UNDERSTANDING THE 'SHADOW ECONOMY' IN SMEs – A MALPRACTICE FROM INDONESIA, 2009-2020

Diana Lestari
Department of Economics, Faculty of Economics and Business, Universitas Mulawarman
Email: diana.lestari@feb.unmul.ac.id (Corresponding Author)

Syarifah Hudayah
Department of Management, Faculty of Economics and Business, Universitas Mulawarman
Email: syarifah.hudayah@feb.unmul.ac.id

Arfiah Busari
Department of Economics, Faculty of Economics and Business, Universitas Mulawarman
Email: arfiah.busari@feb.unmul.ac.id

Abstract

Concerns about the shadow economy in Indonesia, estimated to have hurt GDP by around 25% per year. We try to calculate the effect of the components involved in tax revenue caused by the shadow economy because we projected it to hinder the growth of SMEs. It aimed the orientation at Indonesia. We got data coverage from national and international official institutions in the 2009-2020 period based on linear regression analysis methods and non-linear logistic regression. The results confirm that among the six hypotheses we propose, five hypotheses are acceptable, i.e. FDI has a significant effect on the share of SMEs, corruption perceptions and control of corruption have a significant effect on income and profit taxes, then it also has a significant effect on the shadow economy, and the shadow economy also has an effect significant to tax revenue. From other findings, only the share of SMEs has no significant effect on income and profit taxes. The added value of this empirical finding can reduce the weaknesses of previous studies that predominantly consider financial (tax) and economic dimensions so that variables such as SMEs, corruption control, and public perceptions . Continued efforts for the future agenda are to popularize more constructive policies in order to minimize all fraud in the SME sector by emphasizing more varied experiments.
Keywords: investment; taxation; SMEs; shadow economy; regression.

Abstrak

Kekhawatiran tentang shadow economy di Indonesia, diperkirakan telah melukai PDB sekitar 25% per tahun. Kami mencoba menghitung pengaruh komponen-komponen yang terlibat dalam penerimaan pajak yang disebabkan oleh shadow economy karena kami memproyeksikannya akan menghambat pertumbuhan UKM. Ini bertujuan dengan orientasi di Indonesia. Kami mendapatkan cakupan data dari lembaga resmi nasional dan internasional pada periode 2009-2020 berbasis metode analisis regresi linier dan regresi logistik non-linier. Hasil penelitian menegaskan bahwa di antara enam hipotesis yang kami ajukan, lima hipotesis diterima, yaitu FDI berpengaruh signifikan terhadap pangsa UKM, persepsi korupsi dan pengendalian korupsi berpengaruh signifikan terhadap pajak pendapatan dan laba, kemudian juga memiliki pengaruh signifikan. berpengaruh terhadap shadow economy, dan shadow economy juga berpengaruh signifikan terhadap penerimaan pajak. Dari temuan lainnya, hanya pangsa UKM yang tidak berpengaruh signifikan terhadap pajak penghasilan dan laba. Nilai tambah dari temuan empiris ini dapat mengurangi kelemahan penelitian-penelitian sebelumnya yang lebih banyak mempertimbangkan dimensi keuangan (pajak) dan ekonomi sehingga variabel-variabel seperti UKM, pengendalian korupsi, dan persepsi

masyarakat .Upaya lanjutan untuk agenda ke depan lebih mempopulerkan kebijakan konstruktif dalam rangka meminimalisir segala kecurangan di sektor UKM dengan menekankan eksperimen yang lebih variatif.
Kata kunci*: investasi; perpajakan; UKM; shadow economy; regresi.*

INTRODUCTION

Small and medium enterprises (SMEs) play a vital role in the rapid changes in the world economy. SMEs are also a major component in increasing the share of small businesses, resulting in a profit, innovation, job creation, influencing other social activities, and economic growth. However, on the way, SMEs are very vulnerable to high taxes, bureaucratic burdens, tight regulations, and policy abuse through corruption (Aidis, 2003; Borozan et al., 2005; Nastav & Bojnec, 2008).

Faal (2003), Amalia et al. (2019), and Smith (1994) explain that the shadow economy is part of producing goods and services based on market prices (legal and illegal), but these activities not reported and not recorded in statistics for official GDP calculations.

Because of their operations in the shadow economy, most SMEs are likely to avoid state obligations (for example taxes) through existing legal regulations. With this violation, they can see directly it through the form of cash, so that tax payments are much lower than they should be. Apart from that, it considered as a time-saver for dealing with business formalities from legal provisions. In certain situations and conditions, the existence of a shadow economy allows business actors to reach the market through entrepreneurial opportunities in a more effective manner (Williams et al., 2009; Stawasz & Głodek, 2011; Gasparėnienė et al., 2016).

The journey of UKM in Indonesia is not always encouraging. Before Covid-19 hit the entire world and caused the collapse of the global economy, especially for Indonesia in 2018, the development of SMEs was 99.99% or 64.2 million of the total business actors. From a similar period, the SME sector could absorb a workforce of 97% or 117 million workers. Meanwhile, SMEs have contributed to the national economy (GDP) by 61.1% and large business actors reaching 0.01% or 5,550 units of the total number of business actors contributed the remaining 38.9%. If you look at the events that led to the global economic recession in 2008 and the monetary crisis in Indonesia in 1997-1998, this sector could actually save the Indonesian economy with labour absorption reaching 99% (Lestari et al., 2020). In addition, SMEs are the only sector not affected by economic problems, so that we expected their presence to restore the national economy (Darma et al., 2020).

