Formal Tax Compliance in Indonesia through Electronic Tax Filing: A Case Study of Micro, Small, and Medium Enterprises (MSMEs)

[Alzhar Valentino Erdiansyah]
[Direktorat Jenderal Pajak, Kementerian Keuangan RI]

[Khoirunrofik]
[Fakultas Ekonomi dan Bisnis Universitas Indonesia]

Alamat Korespondensi: [alzharvalentino@gmail.com]

Abstract:

We investigated the possible correlation between business size and formal tax compliance use: data from the Directorate General of Taxes at the province level in Indonesia for 2014 – 2018. We employed the aggregate business-level Micro, Small, and Medium electronic tax filing data combined with the Base Transceiver Station data at the provincial level. We found that micro and small-scale taxpayers $e-filing$ rate has a positive and significant effect on formal tax compliance. Yet, both have a non-linear relationship to formal tax compliance. These results imply that size or business scale MSME taxpayers is associated with formal tax compliance, and greater benefits can be obtained in a province with a high microscale taxpayer's $e-filing$ rate.

Tujuan penelitian kami untuk mengkaji korelasi antara skala usaha wajib pajak dengan kepatuhan perpajakan formal yang menggunakan data Direktorat Jenderal Pajak pada level provinsi dalam kurun waktu 2014 – 2018. Kami menggunakan data agregat wajib pajak UMKM yang melaporkan SPT elektronik yang dikombinasikan dengan data *Base Transceiver Station* pada level provinsi. Metodologi penelitian yang digunakan adalah metode kuantitatif dengan regresi panel data. Hasil regresi panel data menunjukkan adanya hubungan signifikan antara kepatuhan pelaku usaha berskala mikro dan skala kecil dengan tingkat kepatuhan formal pelaku UMKM pada suatu provinsi. Namun hasil penelitian juga menunjukkan bahwa hubungan tingkat kepatuhan wajib pajak berskala mikro dan kecil bersifat tidak linier terhadap kepatuhan perpajakan formal. Kesimpulan penelitan memperlihatkan bahwa skala usaha wajib pajak UMKM berasosiasi dengan kepatuhan perpajakan formal dan provinsi dengan tingkat *e-filing* wajib pajak berskala mikro yang tinggi memiliki tingkat kepatuhan lebih baik.

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1. INTRODUCTION

Tax compliance is one of the most important problems faced by all countries in the world. The Attitude to Compliance Pyramid built by the Australian Taxation Office illustrates that Micro, Small, and Medium enterprises (MSME) are in the Tries and Supporters group. These two groups' compliance level is low due to a lack of understanding and inability to comply with applicable tax regulations. Therefore taxpayer compliance is expected to be related to the size or scale of the taxpayer's business. Indonesia also faces the problem of low MSME taxpayer compliance. Data from the Directorate General of Taxes of the Republic of Indonesia exhibits that the formal tax compliance of MSME taxpayers continues declining every year from 55% in 2014 to 38% in 2017. This is indicated by the number of MSME players who have registered as taxpayers of 1.5 million until 2017, but the number of taxpayers who have reported annual tax returns is only around 38% or as many as 563,455 people until the same year. One of the possible factors that can explain the low taxpayer compliance is the size or scale of the taxpayer's business. We examined whether a taxpayer's characteristics such as the business size correlate with formal tax compliance measured by e – filing rate. We chose Indonesia, one of the world's biggest developing countries because its population is near 270 million people with an estimated number of potential taxpayers of 165 million people. This study argues that in a developing country like Indonesia, the high level of micro-scale taxpayers' compliance may improve tax compliance overall.

Some previous studies regarding the effect of electronic tax filing on tax compliance mostly focused on the use of e-filing. Most of the existing research only shows user behavior after using e-tax filing (e-filing) or the sustainable behavior of users after using e-filing (Akram et al., 2018; Veeramootoo et al., 2018; Santhanamery & Ramayah, 2015). To our knowledge, their findings failed to account for the size or scale of taxpayers' business to the level of tax compliance. Accordingly, this research attempts to provide an empirical analysis of the association between MSMEs' characteristics and Indonesia's formal tax compliance.

The number of Indonesian residents while registered in the national taxpayer master file by the end of the year 2019 was only 42 million people (Alm, 2019). By analyzing Indonesia's formal tax compliance, this research is the first to employ the aggregate data of Electronic Annual Tax Returns reporting by MSME taxpayers in every province has been applied to examine the interrelationship between business size on formal tax compliance. Taxpayers with high and low-income levels have low tax compliance while taxpayers with middle-income levels have higher tax compliance (Richardson, 2006). This research is benefited from utilising the national Annual Tax Returns reporting data within the five-year observation period after the enactment of regulations governing tax returns in the form of electronic documents.

This research will also enrich the empirical research on the relationship between adopting an electronic tax system and taxpayers' attitude regarding the electronic tax system, particularly of micro and small business taxpayers' compliance in Indonesia. We argue that taxpayers' business size or scale utilizing electronic systems is associated with formal tax compliance. Thus, this research considers taxpayers' supply side through the technology infrastructure for access to Base

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Transceiver Stations (BTS). The use of BTS variable as a proxy for ICT infrastructure variable has been used in several studies (see R. Untari et al, 2019). This research uses data on the number of villages / kelurahan with BTS in each province throughout Indonesia because the e-filing rate of a province is related to the technological infrastructure that supports the e-filing process by taxpayers in that province. South Korea's significant success in a VAT refund system that integrates information and communication technology (ICT) into the tax administration system can improve tax services and taxpayer compliance (Hyung Chul Lee, 2016). Taxpayers who are domiciled in provinces with a better information technology infrastructure base are thought to have higher formal tax compliance than taxpayers domiciled in provinces with lower information technology infrastructure. It is important to know the relationship between the information technology infrastructure base and the e-filing rate to measure the taxpayer's formal compliance behavior in utilizing e-filing.

