesia implemented tax amnesty in 2016 and 2017. The design of an effective Tax Amnesty in the form of policies to reduce tax evasion, increase tax compliance is influenced by individual perceptions of a fair system and provided by the government. (Erizal et al. , 2022).

The implementation of the tax amnesty program in Indonesia is expected to increase compliance. However, the effectiveness of the program will likely depend on the taxpayer's compliance intentions. Correspondingly, factors such as government attitudes and perceived equity in tax amnesty affect taxpayer compliance. The tax amnesty was implemented in Indonesia in 2016 preceded by the Year of Taxpayer amnesty in 2015 where the Government will provide a policy of eliminating tax administration penalties for taxpayers who have not reported their tax obligations or are willing to correct tax calculations. Taxpayers participating in this program believe that the Indonesian government will implement the law enforcement plan in 2016. However, the government decided that the tax amnesty applies to all taxpayers. Injustice from the application of tax amnesty can lead to disappointment of taxpayers and in turn will be able to affect the level of taxpayer compliance (Damayanti et al., 2020). The government estimates that they can repatriate at least IDR 1,000 trillion during the tax amnesty period (Darmayasa et al., 2017) and according to the President of the Republic of Indonesia, Joko Widodo, the implementation of Indonesia's tax amnesty program during 2016 and 2017 was a success. Declared wealth is 4,884 trillion Indonesian rupiah (IDR) or 35% of GDP (Directorate General of Taxes, 2017), the largest amount ever announced in tax amnesty worldwide (about 10% of GDP). (Hajawiyah et al., 2021).

To test whether tax avoidance has the effect of changing the tax ratio after the tax amnesty, we must consider aspects related to tax avoidance such as taxpayer compliance, taxpayer profitability, related to tax ratios such as gross domestic product, tax revenue by the government, and mandatory participation. taxes in the tax amnesty program. Thus, we explore three research questions: (1) Does tax avoidance have an impact on tax ratio growth? (2) Does the tax amnesty in Indonesia have an impact on the growth of the tax ratio? (3) How big is the impact of tax avoidance on changes in the tax ratio caused by the tax amnesty?

This study uses 2 approaches, namely descriptive and empirical. Descriptively, we explain the effect of tax avoidance and tax amnesty on tax ratios based on tax office revenue data. Second, we empirically test the effect of tax avoidance and tax amnesty on tax ratios by using a regression of the Indonesian Stock Exchange (IDX) data sample..

Research related to the relationship between tax avoidance, tax amnesty and tax ratios was conducted by Hajawiyah et al. (2021). Tax amnesty increases tax revenues in the short term, increases the tax base, and affects compliance in Indonesia. Empirical analysis shows that tax amnesty has a positive effect on tax compliance of companies listed on the Indonesia Stock Exchange

Darmayasa et al. (2017) examined tax amnesty in Indonesia and found that tax amnesty based on Pancasila values in order to build social justice and thus tax amnesty allows for increased tax compliance voluntarily..

Samimi et.al (2010) show the results that if the tax ratio is greater, then economic growth decreases which results in increased tax avoidance. On the other hand, the results of the study reveal that the tax ratio has a negative impact on economic growth. (Volkerink et al., 2002).

Damayanti, et al (2020) revealed that if taxpayers feel justice in the implementation of tax amnesty, then they have higher compliance intentions than taxpayers who feel injustice..

Nar (2015) research results show that examination and criminal sanctions together, can increase tax compliance rapidly after the tax amnesty.

There is an impact (result) of the tax amnesty policy, namely on the growth of tax revenue. (Erizal et al., 2022)

This research contributes to the literature and to policy makers, namely the phenomenon of the tax amnesty program that occurs in the regions. Using the annual report and performance of the Directorate General of Taxes, we show that Indonesia's tax amnesty in 2016 to 2017 tax avoidance has no effect on the tax ratio. Second, by analyzing a sample of companies listed on the IDX domiciled in Banten, we provide empirical evidence on the effect of tax amnesty on corporate tax ratios in Indonesia. To the best of our knowledge, this study is the first to examine the effect of tax avoidance and tax amnesty in Indonesia in 2016 on tax ratios descriptively and empirically using a sample of publicly listed companies in the Banten region. This research will also be useful for the Indonesian government, especially the Directorate General of Taxes in evaluating tax amnesty policies. The remaining sections of this paper present a literature review and development of research questions, methodology, results and discussion, as well as conclusions and suggestions for further research.