Medina & Schneider (2018) project that the average size of the shadow economy for developing countries in 1990-2015 is around 40% of the official GDP. Shadow economy can distort resource allocation and reduce government revenue through tax instruments because they missed many economic activities in the national balance. Some sectors affected are SMEs because SMEs are very vulnerable to matters relating to government authorities (Huynh, 2020).

The objectivity of the research considers the components involved in the shadow economy. It organized a systematics of this paper into several sessions. The first session presents an introduction. In the second session describes the literature review to support the research hypothesis. The third session explains the method used. The fourth session presents the empirical results got.

And the fifth session is the last step to conclude the research findings.

LITERATURE REVIEW

FDI – Share of SMEs

There is a very close relationship between Foreign Direct Investment (FDI) and SMEs in a country's development policies. Several important studies that study these two relationships at the national level show that the impact of FDI actually affects the relative increase in the workforce that was previously not absorbed in many economic sectors in Europe (e.g. McCormick, 1997; Hu, 2007; Decressin & Fatás, 1995; Figlio & Blonigen, 2000).

Work with a particular choice model assumes that the tendency to engage individuals with entrepreneurial and managerial talents can influence business activities. However, a business can also have a negative impact on inevitable risks. The intelligence of an entrepreneur will conduct and start their own business. This is more because of FDI, which has a negative impact on the level of competition. Competition at the domestic level will relatively reduce the profitability of these business activities with a minimum wage policy. To avoid competition from foreign companies, established SMEs will reconsider whether they need to be involved with the risk of reduced profits and innovation being ignored by foreign multinationals (Grossman, 1984; Lucas Jr, 1978; Kihlstrom & Laffont, 1979; Oi, 1983; Cantwell, 1989). Therefore, we need to emphasize that:
Hypothesis 1: FDI has a significant effect on the share of SMEs.

Share of SMEs – Income and Profit Taxes

Apart from the contribution that taxes give to GDP, taxes also have a side effect of increasing the growth of SMEs. In fact, SMEs also play an important role in

driving economic growth in developed and developing countries. Baurer (2005) highlights a group of SMEs that can provide new jobs rather than the role of micro and large companies. SMEs have introduced sustainable business products, ideas, and methods, but so far they have contributed little to tax payments because their financial performance is still developing (Tee et al., 2016).

Since its inception, something to do not design adequately the tax structure to cope with certain situations, thus creating a tremendous burden on individuals and groups of taxpayers' organizations. In the end, this can affect consumers because of the minimal tax capacity rationality (Mnewa & Maliti, 2008).

An alternative in policy choices regarding taxation is, of course, applied depending on certain instruments (Abuselidze, 2012). The first instrument is through the use of other incentives and specific tax preferences to support the growth of small firms. From second instrument with incentives comprising specific tax exemptions, relief for SMEs, and lower tax rates refers to corporate profits. The two instruments are fundamental reasons for increasing income effectively through policies based on the administrative capacity and economic condition of a country (Atawodi & Ojeka, 2012). Therefore, we need to emphasize that:
Hypothesis 2: Share of SMEs has a significant effect on income and profit taxes.

Corruption Perceptions – Income and Profit Taxes

In public service, it closely related incentives to corruption, which involves the behavior between officials deciding and bribe payers who want to profit through contract wins and tax evasion, so that they can enrich themselves by accepting bribes. Taxation sector regulations are often very complex because they involve taxpayers who have incentives for

corruption. The complexity of the tax system allows tax officers to exercise their power and results in a reduced corruption control system (Ajaz & Ahmad, 2010).

Tanzi & Dvoodi (1997) explained that the impact of tax evasion and corruption on a country's tax revenue is not new to public finances. In fact, many countries with high levels of corruption have low tax revenues on GDP. As a result, Tanzi (1999) informs that a portion of the amount of tax paid by taxpayers is transfer from public accounts. The presence of this difficult situation needs to be made between the tax collected by the tax officer and the tax realized the amount of property. Therefore, we need to emphasize that:

Hypothesis 3: Corruption perceptions have a significant effect on income and profit taxes.

Control of Corruption – Income and Profit Taxes

Apart from poverty, unemployment, and hunger in several countries, corruption is also a multidimensional problem. Administrative reporting regarding a person's or organizational income influences several specific factors that cause corruption. The general condition measures the extent to which the role of the government in the economy with the power of officials with excessive policies, so that the control system is adequate with limited accountability to the prevailing cultural norms (Imam & Jacobs, 2014).

Internal factors that influence corruption in the tax administration sector involve interactions between individuals and tax administration. They usually start by enforcing appeals for arrears collection, collection, and customer service by issuing tax identification numbers, selling taxpayer information, and missing cards for fictitious taxpayers (Dos Santos, 1995).

Bird 2008, Abed & Gupta (2002), and Gupta (2007) provide empirical evidence that the level of corruption can reduce tax revenues. In addition, about 50% of tax revenue not collected and flows to tax criminals. With these findings, the picture of public finance has provided recommendations for increasing tax revenue through reform as a legal force to eradicate corruption. We see the effect of corruption on tax revenues by aggregating many taxes. At first glance, Eltony (2002) and Bird (2010) also emphasize that corruption ignores taxes, which are different. Therefore, we need to emphasize that:

Hypothesis 4: Control of corruption has a significant effect on income and profit taxes.