This research is structured as follows. Part 2 explains tax compliance and the electronic tax reporting policy in Indonesia and discusses related theories and empirical studies. Part 3 discusses my identification strategy and elaborates source of data. Part 4 analyzes the association of MSME characteristics on formal tax compliance measured by e – filing rate. The final section concludes with and policy recommendation.

2. Literature Review

2.1 Tax Compliance

Tax compliance is an act of lodging the income tax return, stating all the taxable income truthfully, and paying all the tax obligations within the specified period without waiting for the authority for any follow–up actions (Singh, 2003; Night & Bananuka, 2018). Further, tax compliance refers to fulfilling all tax obligations as specified by the law wholly and freely, or the degree to which a taxpayer complies or fails to comply with the tax rules of their country (Braithwaite, 2009; Musimenta et al., 2017; Sadress et al., 2018). This research adopts the definition of tax compliance as suggested by Singh (2003) and Night & Bananuka (2018).

Musimenta et al. (2017) stated that in Uganda, an individual or company is considered compliant if that individual or company registers with Uganda Revenue Authority (URA), submits all the tax returns, settles the tax obligations fully, and withholds all the required taxes as per the Income Tax Act. In Indonesia's context, individual taxpayers or corporate taxpayers are deemed obedient if they are registered to have a Taxpayer Identification Number, report tax returns, accomplish all tax obligations, and collect and withhold taxes as imposed in the Income Tax Law.

Tax compliance is a conscious and obedient action by taxpayers regarding the orderliness of reporting and payment of tax obligations every month and every year where the taxpayer can be in the form of a group of individuals and/or a group of capital in the form of a business under applicable tax regulations (Prabandaru, 2019). Formal tax compliance is the compliance of individuals and business entities to accomplish tax obligations based on formal taxation provisions (Guztaman, 2020).

2.2 Electronic Tax Filing

Maisiba and Atambo (2016) argued that the e–tax system improves tax compliance, as it facilitates faster accessibility to tax services without a physical visit to the tax authority premises.

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Simuyu and Jagongo (2019) indicated a significant relationship between the perception towards online tax filing in terms of ease and simplicity to file and the system being secure, which improves tax compliance levels. Meanwhile, voluntary tax compliance is highly achieved if taxpayers have a positive attitude towards filling returns and subsequent payment of the taxes due (Night and Bananuka, 2018). Therefore, taxpayers' attitude towards self–assessment must be improved to achieve a better tax compliance level (Nawawi and Salin, 2018). The adoption of an electronic tax system will depend on the perceived ease of use of the tax system and intensity of behavior (Khaddafi *et al.,* 2018).

Regulation of the Minister of Finance Number 243 / PMK.03 / 2014 concerning Tax Returns established that Tax Returns can be in electronic tax return or tax return forms. The Directorate General of Taxes (DGT) provides e -filing facilities, namely electronic tax reporting that taxpayers can do anytime via the internet on the https://djponline.pajak.go.id page to make it easier for e-filing users in reporting their Annual Tax Return. E - filing users can send and fill out the Annual Tax Return easily and efficiently because this service is in the form of an electronic form on the https://djponline.pajak.go.id page which will provide instructions to taxpayers using this facility (www.kemenkeu.go.id).

Orobia *et al.* (2013) stated that a small business's definition varies from one country to another and from one industry to another so that there is no universally accepted definition. This research's primary independent variable is business gross circulation with a classification based on Law No. 20 of 2008 concerning MSME. A Micro Enterprise is an enterprise with an annual turnover up to IDR 300 million; a Small Enterprise is an enterprise with an annual gross turnover between IDR 300 million and IDR 2.5 billion and a Medium Enterprise is an enterprise with an annual turnover between IDR 2.5 billion an IDR 50 million. However, for this research, Medium enterprises are enterprises that make annual gross turnover not exceeding IDR 4.8 billion (Government Regulation Number 46 of 2013).

MSME is indicated to be in the Tries or Supporters group based on the pyramid of attitude to comply built by the Australian Taxation Office (The Way Forward 2001 Onwards, page 35) and according to the review of the Fiscal Policy Agency. The Supporters group's attitude to compliance is willing to do the right thing, so the Tax Authority's compliance strategy makes the tax regulation easy to Micro and Small Enterprises. Meanwhile, the attitude to compliance by Tries group is trying to not comply, but it doesn't always succeed. Hence, the compliance strategy by the Tax Authority is assisting MSME to comply with the tax regulation. In these two groups, the low level of compliance is due to a lack of understanding and inability to comply with applicable regulations. They are groups that have limited administrative capacity to be able to comply with tax provisions. According to these characteristics, the taxpayer's size or business scale is presumed to be associated with the tax compliance of MSME taxpayers in Indonesia.

3. Research Methodology

This research utilizes several sources to construct a data panel for formal tax compliance of MSME taxpayers in Indonesia in the form of the aggregate number of taxpayers for each province who reported electronic annual tax returns in the 2014 to 2018 tax year. We combined the aggregate

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data on the formal tax compliance of MSME taxpayers from the Directorate General of Taxes, Ministry of Finance with statistical data from all relevant provinces regarding this research from the Central Bureau of Statistics.