## **2 Background and research questions**

Optimal taxation theory emphasizes the basic principles of tax collection: (1) equity, (2) efficiency, (3) neutrality, (4) simplicity, (5) transparency, and (6) economically efficient (Hajawiyah et al., 2021). ) This theory is used to analyze whether tax avoidance and tax amnesty lead to changes in the tax ratio.

### **2.1. Tax Avoidance**

Tax avoidance as: a concept that includes all activities carried out by a company to reduce its tax burden, regardless of legitimacy. A similar concept, tax savings, is a broader concept than tax evasion, referring to legal and rational tax deduction activities, whereas tax evasion refers to illegal activities including fraud, exclusion of profits, and recognition of excessive expenses. In other words, tax avoidance lies between tax avoidance and tax savings, and is mostly related to activities that are not in accordance with the objectives of tax regulations (Kim & Im, 2017). Tax evasion is the use of the rule of law in the current tax regime to reduce tax liability. Tax avoidance as a way to get temporary capital for the business. As a result, businesses with higher tax avoidance require less external funding; thus, it helps in reducing debt and leverage. On the one hand, tax avoidance behavior can be political, which can result in attention from the media, government, consumers and public interest groups (Jiang et al., 2021). Financial reporting provides useful information for its users, when making economic decisions, the government can use it to evaluate the company's compliance with established regulations (Zulfikar et al., 2021). Any increase in the variable business size, assuming all other variables remain constant, will increase the integrity of financial statements (Abbas et al., 2021). The factors causing individual taxpayer compliance and corporate tax avoidance are not much different. Compliance with individual taxpayers is caused more by factors such as tax rates, probability of being detected, examination and getting sanctions as well as intrinsic motivation in carrying out obligations as citizens, which according to them some of these factors can affect the practice of corporate tax avoidance, countries and regions. Countries that have high law enforcement can reduce corporate tax avoidance practices in the country (Abdullah et al., 2019). The literature on corporate taxation states that a larger tax burden reduces the size of the future cash flows that

debt and equity holders expect, thereby reducing the value of the firm. Therefore, a high tax burden is a significant cost for business activities (Gan & Qiu, 2019).

## 2.2. Tax Ratio

The concept of the tax ratio is tax revenue divided by GDP shows that when the tax ratio is smaller, economic growth increases, but if the tax ratio is larger, then economic growth decreases. (Samimi et al., 2010). There are several factors related to the tax ratio in addition to GDP growth, namely the long-term relationship between environmental performance and the tax ratio, (Hafidz, 2012). In addition, the tax ratio is related to economic growth. (Volkerink et al., 2002). The tax ratio also reflects the government regime's ability to reabsorb GDP to be translated into tax revenues which in turn are reused for the benefit of the community. Therefore, some countries have different calculations of this tax ratio by including, among other things, social security and taxes. Meanwhile, the components of tax revenue in Indonesia include central tax revenues, non-state revenue taxes (PNBP) from the Oil and Gas sector, and PNBP from the General Mining sector. Local taxes are not a component of calculating the tax ratio in Indonesia (Erizal et al., 2022).

## 2.3 Tax Amnesty

A tax amnesty is a time-limited opportunity for a certain group of taxpayers to pay a specified amount (redemption fee) in exchange for "forgiveness" of their tax obligations (including interest and penalties) from the previous tax period without fear of criminal prosecution (Hajawiyah et al., 2021). Tax amnesty is a government program to minimize tax avoidance practices with the main aim of increasing economic growth through repatriation funds (Tax Amnesty Law No 11 2016, article 2 paragraph 2a) (Darmayasa et al., 2017), as well as to prepare Indonesia to adopt the Organization for Economic Co-operation and Policy Development (OECD) on the Automatic Exchange of Information (AEOI), which will assist the Director General of Taxes in controlling the assets of Indonesian citizens abroad. Based on this policy, Indonesian citizens who are found to have income or assets that are not reported to the Director General of Taxes will be subject to a fine of 200% of that amount. of unpaid income tax. (Hajawiyah et al., 2021). The short-term income effects of the tax amnesty are uncertain, the negative medium- and long-term effects of tax equity and income distribution are almost certain. Increasing tax revenue is not the main reason behind most tax amnesties (Erdoğdu & Akar, 2022). It is difficult to measure the direct and indirect effects of tax amnesty. First of all, empirical evidence for the effects of tax amnesty is sparse. There is also limited field data on tax amnesty. Therefore, the possibilities of investigation are very limited. Data available from international experience in the literature reflects that the tax costs of amnesty programs often outweigh the benefits of such tax amnesty programs. Indeed, recent research reveals that 'tax' amnesties have a negative effect on voluntary tax compliance.' In addition to their negative effects on tax compliance, they also affect income distribution (Erdoğdu & Akar, 2022).