Income and Profit Taxes – Shadow Economy

The general characteristic of the relationship between tax revenue and shadow economy is by considering the rate of inflation through contributions applying the optimal tax principle, so that the welfare costs and the marginal welfare level of taxes must determined in the aggregate for the same period to maximize welfare. With the existence of spending in the public sector, they expected it to have a positive effect to encourage the informal sector (such as SMEs), so that this policy has a positive meaning for the inflation rate. Then, the inflation rate implies that the high size of the shadow economy can reduce the proportion of taxes received by the government (Mazhar & Méon, 2016).

Mankiw (1987) highlighted the behavior of a person who usually expects marginal social costs as part of increasing his income. Inflation and tax costs can push up administrative and political costs in order to increase income. Distortions would be intuitive to assume an increase in marginal costs. They apply both instruments to reduce the popularity of the government. There is a possibility that, in this case, the government could have overthrown because of reduced monitoring and surveillance (Suyono, 2018).

Jiang & Nie (2014) analyzed the literature supporting the theory of "wheel

lubricants". In his findings, it is contradictory because corrupt behavior has a positive impact on the shadow economy and threatens the continuation of the country to develop the economy. Therefore, we need to emphasize that:
Hypothesis 5: Income and profit taxes have a significant effect on the shadow economy.

Shadow Economy – Tax Revenue

In order to generate a function in the economy, Carter (1984) emphasizes the importance of understanding all entities (this includes estimating the ability of the size of the shadow economy). The most important part of the shadow economy includes the informal economy. It does not cover the entire GDP and there has been no optimal effort to measure it in the right way either. An example is self-employment, household production, and similar activities. The next section describes activities that can be measured, but apart from official records and those included in this classification are activities of registered economic actors. But, takes fraud by not reporting the purpose of business activity to avoid taxes. In addition, Indupurnahayu & Walujadi (2019) also highlighted the behavior of individuals who act as shadow economic actors who do not have official documents, so they do not report their nominal income. Finally, part of the intensity of the shadow economy is the criminal economy that carries out its activities but deliberately against the law.

The increase in the shadow's size economy and the dynamic movement show the increasingly complex and increasingly intense global economic transactions. Especially in the shadow economy, this is the hidden and illegal activity of various economic agents and companies as illicit trade, manipulating prices, and evading tax payments. The shadow economy is distinctly different from the "gray market", which is the official distribution of illegal goods and other things within a distribution network. The size of the shadow economy has the potential and estimated to be detrimental to developing countries like Indonesia in terms of tax revenues. In a situation that is difficult to develop the economy, Indonesia definitely needs effective fiscal independence to finance government spending and avoid foreign debt (Nchor & Konderla, 2016). Therefore, we need to emphasize that:
Hypothesis 6: Shadow economy has a significant effect on tax revenue.

RESEARCH METHODS

Variables and Empirical Review

This session describes the effect of FDI on the share of SMEs (H1), the share of SMEs, corruption perceptions, and control of corruption on income and profit taxes (H2, H3, H4), income and profit taxes on economic shadow (H5), then shadow economy against (H6), so that the terms of the variable classified (Table 1).

It confirmed the representation simply by describing these components in Figure 1. The abbreviation for each variable in the study including FDI is foreign direct investment, SS is share of SMEs, CP is corruption perceptions, CC is control of corruption, IPT is income and profit taxes, SE is shadow economy, and TR is tax revenue.

Of the six hypotheses addressed, we need to carry out an analysis of the relevant studies from several countries, objects, and samples, or models, and different empirical findings.

Thus, the striking differences between this study and previous studies have described in Table 2, so that it becomes a separate variance and is very interesting to explore more deeply.

Data Set

This study focuses on case studies in Indonesia for the period 2009-2020. The data collected processed (secondary) data sourced from Bank Indonesia and The Global Economy. The amount of data in

question is 84 observations, where it results from multiplying the 7 variables with the time series for 12 periods.

Model

Based on arguments from the theoretical basis, previous studies, and an explanation of the study locus, we assessed the relationship between FDI, SS, CP, CC, IPT, SE, and TR by taking the following form:

$$SS_{it} = \alpha_0 + \beta_1 FDI_{it} + \varepsilon_{it} \dots\dots\dots\dots (1)$$
$$IPT_{it} = \alpha_0 + \beta_2 SS_{it} + \beta_3 CP_{it} + \beta_4 CC_{it} + \varepsilon_{it} \dots\dots\dots\dots (2)$$
$$SE_{it} = \alpha_0 + \beta_5 IPT_{it} + \varepsilon_{it} \dots\dots\dots\dots (3)$$
$$TR_{it} = \alpha_0 + \beta_6 SE_{it} + \varepsilon_{it} \dots\dots\dots\dots (4)$$

The general model of the four linear forms is used to answer the objectives and hypotheses that have designed. From the model should process and present data into SPSS software (e.g. Suparjo et al., 2021). In the specification designed by involving linear regression analysis and non-linear logistic regression which is divided into Pearson correlation, non-parametric correlation, log-likelihood function, normality test, and pairwise or independent sample test). The mixed-method changed from the findings of Tülüce & Doğan (2014), Twesige & Gasheja (2019), Cung (2019), Fanea-Ivanovici et al. (2019), Hoinaru et al. (2020), and Omodero (2019) who have investigated the relationship between these variables, so that it is very suitable to be applied in developing countries such as Indonesia.