The taxpayer's business gross circulation data is obtained from the Income Tax attachment that has been deposited by the taxpayer on the Electronic Annual Tax Return. Taxpayers who have paid income tax using the tax account code 41128 and deposit type code 420 are categorized as MSME taxpayers. Taxpayer business circulation data is in the aggregate number of MSME taxpayers who have submitted electronic annual tax returns in every province throughout Indonesia. This data is obtained from Directorate of Potential, Compliance and Revenue of the DGT. This data is then grouped into 3 (three) layers of the size of business turnover based on the MSME classification specified in Law Number 20 of 2008 to determine the taxpayer's business scale. Taxpayer business scale is classified into micro, small and medium enterprises. However, the data on the number of medium-scale taxpayers used in this research is limited to MSMEs who have a business turnover of between Rp 2.5 billion to Rp 4.8 billion in one year. Christian & Gupta (1993) have proven that the level of income is positively associated with tax compliance.

Taxpayer's business type data is obtained from the business field classification (KLU) contained in the taxpayer's master file. Taxpayer business types data have been grouped into 3 (three) major groups covering industry, trade, and services. However, some taxpayers whose KLU cannot be identified in the taxpayer's master file since a number of these taxpayers are included in the fourth group. Taxpayers who are included in the fourth group are incorporated in the three groups

of taxpayer business types but their business types unidentified. The number of these taxpayers is insignificant so it is not considered in our research. Mohd Yusof et al (2014) stated that the type of business run by taxpayers has a significant effect on the tax compliance of MSME taxpayers.

Information Technology and Computer (ITC) Skills data is obtained from dynamic statistical data obtained from the Central Bureau of Statistics. Data on ITC skills is the proportion of adolescents and adults aged 15 - 59 years with information technology and computer (ITC) skills by the province in the form of a percentage. ITC Skills data in our research is constructed as a variable that controls taxpayers' age distribution who report their annual tax returns.

Base Transceiver System (BTS) infrastructure data is obtained from the Central Statistics Agency's statistical publication data. BTS Infrastructure Data is data that describes the number of villages/wards that have Base Transceiver Station (BTS) towers by province and regional classifications throughout Indonesia. This data is only available for three 3 (years): 2011, 2014, and 2018. BTS Infrastructure data in our research is constructed as a variable that controls the supply side of the information and communication technology infrastructure base owned by each province in places where the taxpayer who reports the Annual Tax Return is domiciled. The BTS Infrastructure data used is BTS Infrastructure data for 34 provinces in 2014 and 2018. The BTS infrastructure rate for each province in the period 2014 - 2017 is based on 2014 data, while the BTS infrastructure rate for 2018 uses data in the same year.

In this research, panel data regression analysis is to observe the variations in the

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correlation of business size (business circulation) and economic demographic factors (types of business) on formal tax compliance of MSME individual taxpayers. The model specification in this research adopts the regression model by Pippin and Tossun (2014). We employed the business scale variable as the primary independent variable in this research. However, we did not use the demographic variables including ethnicity, gender, and age because the characteristics of the MSMEs taxpayers examined in this research are the size or business scale and business type of the taxpayers. The panel data regression model in this research uses the following equation :

$$\text{Compliance}it = \beta 0i + \beta 1\ \text{Micro}it + \beta 2\ \text{Small}it + \beta 3\ \text{Medium}it + \beta 4\ \text{Micro2}it + \beta 5\ \text{Small2}it + \beta 6\ \text{Medium2}it + \\ \beta 7\ \text{Industry}it + \beta 8\ \text{Trade}it + \beta 9\ \text{Service}it + \beta 10\ \text{BTS\_infrastructure}it + \beta 11\ \text{ITC\_skill}it + £t + \\ \mu it$$

which Complianceit is the e-filling rate, namely the level of e-filling of taxpayers in the Annual SPT reporting in a province i; Microit describes the e-filling rate of micro-scale taxpayers in a province i and in a certain tax year. This variable is a continuous variable where this rate explains the ratio between the number of taxpayers of micro-scale MSMEs who report Annual Tax Returns in electronic documents in a province. Smallit describes the e-filing rate of small-scale taxpayers in a province i and a certain tax year while Mediumit describes the e-filing rate of medium-scale taxpayers in a province I and a certain tax year. These variables are also continuous in terms of rate.

4.   Results

We present descriptive statistics results in Table 1. We generated means and standard deviations to summarize the observed data. According to Field (2009), means represent a summary of the data and standard deviations show how well the means represent the data. The mean score for the dependent variable (tax compliance) is 0.1095, whereas the standard deviation is 0.1181.

Table 1. Descriptive Analysis

VARIABLES	Mean	Std. Dev.	Coef. Var.	Minimum	Maximum
Micro	0.1015	0.1211	1.1931	0.0005	0.5097
Small	0.1733	0.1858	1.0721	0	1.4466
Medium	0.2168	0.2018	0.9308	0	0.7084
Industry	0.0741	0.7274	9.8165	0	0.4192
Trade	0.0818	0.8100	9.9022	0	0.4161
Service	0.0869	0.0807	0.9287	0	0.4321
ITC_Skill	0.3912	0.1466	0.3747	0.1143	0.8517
BTS_Infrastructure	0.3782	0.1952	0.5162	0.0361	0.8389
Micro2	0.0249	0.0492	1.9759	0	0.2598
Small2	0.0643	0.1804	2.8056	0	2.0927
Medium2	0.0875	0.1191	1.3611	0	0.5019

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E - filing rate is the proportion of individual MSMEs who submit electronic SPT to the number of registered individual MSME taxpayers. The minimum e-filing rate for micro-scale taxpayers in West Nusa Tenggara Province in 2014 was 0.0005, which means that the percentage of micro-scale taxpayers' e-filing rate in NTB province was 0.05%. Meanwhile, the maximum e-filing rate for micro-scale taxpayers in the provinces of Bangka and Belitung Islands in the 2018 tax year was 0.5097, meaning that the percentage of micro-scale taxpayers' e-filing rate in the province was 50.97%.