## 2.4 Tax Amnesty and Tax Ratio

The Government of the Republic of Indonesia implemented a tax amnesty from 2016 to 2017 to address tax evasion, tax evasion, and the underground economy. Tax forgiveness can increase voluntary tax compliance (Darmayasa et al., 2017). The tax amnesty policy is able to increase tax compliance and taxpayers feel fair in the implementation of tax amnesty, so they have higher compliance intentions than taxpayers who feel unfair (Damayanti et al., 2020). The tax amnesty increases tax revenues in the short term, increases the tax base, and affects tax compliance in Indonesia. Empirical analysis shows that tax amnesty has a positive effect on tax

compliance of companies listed on the Indonesia Stock Exchange. This finding shows that Indonesia's tax amnesty achieves its stated goals of increasing tax revenue, tax base, and tax compliance (Hajawiyah et al., 2021)..

Research Question 1: Does the tax amnesty in Indonesia have an impact on the growth of the tax ratio?

## 2.5 Tax Avoidance and Tax Ratio

This ratio is influenced by various factors such as: taxation policies including tax rates, effectiveness of tax collection, various incentives and tax exemptions provided to economic actors and the public, and the possibility of tax crimes such as tax evasion and tax evasion. The tax ratio also explains the level of taxpayer compliance which is influenced by education and understanding of taxes from the public and the culture of tax compliance, including the law enforcement system. Tax evasion is the act of legally taking advantage of the current tax provisions to reduce the amount of tax that must be paid. In general, tax avoidance has traditionally been regarded as transferring financial resources from the government to shareholders, thereby increasing the after-tax value of the firm (Ha et al., 2021). The greater the profitability ratio of a company can cause the reported and paid tax burden to be reduced (Abdullah et al., 2019). Tax avoidance activities in order to reduce corporate tax burden (Jiang et al., 2021). Tax avoidance as an alternative source of funding to help them limit their over-reliance on debt (Ha et al., 2021).

Research Question 2: Does tax avoidance have an impact on the growth of the tax ratio?

## 2.6 Tax Amnesty, Tax Avoidance and Tax Ratio

This tax amnesty program aims to increase tax revenue in the short term, increase the tax base, and improve taxpayer compliance. In addition, the tax amnesty aims to increase tax revenues in the coming years. The database growth allows tax authorities to explore the potential for increasing tax revenues. Access to income data not previously seen in the underground economy and the return of funds from abroad to Indonesia (repatriation) are expected to increase the tax base, which is then expected to increase tax revenues (Hajawiyah et al., 2021). Tax compliance refers to the degree to which if a taxpayer files all required tax returns in a timely manner and reports tax obligations properly in accordance with his tax regulations or his country. Tax amnesty has varied effects on tax compliance, tax amnesty programs tend to lower the average level of tax compliance. However, a well-designed tax amnesty and post-amnesty enforcement program will increase the level of aggregate tax compliance. This does not mean that it recommends the government to repeat the tax amnesty program, because it will destroy credibility (Ibrahim et al., 2018). Tax amnesty can help gradually build up the tax base and bridge the gap between tax revenue and fiscal needs (Shahryar, 2021).

Research Question 3: How big is the impact of tax avoidance on changes in tax ratios caused by tax amnesty?