Table 1. Defining and Measurements of Variables

Variable	Remarks	Unit
FDI	FDI refers to the flow of direct investment equity in economic reports that includes reinvestment of income, equity capital, and other capital. FDI is also classified as a cross-border investment that relates to the population of a region or country and has significant control over the management of the company. Generally, FDI with ownership of at least 10% in shares is entitled to have voting rights as part of the determining criteria in investing.	Million USD
SS	This type of industry is developed from the added value in SMEs (small, medium, and large) by adding up all net revenues and expenditures, then reducing intermediary inputs. Management of SMEs that have a net worth of at most Rp. 200,000,000 (excluding buildings for business and land) and employ a minimum of 10 employees. The ratio calculation is obtained from the contribution of SMEs to GDP at constant prices.	Percent (%)
IPT	IPT is categorized as profit, tax on income, and capital gains imposed on actual net income (on individual or company profits) and refers to capital gains. In the calculation, IPT is realized directly and indirectly on securities, land, and other assets. IPT is paid for by the government by eliminating consolidation.	Percent (%)
CP	CP is an indicator of public sector perceptions of corruption (politics and administration). The indicator value is determined by information from the CP survey and assessment collected by various independent institutions.	Point
CC	CC is an index that describes the perception of the extent to which public power is exercised by the government on the basis of valuation for private gain. This abuse of power includes small and large corruption, individual interests, and the seizure of the state by certain elites in Indonesia. The CC interval falls into two categories, namely weak (-2.5) and strong (2.5).	Point
SE	In aggregate, SS is a percentage of the total annual GDP. Detailed methodologies for estimation can be obtained from the IMF and the development of projections from the Medina & Schneider study (2018).	Percent (%)
TR	Representation for TR refers to compulsory transfers to the government for public purposes (physical and non-physical development). Mandatory transfers that are a component of the TR are broken down by penalties, fines, and social security contributions which are mostly excluded. Correction and refund of TR collected incorrectly, shall be treated as negative revenue.	Percent (%)

Source: Bank Indonesia (2020), Global Economy (2020), Medina & Schneider (2018), International Monetary Fund (2020).
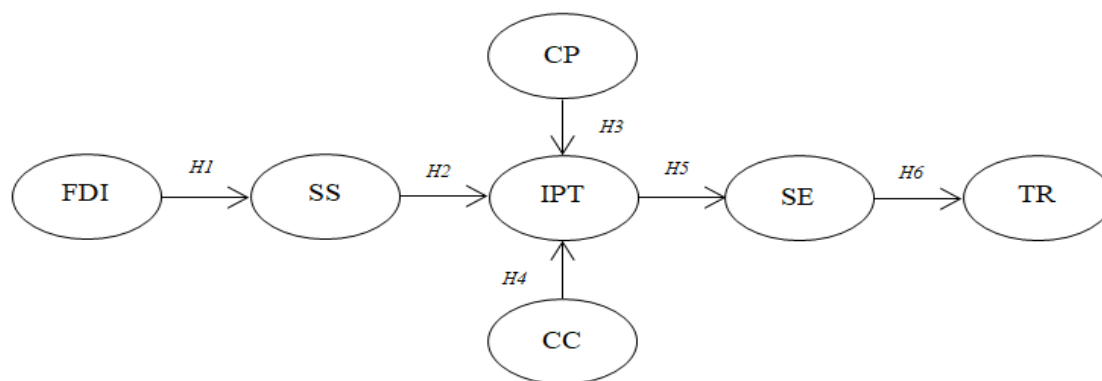
Figure 1. Map for Variables

Table 2. The Development of Recent Studies

Authors	Purpose	Instrument	Variables	Info
Tülüce & Doğan (2014)	A survey paper on the productivity spillover of FDI against SMEs with the relevant literature.	Surveyed the existing literature.	FDI ,SME, and productivity spillover effects.	In many countries, FDI plays an important role in government policies and strategies designed to stimulate inflows. Spillover to productivity externalities is transmitted from established foreign producers to local producers through the role of SMEs.
Twesige & Gasheja (2019)	The study attempted to investigate the effect of tax incentives on SME growth in Nyarugenge, Rwanda.	Compile survey data (primary and secondary) with component analysis and varimax rotation method.	Tax incentives (investment allowance, loss carried forward, wear and tear, special zone, tax holiday, special CIT rate, and capital gain exemption) and growth of SMEs (increase assets and increase in retained earnings).	Empirical analysis reveals that disadvantages of value-added tax (VAT) returns for Rwandan SMEs are evidenced by a very high correlation. There are positive things and a significant relationship between tax incentives and SME growth. Tax incentives are key to the successful growth of SMEs.
Cung (2019)	Analyzing the effect of the corruption perception index and the economic freedom index against tax revenue from corporate tax income in Vietnam.	Linear regression model with time-series data in 1999–2018.	Dependent variable (corporate income tax revenue), and Independent variables (corruption perceptions index, economic freedom index, and annual inflation rate).	The corruption perception index and economic freedom index have a significant and positive effect on tax revenue from company income. However, the annual inflation rate has a significant and negative effect.