The minimum e-filing rate for small-scale taxpayers in Bengkulu, Maluku, and West Papua Provinces in the 2014 fiscal year was 0, meaning no small-scale taxpayers in the three provinces reporting Electronic Annual Tax Returns.

Meanwhile, the maximum e-filing rate for small-scale taxpayers in West Kalimantan Province in the 2018 fiscal year was 1.4466. The e-filing rate of small-scale taxpayers in this province exceeds 100% because the number of small-scale taxpayers reporting electronic tax returns exceeds the number of registered small-scale taxpayers.

The total MSME individual taxpayers who have submitted their Electronic Annual Tax Return were lower than the total registered MSME individual taxpayers during the 2014 - 2018 reporting period (Figure 1). Most of the MSME individual taxpayers have not used an electronic system in carrying out their Annual Tax Return reporting obligations.
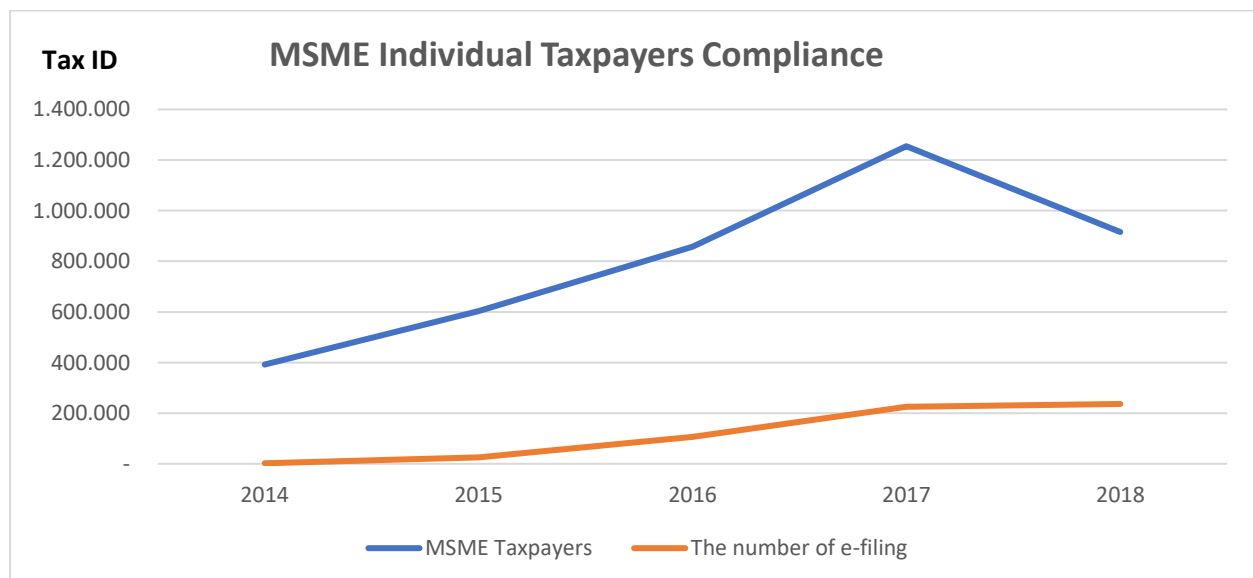

Figure 1. The trend of MSME Individual Taxpayers Compliance

The number of individual MSME taxpayers who have been registered nationally continues to increase from year to year even though in 2018 the number registered has decreased. There were 392,075 taxpayers in 2014; 602,972 in 2015; 857,503 in 2016; 1,254,648 in 2017; and 915,138 in 2018. The decrease in the number of individual MSME taxpayers in 2018 is thought to be related to government regulation number 36 of 2018 which regulates the reduction in income tax rates for taxpayers with certain gross circulation.

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Meanwhile, the number of individual MSME taxpayers who have submitted electronic annual tax returns always increases from year to year. There were 2,025 taxpayers in 2014; 25,140 in 2015; 105,988 in 2016; 225,463 in 2017; and 236,374 in 2018. The gap between registered MSME taxpayers and the number who report e-filing is was still very wide (Figure 1). This fact indicates that the Directorate General of Taxes still has the opportunity to encourage MSME taxpayers to report their annual tax returns through e-filing.