## 2.7 Research framework

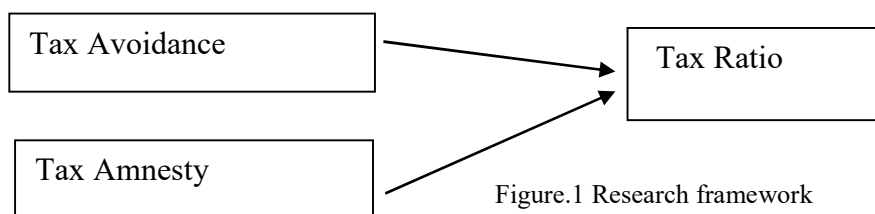


Figure.1 Research framework

### 3. Method

This research paper takes two approaches: descriptive and empirical. In the descriptive analysis, we describe data from the reports of the primary tax office in Banten province. With these data we examine the effect of tax amnesty on tax ratios, In the empirical analysis, we examine the data of IDX companies domiciled in Banten province regarding the effect of tax avoidance on the tax ratio after tax amnesty. This secondary data was analyzed using panel regression with Eviews software. The population is companies listed on the IDX during the period 2014 to 2017 located in the province of Banten, and we formed a sample using the criteria shown in Table 1. Companies domiciled in Banten were selected because they relate to the regional tax ratio. The research period is from 2014 to 2017, which includes the years before and after Indonesia conducted tax amnesty in 2016. The dependent variable is the tax ratio. The independent variable is the dummy tax amnesty of 1 for companies that use the tax amnesty, and 0 for the opposite. Table 2 shows the definition of variables and the operationalization used. Tax avoidance is a form of tax non-compliance. We use this variable to investigate the effectiveness of policies related to compliance at the business level (Hajawiyah et al., 2021)

$$TR_{Y1} = \alpha + \beta_1 TA_{v\_X1} + \beta_2 TA_{m\_X2} + \varepsilon \quad (1)$$

$$TR_{Y2} = \alpha + \beta_1 TA_{v\_X1} + \beta_2 TA_{m\_X2} + \varepsilon \quad (2)$$

Tax avoidance is measured by the effective tax rate. (ETR). We chose this proxy because the ETR shows tax evasion activity even though there are weaknesses. This proxy is also used by (Hajawiyah et al., 2021) ETR shows the tax rate per unit of currency. ETR is the actual rate applicable to corporate income taxpayers. ETR is calculated by dividing the tax paid by the income before taxes. A lower ETR means a higher rate of tax avoidance and a lower rate of tax compliance. ETR is the most widely used proxy in research related to tax avoidance

Table 1  
Sample selection criteria.

Criteria	Number of firms
Firms domicile in Banten Province 2014-2017	216
Firms with no financial statement published	(84)
Firms with operating losses	(72)
Total number of firms in sample	60

Table 2  
Variable definition and operationalization.

Variable	Definition and operationalization
TA <sub>v</sub>	Tax avoidance proxies Effective Tax Rate (ETR) = Current Tax Expense/Accounting Income or Pretax Book Income : (Hajawiyah et al., 2021),
TA <sub>m</sub>	Tax Amnesty, dummy variable equals 1 if company participates in tax amnesty program in year 2016–2017, and 0 otherwise (Hajawiyah et al., 2021)

TR_Y1	National Tax Ratio; TR-Nat: (Tax Paid/Tax Base Corp)*(Tax Base Corp/GDP) (Liapis et al., 2020)
TR_Y2	Regional Tax Ratio ; (Tax Paid/Tax Base)*(Tax Base/GRDP) (Liapis et al., 2020)

#### 4. Results and discussion

##### 4.1. Descriptive analysis

ased on Table 3, tax revenue at the KPP in the Banten province in 2014-2017 shows a continuous upward trend and based on Table 6 the GDP of the Banten region also shows an increase, but the average increase in tax revenue is 14.26% compared to the average increase in the GDP of the Banten region of 9.44%, this shows an increased tax ratio after the tax amnesty period in the province of Banten

Based on Table 4 national tax revenue in 2014-2017 shows a continuous upward trend and based on Table 5 the national GDP also shows an increase but on average the increase in tax revenue is 5.44% compared to the average increase in national GDP of 7.09%, this shows the tax ratio decreased after the tax amnesty period nationally and this is in accordance with the report submitted by the DGT that in 2017 there was a decrease