Table 2. Continue

Authors	Purpose	Instrument	Variables	Info
Fanea-Ivanovici *et al.* (2019)	Identify tax and cost-compliant behavior to explain the extent entrepreneur decisions in the fiscal environment in Romania.	The step approach logically refers to 2006 to the present.	Tax regulations, tax compliance, corruption, sustainable development, and digitization.	Development of several tools to combat and prevent. Until now, corruption can be applied with communication technology, so it is still being researched in-depth in the Romanian economic environment. In fact, the use of digital public services can increase trust and reduce costs for entrepreneurs in state institutions. This refers to a higher level of transparency. As a result, the public can raise awareness of taxes while fighting corruption.
Hoinaru *et al.* (2020)	The scope of this study is to find the effect of the shadow economy and the level of corruption on the economic development of 185 countries during 2005–2015 (low-income and high-income countries).	Descriptive analysis	Dependent variables (corruption and shadow economy) and independent variables (economic and sustainable development)	In order to achieve higher economic benefits, they generally avoid legal problems through corruption. However, this method is considered a powerful attempt to increase economic development. Further findings prove that economic development is sustainable in high-income countries, the fan is negatively influenced by the shadow economy and the phenomenon of corruption. This is inversely related to low-income countries because regulation is generally political in nature.
Omodero (2019)	This paper aims to find out the influence of corruption and shadow economy on tax revenue performance in Nigeria.	Ordinary least squares (OLS) using secondary data (1996-2018).	Tax revenue (TRV), shadow economy (SWY), and rate of corruption (ROC).	Empirical results based on multi-regression the analysis shows that corruption and shadow economy negatively affect the performance of tax revenue. Even so, the level of corruption in Nigeria is more dominant and stronger on tax revenue.

RESULTS AND DISCUSSION

Results

Table 3 interprets the descriptive summary statistics in the study observations. As a result, the values on the mean, standard deviation, minimum, and maximum terms vary widely, where from the respective units, FDI is the highest, and the value is the lowest for CC.

Table 4 marks the correlation analysis which is divided into three parts (Pearson, Kendall's tau, and Spearman's) which is a statistical test tool to find out and see how big the linear relationship between variables is (Indriastuti et al., 2020).

The explanation for each of these variables has its own limitations. Aslan et al. (2019) inform that the Pearson

correlation should determine the relationship between two variables that have data on the ratio/interval scale. Meanwhile, Kendall's Tau correlation and Spearman's correlation are specifically to determine the extent of the relationship between two variables with ordinal scale data.

According to Wijayanti & Darma (2019), the calculation of the value of the correlation has a range between -1 to 1. Especially for a minus correlation, this shows that the variable has an inverse relationship, where if the independent variable rises, the dependent variable will decrease and this is the opposite applies. In return for a positive correlation, value interpreting that the relationship between variables will move together (up or down). In addition, the estimation results of the correlation value (weak, moderate, or strong) refer to a high standard of correlation (minimum> 0.8).

In comparison, the alignment of the three components represents the roughness of the correlation coefficient value. A negative correlation value, where if FDI increases, SS will also decrease characterizes the relationship between FDI and SS. The SS correlation value also touched minus and could cause a reduction in the IPT value. In contrast, CP and CC are in fact positively related to IPT and certainly in the high correlation category. The relational correlation between IPT and SE is negative (negative correlation) and when SE increases, it has the effect of determining TR positively.

In the logistic regression model is regression analysis to determine a cause-and-effect relationship (causality) if the dependent variable only has two outcomes or the data is dichotomous (Ikbal et al., 2020a). The non-linear logistic regression from this case study includes the Maximum Likelihood Estimation (MLE) method, where the parameter estimation process preceded by the formation of the likelihood function. We illustrate the Jackknife method in estimating the parameters of a logistic regression model in determining the answer to the hypothesis (Abdi & Williams, 2010).

The mean magnitude of the mean observed values differs. Figure 2 presents if the likelihood function is completely unbiased or consistent. The range of the intervals on the likelihood is in the interval -1 to 1, which means two posterior distribution values between negative and positive.

The next test is to measure how much normality is in the data distribution represented by a normal probability plot. The PP-plot graph shown in Figure 3 is an effective alternative to detect if this data normally distributed. As an absolute requirement for parametric statistics, normality can determine the residual value in the regression model for all variables (Asih et al., 2020). It classified this regression model as good because it has a normal residual value. Figure 3 also highlights the observation points that have followed and approached the diagonal line, so that we conclude that the regression model fulfills the assumption of normality.

Finally, the provisions for testing the significance of the influence between variables determined by the paired comparison method, which is a scaling model, where the stimulus compared within a pair. This stimulus pair made equal and it does not make one stimulus more positive than another stimulus or vice versa (McDonald, 1999). To determine the final decision, we compared the significance value (2-tailed) to be lower than 0.05, thus highlighting the significant difference between the baseline and final variables (Setini et al., 2020).

As the result, overall there is a significant effect on differences in the treatment given from each variable (ceteris paribus). The attribute test (one way) of this case example is dominant variables represented by the Pairwise correlation (variance) attribute, empirically ($p < 0.05$). The results of the initial test and the last test have a significant change (meaning).

Referring to descriptive statistics for the initial test and the last test, the results proved to meet expectations (see Table 5).

This study assesses the deep linkages that attempt to reveal problems related to malpractice from the role of FDI in developing the Indonesian economy through the share of SMEs, to increase the value of income and profit taxes. However, in its journey, it is very difficult because there is a disturbance from the shadow economy and public trust (especially investors) needs to rethink by looking at the picture of the still rampant level of corruption in Indonesia which can have fatal consequences for state revenue through tax sources.

From the linear regression testing, the partial effect, FDI on SS is significant ($p < 0.05$). There is an insignificant influence between SS and IPT, because of the $p > 0.05$. Figure 4 also summarizes the two significant effects ($p < 0.05$) involving CP and CC on IPT. We also find that IPT has a significant impact on SE and SE also has a significant effect on TR because the probabilities are 0.033 and 0.035.