The total micro individual taxpayers who have submitted their Electronic Annual Tax Return for the early period were lower than for the last period although this number continued to increase in the 2014 – 2018 period (Figure 2). Meanwhile, the number of individual micro individual taxpayers increased during the 2014 - 2017 tax year.
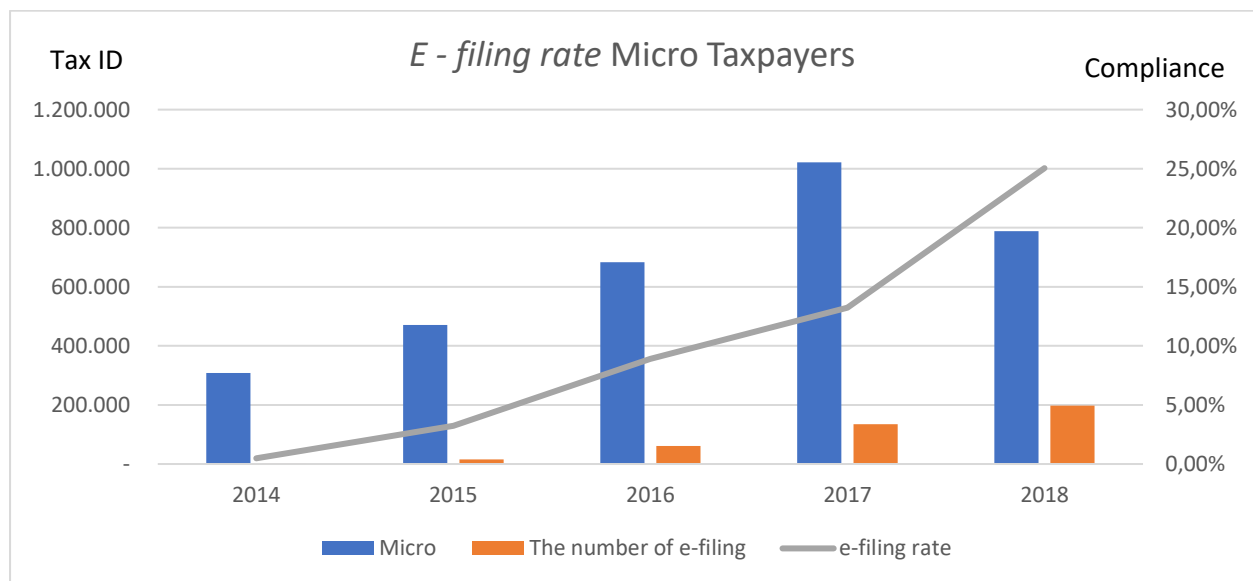

Figure 2. The trend of Micro Individual Taxpayers Compliance

There were 308,197 taxpayers in 2014; 15,215 in 2015; 683,378 in 2016; 1,021,623 in 2017; and 788,553 taxpayers in 2018. The micro-scale taxpayers declined from 2017 to 2018. We speculate that government regulation number 36 of 2018 might have contributed to this phenomenon. While the micro-scale taxpayers who have submitted their Electronic Annual Tax Return were 1,492 in 2014; 15,215 in 2015; 60,813 in 2016; 135,262 in 2017; and 197,506 in 2018. The compliance rate is the proportion of the number of micro-scale taxpayers who report the electronic annual tax return to the number of registered micro-scale taxpayers in a percentage.

Consequently, the e- filing rate for micro-scale individual taxpayers was 0.48% in 2014; 3.23 % in 2015; 8.9 % in 2016; 13.24% in 2017 and 25.05% in 2018. The descriptive statistics show a progressive trend of compliance rate over time in terms of the number of micro-scale taxpayers using e-filing. This evidence is consistent with the Australian Taxation Office's (2001) finding, showing that the attitude to compliance by the micro-scale business which is included in the Supporters group is willing to do the right thing.

The total number of small individual taxpayers and the number of small individual taxpayers reporting Electronic Annual Tax Returns

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only continued to increase until 2017 (Figure 3). Then, the total number of small individual

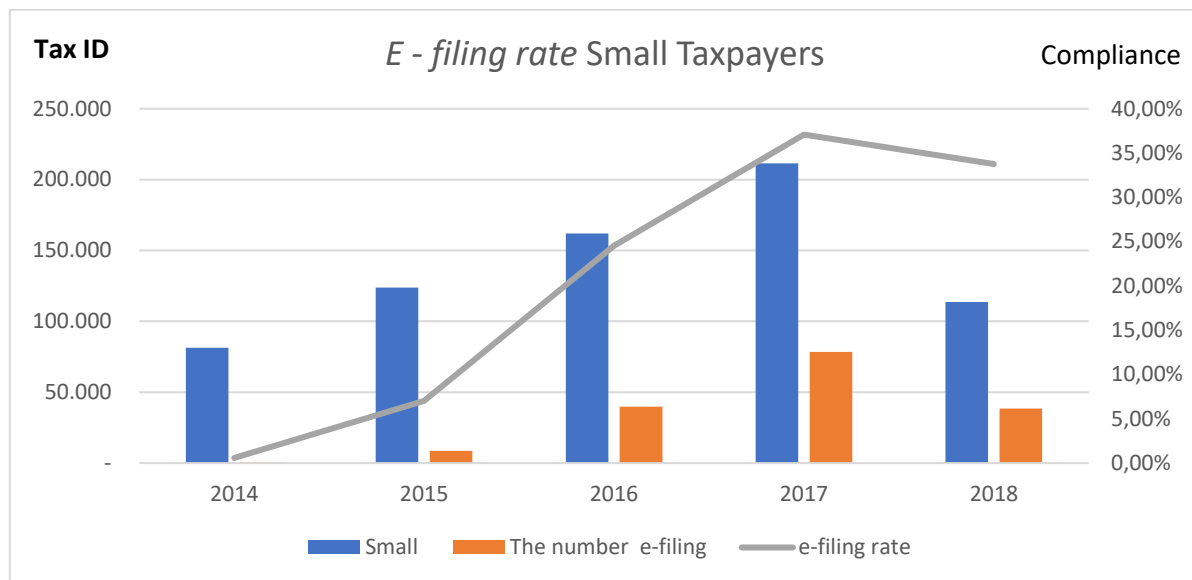taxpayers and the number of small individual taxpayers using e-filing were declining in 2018.