Table 3  
Tax Revenue at KPP in Banten Province 2014-2017

Table 4  
Indonesia Tax Revenue 2014-2017

KATEGORI	REVENUE (Rp. Trillion)	PERCENTAGE OF TOTAL REVENUE (%)
<b>2014 Total</b>	<b>4,123,858,000,000,000</b>	<b>100.00</b>
Income Tax (PPh)	1,147,100,000,000,000	27.81
Corporate Income Tax (PPh Badan)	342,800,000,000,000	8.31
Individual Income Tax (PPh Orang Pribadi)	804,300,000,000,000	19.50
Excise Tax (PPnL)	1,000,000,000,000,000	24.25
Stamp Duty (PPJm)	130,000,000,000,000	3.15
Other Taxes (Pajak Lain-lain)	463,758,000,000,000	11.24
<b>2015 Total</b>	<b>4,140,000,000,000,000</b>	<b>100.00</b>
Income Tax (PPh)	1,150,000,000,000,000	27.78
Corporate Income Tax (PPh Badan)	345,000,000,000,000	8.33
Individual Income Tax (PPh Orang Pribadi)	805,000,000,000,000	19.44
Excise Tax (PPnL)	1,000,000,000,000,000	24.15
Stamp Duty (PPJm)	130,000,000,000,000	3.14
Other Taxes (Pajak Lain-lain)	460,000,000,000,000	11.16
<b>2016 Total</b>	<b>4,150,000,000,000,000</b>	<b>100.00</b>
Income Tax (PPh)	1,160,000,000,000,000	27.95
Corporate Income Tax (PPh Badan)	350,000,000,000,000	8.43
Individual Income Tax (PPh Orang Pribadi)	810,000,000,000,000	19.52
Excise Tax (PPnL)	1,000,000,000,000,000	24.10
Stamp Duty (PPJm)	130,000,000,000,000	3.13
Other Taxes (Pajak Lain-lain)	460,000,000,000,000	11.07
<b>2017 Total</b>	<b>4,160,000,000,000,000</b>	<b>100.00</b>
Income Tax (PPh)	1,170,000,000,000,000	28.12
Corporate Income Tax (PPh Badan)	355,000,000,000,000	8.53
Individual Income Tax (PPh Orang Pribadi)	815,000,000,000,000	19.59
Excise Tax (PPnL)	1,000,000,000,000,000	24.04
Stamp Duty (PPJm)	130,000,000,000,000	3.12
Other Taxes (Pajak Lain-lain)	465,000,000,000,000	11.20
<b>Total</b>	<b>16,573,858,000,000,000</b>	<b>100.00</b>

Table 5  
GDP in 2014-2017 Year

Produk Domestik Bruto Atas Dasar Harga Konstan 2010 (Miliar Rupiah)	Produk Domestik Bruto Atas Dasar Harga Berubah (Miliar Rupiah)	Produk Domestik Bruto Atas Dasar Harga Konstan 2010 (Miliar Rupiah)	Produk Domestik Bruto Atas Dasar Harga Berubah (Miliar Rupiah)	PRODUK DOMESTIK NASIONAL BRUTTO - TOTAL (Miliar Rupiah)
8,264,935,600	7,911,332,200	10,559,705,300	8,566,866,600	4,783,643,900
8,982,517,100	8,419,584,600	11,325,282,900	8,962,517,100	8,127,212,400
9,434,613,400	9,425,293,000	12,461,728,900	9,424,513,600	8,499,685,400
9,912,705,600	10,037,333,100	13,537,212,600	9,912,705,600	8,974,979,600

Table 6  
GRDP at Banten Province in 2014-2017 Year

Produk Domestik Regional Bruto Atas Dasar Harga Konstan 2010 (Miliar Rupiah)	Produk Domestik Regional Bruto Atas Dasar Harga Berubah (Miliar Rupiah)	Produk Domestik Regional Bruto Atas Dasar Harga Konstan 2010 (Miliar Rupiah)	Produk Domestik Regional Bruto Atas Dasar Harga Berubah (Miliar Rupiah)	Produk Domestik Regional Bruto Atas Dasar Harga Konstan 2010 (Miliar Rupiah)	Produk Domestik Regional Bruto Atas Dasar Harga Berubah (Miliar Rupiah)	Produk Domestik Regional Bruto Atas Dasar Harga Konstan 2010 (Miliar Rupiah)	Produk Domestik Regional Bruto Atas Dasar Harga Berubah (Miliar Rupiah)	TOTAL (Miliar Rupiah)
2,154,771	2,017,385	2,445,437	2,470,004	1,886,119	2,492,115	1,877,213	2,525,454	452,7581
46,913,792	46,913,792	79,651,988	78,771,115	28,779,119	28,779,119	18,968,919	18,968,919	179,64600
43,758,021	43,758,021	89,440,111	89,440,111	30,499,238	29,938,238	19,937,838	19,937,838	419,37441
46,014,668	46,014,668	89,111,111	88,771,111	28,779,119	28,779,119	18,968,919	18,968,919	382,46800