Table 3. Summary of Statistics

Variables	Min.	Max.	Mean	Std. dev.	Obs.
FDI	1222.83	6127.04	3302.3583	1788.16080	84
SS	40.05	48.06	44.6267	2.55534	84
IPT	28.19	42.82	36.3208	3.68179	84
CP	20.00	36.00	27.9167	5.05350	84
CC	-0.93	-0.46	-0.7017	0.14597	84
SE	21.05	25.18	23.3942	1.46130	84
TR	9.88	13.31	11.0842	0.93441	84

Source: Authors' processing

Table 4. Correlation Analysis Matrix

Components	FDI	SS	IPT	CP	CC	SE	TR
Part-A: Pearson correlation							
FDI	1	-0.796**	0.552	0.850**	0.628*	-.0880**	-0.588*
		(0.002)	(0.063)	(0.000)	(0.029)	(0.000)	(0.045)
SS	-0.796*	1	-0.410	-0.738**	-0.528	0.756**	0.493
	(0.002)		(0.186)	(0.006)	(0.078)	(0.004)	(0.103)
IPT	0.552	-0.410	1	0.753**	0.698*	-0.711**	-0.722**
	(0.063)	(0.186)		(0.005)	(0.012)	(0.009)	(0.008)
CP	0.850**	-0.738**	0.753**	1	0.766**	-0.944**	-0.745**
	(0.000)	(0.006)	(0.005)		(0.004)	(0.000)	(0.005)
CC	0.628*	-0.528	0.698*	0.766**	1	-0.761**	-0.805**
	(0.029)	(0.078)	(0.012)	(0.004)		(0.004)	(0.002)
SE	-0.880**	0.756**	-0.711**	-0.944**	-0.761**	1	0.693*
	(0.000)	(0.004)	(0.009)	(0.000)	(0.004)		(0.013)
TR	-0.588*	0.493	-0.722**	-0.745**	-0.805**	0.693*	1
	(0.045)	(0.103)	(0.008)	(0.005)	(0.002)	(0.013)	

Table 4. Continue

Components	FDI	SS	IPT	CP	CC	SE	TR
Part-B: Kendall's tau_b							
FDI	1	-0.455*	0.333	0.677**	0.443*	-0.727**	-0.364
		(0.040)	(0.131)	(0.002)	(0.046)	(0.001)	(0.100)
SS	-0.455*	1	-0.273	-0.492*	-0.351	0.485*	0.485*
	(0.040)		(0.217)	(0.027)	(0.114)	(0.028)	(0.028)
IPT	0.333	-0.273	1	0.492*	0.595**	-0.545*	-0.727**
	(0.131)	(0.217)		(0.027)	(0.007)	(0.028)	(0.001)
CP	0.677**	-0.492*	0.492*	1	0.667**	-0.831**	-0.585**
	(0.002)	(0.027)	(0.027)		(0.003)	(0.000)	(0.009)
CC	0.433*	-0.351	0.595**	0.667**	1	-0.657**	-0.748**
	(0.046)	(0.114)	(0.007)	(0.003)		(0.003)	(0.001)
SE	-0.727**	0.485*	-0.545*	-0.831**	-0.657**	1	0.636**
	(0.001)	(0.028)	(0.014)	(0.000)	(0.003)		(0.004)
TR	-0.364	0.485*	-0.727**	-0.585**	-0.748**	0.636**	1
	(0.100)	(0.028)	(0.001)	(0.009)	(0.001)	(0.004)	
Part-C: Spearman's rho							
FDI	1	-0.678*	0.441	0.849**	0.567	-0.874**	-0.517
		(0.015)	(0.152)	(0.000)	(0.054)	(0.000)	(0.085)
SS	-0.678*	1	-0.490	-0.712**	-0.466	0.692*	0.615*
	(0.015)		(0.106)	(0.009)	(0.127)	(0.013)	(0.033)
IPT	0.441	-0.490	1	0.723**	0.739**	-0.692*	-0.874**
	(0.152)	(0.106)		(0.008)	(0.006)	(0.013)	(0.000)
CP	0.849**	-0.712**	-0.723**	1	0.747**	-0.947**	-0.768**
	(0.000)	(0.009)	(0.008)		(0.005)	(0.000)	(0.004)
CC	0.567	-0.466	0.739**	0.747**	1	-0.778**	-0.858**
	(0.054)	(0.127)	(0.006)	(0.005)		(0.003)	(0.000)
SE	-0.874**	0.692*	-0.692*	-0.947**	-0.778**	1	0.713**
	(0.000)	(0.013)	(0.013)	(0.000)	(0.003)		(0.009)
TR	-0.517	0.615*	-0.874**	-0.768**	-0.858**	0.713**	1
	(0.085)	(0.033)	(0.000)	(0.004)	(0.000)	(0.009)	
Obs.	84	84	84	84	84	84	84