Figure 3. The trend of Small Individual Taxpayers Compliance

The small–scale individual taxpayers were 81,330 taxpayers in 2014; 123,757 in 2015; 161,880 in 2016; 211,459 in 2017; and 113,608 in 2018. While the small-scale individual taxpayers using e-filing were only 469 taxpayers in 2014; 8,664 in 2015; 39,760 in 2016; 78,410 in 2017; and 38,360 in 2018. The e-filing rate was 0.58% in 2014; 7 % in 2015; 24.56% in 2016; 37.08% in 2017; and 33.77% in 2018 respectively.

The descriptive statistics show a degressive trend of compliance rate from 2017 to 2018 in terms of the number of small-scale taxpayers using e-filing. This phenomenon is also consistent with the Australian Taxation Office's

(2001) finding, showing that the attitude to compliance by the small-scale business which is included in the Trial group is trying not to comply even not always succeed.

The total medium-scale individual taxpayers and the number of medium-scale individual taxpayers reporting Electronic Annual Tax Return decreasing sharply from 2017 to 2018 reporting period (Figure 4). Nevertheless, the total individual medium-scale individual taxpayers and the number of medium-scale individual taxpayers using e-filing continued to increase in the previous period.
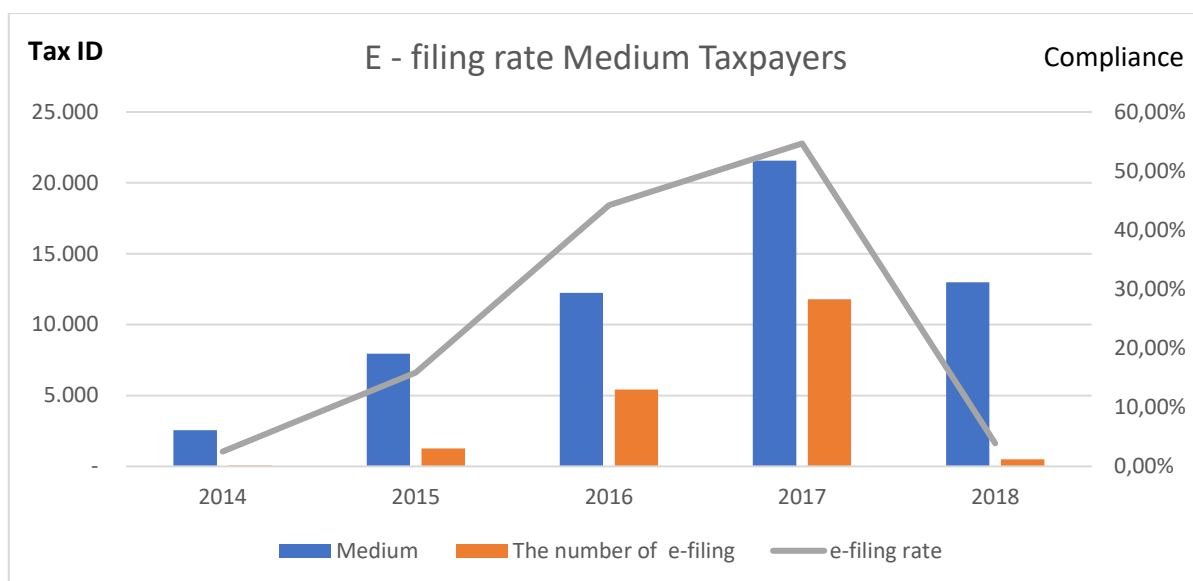
Figure 4. The trend of Medium Individual Taxpayers Compliance

The medium-scale individual taxpayers were 2,548 taxpayers in 2014; 7,945 in 2015; 12,245 in 2016; 21,566 in 2017; and 12,977 in 2018. Meanwhile, the number of medium-scale individual taxpayers using e-filing were only 64 taxpayers in 2014; 1,261 in 2015; 5,415 in 2016; 11,791 in 2017; and declining to 508 in 2018. Accordingly, the e-filing rate was only 2.51% in 2014; 15.87 % in 2015; 44.22% in 2016; 54.67% in 2017; and fell sharply to 3.91% % in 2018.

In general, there has been a decrease in the number of individual MSME taxpayers at each business scale and the number of individual MSME taxpayers who report electronic tax returns from the 2017 tax year to the 2018 tax year. This evidence is thought to be related to the implementation of Government Regulation Number 23 of 2018 concerning Income Tax on Income from taxpayer businesses that have an inevitable gross turnover. Article 2 paragraph (2) of this regulation states that the final income tax rate on income from the taxpayer's business is 0.5% and

is effective from 1 July 2018 or the July 2018 tax period.

Some MSME taxpayers are not aware of the rate reduction and the amount of income tax paid is final. The amount of income tax that must be paid by taxpayers must be based on monthly gross turnover. Thus when reporting the SPT electronically, the taxpayer states that the gross circulation for one year is based on the accumulated income tax paid during the tax year. As a result, the reporting of gross turnover for the July - December 2018 period that is reported by taxpayers on the electronic SPT must be adjusted based on the income tax for the July - December 2018 period that has been paid, and this has an impact on the increase in reported gross turnover for the tax period in that period.