Table 7  
National Tax Statistic Data in 2014-2017 Year

Kategori	2014		2015		2016		2017	
	Value	% of GDP	Value	% of GDP	Value	% of GDP	Value	% of GDP
Gross Regional Product (GRP) at basic prices	2.385.415,8	100,0	2.595.902,7	100,0	2.803.638,9	100,0	3.020.840,9	100,0
Corporate Income Tax	33.214,28	1,39%	37.325,12	1,44%	44.000,00	1,57%	51.527,70	1,70%
Personal Income Tax	10.450,00	0,44%	12.000,00	0,46%	14.000,00	0,50%	16.000,00	0,53%
Excise Tax	1.200,00	0,05%	1.400,00	0,05%	1.600,00	0,06%	1.800,00	0,06%
Stamp Duty	1.000,00	0,04%	1.100,00	0,04%	1.200,00	0,04%	1.300,00	0,04%
Other Taxes	1.000,00	0,04%	1.100,00	0,04%	1.200,00	0,04%	1.300,00	0,04%
Total Tax	36.864,28	1,55%	41.825,12	1,61%	49.800,00	1,78%	57.627,70	1,91%
Total Tax as % of GDP	1,55%		1,61%		1,78%		1,91%	

Tax Ratio, 2013-2017

Uraian	2017	2016	2015	2014	2013
POB Total (Milyar Rupiah)	12.888,80	12.406,77	11.526,33	10.569,71	9.546,13
Pajak Pusat (Triliun Rp)	1.342,53	1.294,97	1.290,42	1.146,87	1.074,88
Perkiraan Sumber Daya Alam (Triliun Rp):	105,81	99,88	95,85	236,18	222,25
- Minyak dan Gas Bumi	85,84	84,89	78,77	218,89	202,63
- Pertambangan Mineral dan Batubara	23,74	15,74	17,48	19,33	18,62
Daerah	11,7	10,8	11,4	12,7	12,4
Pajak Pusat dan Perkiraan Sumber Daya Alam terhadap POB	11,1%	10,4%	11,1%	10,8%	11,2%

Sumber:  
- Data Pajak Pusat dan Perkiraan SDAs dari DJPP berbagai tahun  
- Data POB dari BPS sesuai pada 07 Juli 2018

Sumber Laporan Tahunan DJP

Table 8  
Result Calculation Sample

No	Nama Entitas	2017		2016		2015		2014	
		TAM_X1	TAM_X2	TAM_X1	TAM_X2	TAM_X1	TAM_X2	TAM_X1	TAM_X2
1	PT. JAWA MITRA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
2	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
3	PT. JAWA GROUP	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
4	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
5	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
6	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
7	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
8	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
9	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70
10	PT. JAWA TRANS	0,63	0,70	0,75	0,73	0,75	0,70	0,70	0,70

4.1. Empirical analysis

Based on Tables 9 & 10, the mean values for the variables TAM\_X1 and TAM\_X2 are about 0.73 each, which means 73% of 60 is 44 (the number of companies participating in the

tax amnesty program is 11 companies, namely 44 divided by 4 research periods). The mean value for the variables TAV\_X1 & TAV\_X2 is about 0.20 each, which means that the current tax burden is 20% of the sample company accounting profit.

Table 13 shows the correlation matrix between the dependent variables. The correlation between variables is low and does not seem to pose a multicollinearity problem. The correlation matrix shows a negative relationship between the variables of tax amnesty and tax avoidance

Tables 11 and 12 show the results of the regression of the effect of the tax amnesty on the national tax ratio. We found a significant positive effect of tax amnesty on tax ratios, while tax avoidance had no effect on tax ratios nationally and regionally (in Banten province). According to optimal taxation theory, the basic principles of tax collection are (1) equity, (2) efficiency, (3) neutrality, (4) simplicity, (5) transparency, and (6) economic efficiency (Hajawiyah et al., 2021). Indonesia's tax amnesty follows these six principles and therefore affects the tax ratio. These results confirm the research of Hajawiyah et al (2021) that using ETR, the tax amnesty does not have a significant effect on tax compliance which has an impact on the tax ratio. A well-designed tax amnesty and post-amnesty enforcement program will increase the level of aggregate tax compliance. (Ibrahim et al., 2018).