Source: Authors' processing, *Notes:* **Correlation at the 1% level, *Correlation is at the 5% level
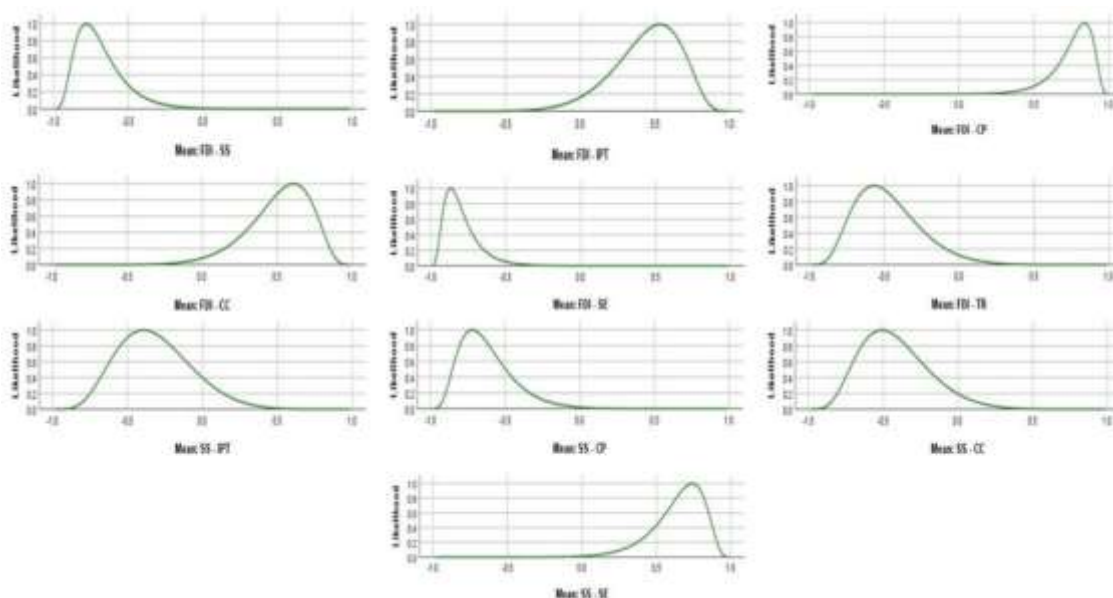

Figure 2. Parameters for the Posterior Distribution
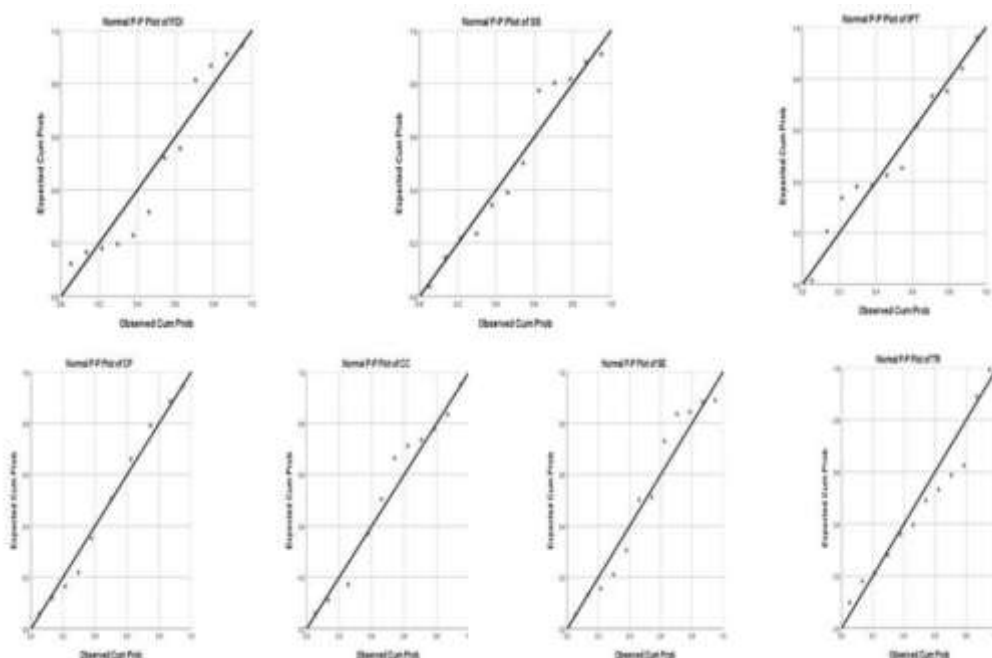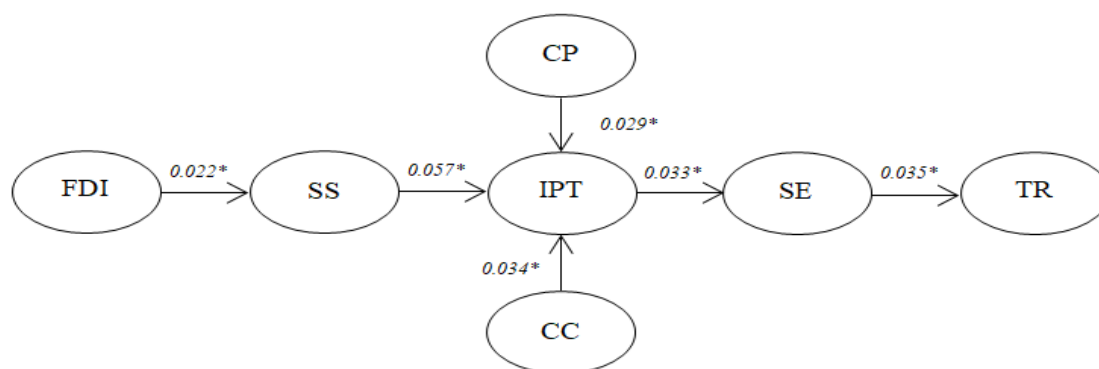*Source:* Authors' processing

Figure 3. Normality Test
Source: Authors' processing

Table 5. Regression Results

Variables	FDI	SS	IPT	CP	CC	SE	TR
FDI	1	0.022	0.048	0.015	0.041	0.011	0.045
SS	0.022	1	0.057	0.030	0.050	0.028	0.051
IPT	0.048	0.057	1	0.029	0.034	0.033	0.032
CP	0.015	0.030	0.029	1	0.026	0.003	0.028
CC	0.041	0.050	0.034	0.026	1	0.026	0.021
SE	0.011	0.028	0.033	0.003	0.026	1	0.035
TR	0.045	0.051	0.032	0.028	0.021	0.035	1