In the end, the average turnover reported by taxpayers is greater than the same tax period in the 2017 tax year then this phenomenon shifts the classification of the taxpayer's business scale from micro to small scale, from small scale to medium-scale, and from medium to medium scale business

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scale with a business turnover exceeding Rp. 4.8 billion in the 2018 tax year. This shift in the business scale of MSME taxpayers has caused most medium-scale taxpayers who have reported electronic annual tax returns for 2017 to not be included in the medium-scale taxpayer classification based on the threshold for the tax year 2018.

Table 2 illustrates the results of panel data regression which can be described as follows.

Table 2. Results of Panel Data

Regression

	Model 1 Compliance	Model 2 Compliance	Model 3 Compliance	Model 4 Compliance
Micro	0.830***	0.877***	0.814***	0.813***
	(0.018)	(0.055)	(0.046)	(0.046)
Small	0.089***	0.214***	0.145***	0.140***
	0.011)	(0.028)	(0.026)	(0.026)
Medium	0.064***	-0.003	0.024	0.025
	(0.016)	(0.037)	(0.030)	(0.030)
Micro2		-0.161	-0.153*	-0.155*
		(0.111)	(0.091)	(0.092)
Small2		-0.0100***	-0.065***	-0.065***
		(0.020)	(0.018)	(0.018)
Medium2		0.035	-0.064	-0.069
		(0.048)	(0.042)	(0.042)
Industry			0.380***	0.379***
			(0.073)	(0.073)
Trade			-0.277***	-0.280***
			(0.090)	(0.092)
Service			0.228***	0.243***
			(0.063)	(0.066)
BTS_infrastructure				0.145*
				(0.083)
ITC_skills				0.000
				(0.001)
cons	-0.001	-0.000	-0.002	-0.056*
	(0.003)	(0.003)	(0.002)	(0.033)
N	170.000	170.000	170.000	170.000
aic	-964.658	-995.142	-1063.199	-1063.443
bic	-939.572	-960.648	-1019.298	-1013.270
r2	0.984	0.987	0.991	0.992

Notes: include year dummies, robust
Standard errors in parentheses, * p<0.10, ** p<0.05, *** p<0.01

After the descriptive statistical test was carried out, I then tested the classical assumptions starting from the Multicollinearity test, the Heteroscedastic test, and the Autocorrelation test. After fulfilling the classical assumptions, I tested the hypothesis using panel data regression.

We examine three main independent variables which include Microit, Smallit, and Mediumit variables to determine whether the taxpayer's business scale is associated with formal taxpayer compliance in model (1). Table 2 illustrates the Fixed Effect test regression results, which shows that the sign of all principal independent variable coefficients is under the theory where the level of taxpayer income is positively associated with formal taxpayer compliance and is significant at alpha 0.01.

In the model (2), we introduce the quadratic regression model to determine whether the relationship pattern of the three main independent variables in the model (1) is non-linear to taxpayers' formal compliance. The quadratic regression results show that the sign of the coefficient of the Micro variable and the Small variable is positive and significant. While the coefficient sign of the Micro2 variable and Small2 variable is negative, but only the Small2 variable is significant. The regression results of the quadratic regression model also show that the sign of the Medium variable coefficient is negative, and vice versa the sign of the Medium2 variable coefficient is positive.

We further employ model (3), namely the panel data regression model by adding a variable of the type of business of individual taxpayers of MSME sectors. The other independent variables are the Industry variable, Trade variable, and Service variable. Regression model (3) is employed to determine whether the taxpayer's economic demographic characteristics (taxpayer's type of business) are associated with formal tax compliance. The regression model (3) show that the sign of the Industry and Service variable coefficients is positive, but on the other hand, the sign of the Trade variable coefficient is negative. The addition of the taxpayer's business type variable results in the sign of the Medium variable coefficient being positive.

In the final model, we include the two control variables in the model (4). The control variables are the ITC skills variable and the BTS_infrastructure variable. The regression results show that the coefficient of the Micro variable is 0.813 at significant at 0.01 alpha. It implies that the micro-scale e-filing rate correlates positively and significantly with formal taxpayer compliance. The coefficient of the Small variable is also positive and statistically significant at alpha 0.01. In comparison, the sign of the Medium variable coefficient is also positive, although it is not statistically significant. This data processing results follow the author's expectations because Micro and Small variables are statistically significant even though the Medium variable is insignificant. These results support previous research that showed that taxpayers' income level is associated with taxpayers' interest to take advantage of technology in reporting the Annual Tax Return. The previous studies are Mathaba (2017), Wafula et al (2015), Verma et al (2015), Lukwata (2011), and Bird and Zolt (2008)

Our examination further suggests that the relationship between Micro and Small variables on taxpayer formal compliance is not linear. The regression results show that the Micro2 variable coefficient is negative and statistically significant at 0.1 alpha. The coefficient sign of the variable Small2

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is also negative and even statistically significant at alpha 0.01. Meanwhile, the sign of the Medium2 variable coefficient is also negative but insignificant. Consequently, we might conclude that the higher the e-filing rate of micro and small-scale MSME taxpayers will decline the formal tax compliance of MSME in a province. The regression results are not under the author's expectations that taxpayers' formal compliance with a larger business scale will be higher than taxpayers' formal compliance with a smaller business scale.