Table 9  
Descriptive statistics of main variables

Date: 10/23/22 Time: 23:18 Sample: 2014 2017			
	TR_Y1	TAV_X1	TAM_X2
Mean	2.54E-05	0.208819	0.733333
Median	1.01E-05	0.239133	1.000000
Maximum	0.000177	0.709914	1.000000
Minimum	5.00E-08	0.000828	0.000000
Std. Dev.	4.16E-05	0.133160	0.445948
Skewness	2.904029	0.524669	-1.055290
Kurtosis	10.53909	5.141205	2.113636
Jarque-Bera	226.4287	14.21467	13.10046
Probability	0.000000	0.000819	0.001430
Sum	0.001527	12.52913	44.00000
Sum Sq. Dev.	1.02E-07	1.046165	11.73333
Observations	60	60	60

Table 10  
Descriptive statistics of main variables

Date: 10/23/22 Time: 23:18 Sample: 2014 2017			
	TR_Y2	TAV_X1	TAM_X2
Mean	0.000614	0.208819	0.733333
Median	0.000243	0.239133	1.000000
Maximum	0.004296	0.709914	1.000000
Minimum	1.19E-06	0.000828	0.000000
Std. Dev.	0.001002	0.133160	0.445948
Skewness	2.905550	0.524669	-1.055290
Kurtosis	10.55822	5.141205	2.113636
Jarque-Bera	227.2388	14.21467	13.10046
Probability	0.000000	0.000819	0.001430
Sum	0.036840	12.52913	44.00000
Sum Sq. Dev.	5.92E-05	1.046165	11.73333
Observations	60	60	60

Table 11  
Regression results of empirical analysis.

Dependent Variable: TR_Y1 Method: Panel Least Squares Date: 10/23/22 Time: 22:45 Sample: 2014 2017 Periods included: 4 Cross-sections included: 15 Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.80E-06	1.55E-05	-0.310481	0.7573
TAV_X1	4.03E-05	4.18E-05	0.965044	0.3386
TAM_X2	2.98E-05	1.25E-05	2.386196	0.0204
R-squared	0.091352	Mean dependent var	2.54E-05	
Adjusted R-squared	0.059470	S.D. dependent var	4.16E-05	
S.E. of regression	4.04E-05	Akaike info criterion	-17.34893	
Sum squared resid	9.28E-08	Schwarz criterion	-17.24421	
Log likelihood	523.4679	Hannan-Quinn criter.	-17.30797	
F-statistic	2.865293	Durbin-Watson stat	0.028042	
Prob(F-statistic)	0.048204			

Table 12  
Regression results of empirical analysis.

Dependent Variable: TR_Y2 Method: Panel Least Squares Date: 10/23/22 Time: 22:46 Sample: 2014 2017 Periods included: 4 Cross-sections included: 15 Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000115	0.000372	-0.309580	0.7580
TAV_X1	0.000969	0.001006	0.963776	0.3392
TAM_X2	0.000719	0.000300	2.392808	0.0200
R-squared	0.091790	Mean dependent var	0.000614	
Adjusted R-squared	0.059923	S.D. dependent var	0.001002	
S.E. of regression	0.000971	Akaike info criterion	-10.98684	
Sum squared resid	5.38E-05	Schwarz criterion	-10.88213	
Log likelihood	332.6053	Hannan-Quinn criter.	-10.94588	
F-statistic	2.880403	Durbin-Watson stat	0.029215	
Prob(F-statistic)	0.048315			

Table 13  
Table 12 Pearson correlation matrix of main variables

	TAV_X1	TAM_X2
TAV_X1	1.000000	-0.328648
TAM_X2	-0.328648	1.000000

## 5. Conclusions, implications, and limitations

The amnesty program is implemented in order to increase tax revenue, increase the tax base, and improve taxpayer compliance. To investigate the impact of the amnesty on tax ratios, we examine national and regional tax revenues in the post-amnesty province of Banten. In a complementary empirical analysis, we also examine the effect of the tax amnesty program on tax avoidance of companies listed on the Indonesia Stock Exchange domiciled in the province of Banten.

The results show that tax amnesty increases tax revenue in the short term, increases the tax base, and affects tax ratios nationally and regionally. Empirical analysis shows that tax

avoidance by companies listed on the Indonesia Stock Exchange domiciled in the province of Banten has no effect on the tax ratio

We acknowledge the following limitations of this study. Due to the short observation period, this study examines only publicly traded companies domiciled in the Banten area. The impact on the wider area needs to be studied further. Despite its limitations, this research is important because it can be useful for the Government of Indonesia, the Directorate General of Taxes, especially for the tax office in the Banten province, in evaluating policies related to tax amnesty.

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