Source: Authors' processing

Figur 4. Final Estimate
Source: Authors' processing, *Note:* *Probability at the 5% level

Discussion

Descriptive analysis has revealed the astonishing findings of this study. We need to castigate the contribution of the share of SMEs, which is not optimal in influencing income and profit taxes. Of course, a quite valuable review of this conclusion, if you look at the latest data we got from The Global Economy (2020), it is no surprise that the share of SMEs and tax revenue in

Indonesia has fallen sharply over 12 periods. The realization of FDI has decreased in several periods but increased again in 2015, amounting to 5,711.73 million USD (Bank Indonesia, 2020). The same thing also happened for income and profit taxes that had fluctuated, however, especially during our observation period, we experienced a positive increase with the acquisition of 38.60%. Ideally, control over corruption can increase, and the CP index evidences this hope for Indonesia always increasing from year to year. As a positive signal for Indonesian civil society, which provides an assessment through a survey of 36 points (2015).

The hope then rests on the extent to which the control of law enforcers and independent institutions over public power in order to avoid elite and private interests symbolized by CC. Unexpectedly, the CC index, which should have led to a positive value, actually received negative gains in the 2009-2020 period. This shows how poorly the government's performance (including small and large corruption) is still happening at the central or local government levels. What happened to CC is in stark contrast to the CP index, whose points have continued to improve. The frequency of the shadow economy is still far from reality, where the magnitude is quite high, namely 21.76% in 2015 or at least from the previous period (2004 to 2014) there is a slight reduction.

The consequences in a country that is struggling to improve the economic, political, cultural, and other social problems require special attention and dynamics that are also common in some developing countries and even developed countries (Ikbal et al., 2020b; Amalia et al., 2020). Effective vigilance against misuse of policies, such as corruption, can hinder the inflow of investment from the private sector. A fatal thing could happen for the size of Indonesia's GDP, which plays an important role in solving poverty, unemployment, and employment through SMEs. The manufacturing industry sector, which is dominantly involved in it, will not explode if clean regulations do not support it. Poor countries in Africa sometimes needed the shadow economy intensity, but for Indonesia, it can clog up and spur other multidimensional problems. Given the role of taxes as a source of state financing, they can reduce the shadow economy in the long run and SMEs are excited to let go of the "chain" to playback its benefits to the public interest.

It is equally interesting to disclose the results of our study with empirical findings for the case of other countries. Chodnicka (2011) shared her experience in characterizing money laundering in Poland. It focused money laundering on the involvement of individual entities (households), companies, and foreign countries through revenue and incurring illegal fees. In their activities, they can intervene in certain decisions imposed by the government through money laundering. Equilibrium model towards two sectors (legal and illegal), so that they focused it on being objects in four regions (Bagella, Argentino, Masciandaro, and Buscato). Money laundering in Poland stems from the legalization of funds from illegal activities so that they adjusted it to the pattern of the Polish economy. Something negatively correlated proposals for legalization funds and services from illegal activities result with revitalizing the rule of law (sanctions) imposed to detect transactional cost coverage of costs.

The point of view with different results is described by Kelmanson et al. (2019). Their paper presents estimates and factors driving the shadow economy in Europe. With a focus on developing economies, pursued concrete recommendations through an increase in policy formality. In recent years, the shadow economy constraints appear to have decreased across Europe, but there is still a significant pattern, especially in Eastern Europe. We consider the main determining factor in the shadow economy to be the quality of regulation in European

developing countries (Gaspareniene et al., 2016). Apart from that, its size also involves human capital and government effectiveness, which can affect the shadow economy.

CONCLUSION AND RECOMMEN-DATION

Descriptive statistics review FDI has a significant effect on the share of SMEs (the first hypothesis accepted). It rejected the second hypothesis because the result is that share of SMEs has no significant effect on income and profit taxes. We also accepted the third and fourth hypotheses with the explanation that corruption perceptions and control of corruption have a significant effect on income and profit taxes. In addition, the suitability of the predictions also evidenced by the income and profit taxes, which have a significant effect on the shadow economy (the fifth hypothesis accepted). Then, the sixth hypothesis can be accepted with the involvement of the shadow economy as an important key to tax returns, because the results are significant.

Realizing that this discovery is vital for various parties in realizing quality economic growth, it is necessary to emulate what developed countries have strived to reduce the shadow economy. Recommendations rest on the role of academic, business, and government (ABG). This study also highlights the role of a comprehensive reform package, so that it focuses as a driver and needed as evidence to combat the shadow economy. The success of the most appropriate policies for developing economies such as Indonesia by promoting accountability and transparency, reducing regulatory burdens, tax awareness, government effectiveness, and implementing procedural standards of operation through electronic (digital) payments.

The limitation of this study refers to the data used, especially for shadow economy data, only up to the 2015 period.

In addition, the authors admit that there are difficulties and have to synchronize the other five variables with similar time series. This means that there has been no recent data regarding it in 2016 and until now by the IMF, either only a projection or an accurate calculation. In addition, data accuracy should not refer to the estimated data. The shadow economy is quite complex, which is divided into legal activities (monetary transactions and non-monetary transactions) and illegal activities (tax avoidance).

For future researchers, we hope that they can enter shadow economy data that applies to current developments so that it can become an excellent and more varied reference.

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