However, this regression results imply that according to the Attitude to Compliance Pyramid, these micro and small scale businesses are included in the Supporters and Tries groups. These two groups' compliance level is low due to a lack of understanding and inability to comply with applicable tax regulations. Supporters and Tries groups have limited administrative capacity to comply with applicable tax regulations. The compliance behavior of the Supporters group is a willingness to do the right thing. Hence, the government's strategy to improve the micro and small-scale taxpayers' compliance is the simplification of regulations that support these groups of taxpayers to accomplish their tax obligations completely.

The Tries group's compliance behaviour is trying not to comply with tax obligations even though this non-compliance behavior is not always successful. At certain income levels, micro and small-scale taxpayers can be categorized as the Tries group. The micro and small taxpayers who are included in the Tries group tend to be non-compliant and choose not to report their Annual Tax Returns electronically. An example of taxpayer non-compliance is not submitting a complete, correct, and clear annual tax return. Complete

means that the taxpayer reports all assets owned. This means that the taxpayer reports how the assets were acquired. Therefore, the government needs to encourage this group of taxpayers to report their annual tax returns correctly.

Compliance costs are defined as gross compliance costs minus benefits of tax compliance. The gross compliance costs consist of computational and tax planning costs whereas tax compliance benefits come from managerial and tax planning activities (Tran-Nam et al., 2000; Saputro, 2020). Compliance cost to profit ratio for small businesses is larger than that of large businesses. Therefore micro and small taxpayers at the threshold area have an incentive to behave disobediently in reporting their annual tax returns. Meanwhile, electronic tax filing by taxpayers has already been computerized. Consequently, taxpayers can no longer outsmart their tax calculations.

We further investigated whether there is an association between taxpayer's business types and formal tax compliance. The coefficient sign of the Industry variable and Service variable is positive and significant. We expected that most of the MSME taxpayers in the industrial and service sectors are serious about building their business. Therefore, they tend to be more obedient to all kinds of regulations that have been stipulated by the government.

While the sign of the Trade variable coefficient is negative and significant, we inferred that most micro-scale individual taxpayers in the trade sector are engaged in the informal economy such as street vendors (PKL), food stall owners and vegetable traders who sell in traditional markets, and other traders whose business does not exceed IDR 300 million in one year. Most of the micro

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traders' businesses are still trial and error, so they think that if their business is not developing well, they only need to pay taxes and do not need to report their annual tax returns to the tax office.

The sign of the two control variables' coefficient, namely ITC_skills and BTS_Infrastructure variable, is positive, but only the BTS_Infrastructure is significant at 0.1 alpha. The e-filing rate of taxpayers domiciled in a province with a strong information technology infrastructure base is positively associated with formal tax compliance in the province. Hyung Chung Lee (2016) mentioned that integrating information and communication technology (ICT) into the tax administration system can improve tax services and taxpayer compliance.

5. Conclusions and Recommendation

We have shown that the e-filing rate of micro and small-scale MSME taxpayers is significantly associated with the formal compliance of MSME taxpayers in Indonesia. We used panel data regression to examine the correlation between MSME size and formal tax compliance. We found that the e-filing rate of micro and small-scale taxpayers was positively and significantly correlated with the MSME formal tax compliance of a province.

In general, the formal tax compliance level of MSME taxpayers is still low due to a lack of understanding and inability to comply with applicable tax regulations. The non - compliance behavior of MSME taxpayers is presumed to be associated with the business size of MSME taxpayers. MSME taxpayers are indicated to have the limited administrative capacity to comply with appropriate taxation provisions. The compliance behavior of micro-scale taxpayers which is included in the Supporters group is willing to do the right

thing. Hence, the government's strategy to boost micro and small-scale taxpayers' compliance is the simplification of regulations to support these taxpayers.

Our research has also shown that adopting an electronic system in a province with a relatively high number of micro-scale taxpayers to the total registered micro-scale taxpayers will increase the formal tax compliance of MSME individual taxpayers in the province. The results of this research indicated that the province that gets the most benefit from the adoption of an electronic system in submitting Annual Tax Returns by MSME taxpayers are provinces with a higher micro taxpayer e-filing rate.

Therefore, the Directorate General of Taxes (DGT) needs to map individual MSME taxpayers in Indonesia who utilize electronic systems based on their business scale. Extra effort by DGT should be done to encourage MSME individual taxpayers to utilize electronic systems in Annual Tax Return reporting, especially in provinces with many micro-scale taxpayers is relatively high to the total number of registered MSME taxpayers. However, the Directorate General of Taxes through small tax offices in all DGT regional offices requires extraordinary consideration of micro and small taxpayers' compliance behaviour in the trade sector. Most of the micro and small-scale taxpayers in the trade sector think that they should pay taxes only and do not need to report annual tax returns. All small tax offices throughout Indonesia need to make efforts to pick up the ball by visiting the taxpayer's business location directly to assist in reporting and filing the annual tax return through e-filing to the taxpayers and direct observation of the real business conditions of taxpayers. Overall, the Directorate General of Taxes needs to increase the

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intensity of the implementation of electronic systems by MSME taxpayers to improve Indonesia's formal tax compliance.

6.   IMPLICATION AND LIMITATION

Our research scope is limited to individual taxpayers in the MSME sector registered in the Directorate General of Taxes because an individual taxpayer has the full decision on the fulfillment of tax obligations. Our research uses electronic annual income tax return reporting data by MSME individual taxpayers in the 2014 to 2018 tax year. The period was chosen because the Minister of Finance Regulation Number 243 / PMK.03 / 2014 was effectively implemented starting January 1, 2015. The inability to measure tax compliance down to the individual level is a limitation of the data used.

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