

VOLUME 5 NO. 1 | OCTOBER 2023

Journal Page: ejurnal.pajak.go.id



ISSN 2686-5718

# Does Government Effectiveness Moderate the Relationship Between Regulatory Quality and Tax Complexity? A Tale of a Hundred Nations

Muhammad Dahlan

Directorate General of Taxes, Cardiff University, Cardiff, United Kingdom. Email: dahlanm@cardiff.ac.uk

\* Corresponding author: dahlanm@cardiff.ac.uk

### ABSTRACT

This research aims to analyze the relationship between regulatory quality and tax complexity worldwide and whether this relationship is moderated by government effectiveness. The hypothesis is that robust regulations would promote simplicity and efficiency in the tax system. This study incorporates 100 countries as a sample, derived from the tax complexity index developed in 2016. Further, a moderated regression using SPSS PROCESS Macro is used to test the hypotheses and generate findings. This study shows that regulatory quality relates to the tax complexity in the countries and the effectiveness of the government indeed moderates this relationship. The tax authority, the Directorate General of Taxes, may use the findings to address the importance of the quality of regulations in shaping an efficient tax system.

Keywords: tax complexity, regulatory quality, government effectiveness, moderation, governance index

### 1. INTRODUCTION

Benjamin Franklin once claimed that nothing can be said to be certain in this world except death and taxes. However, in modern society, taxes are not only inevitable but also complex. Hence, tax complexity arises as a trade-off between tax system design and reform regarding tax fairness and efficiency faced by the taxpayers (Carnes & Cuccia, 1996; Kaplow, 1994; Stantcheva, 2021). The perceived tax complexity may be correlated with uncertainty in the tax system and the frustration of the taxpayer (Abeler & Jäger, 2015; Krause, 2000). Also, the perception of fairness for the taxpayer is beneficial in increasing the level of tax compliance (Beck et al., 1991). Thus, complexity would lead to the non-compliance behavior of the taxpayers.

Concerns about tax complexity emerged in some tax authorities, such as the United States

(Ingraham & Karlinsky, 2005), the United Kingdom (Budak & James, 2018), Australia (McKerchar, 2005), and Asia regions (Deloitte, 2014). In addition, the consequences of tax system complexity may discourage foreign direct investment (Müller & Voget, 2012), negatively impact economic growth (Collier et al., 2018), and encourage tax avoidance (Budak & James, 2018). As a result, tax complexity is considered a worldwide issue and needs a comparative perspective to address (Freudenberg et al., 2012; McKerchar, 2005).

As we can notice from previous research, the complexity of the tax system is addressed in many ways. For example, from the perspective of compliance cost (Slemrod & Blumenthal, 1996), multi-facet of the tax system (Slemrod, 2005), and a single-country assessment (Saad, 2014). As such,

1

doi: 10.52869/st.v5i1.331

This is an open access article under the CC BY-NC-SA licence (<u>https://creativecommons.org/licenses/by-nc-sa/4.0/</u>) Scientax: Jurnal Kajian Ilmiah Perpajakan Indonesia is Sinta 4 Journal (<u>https://sinta.kemdikbud.go.id/journals/profile/9121</u>)

Received: May 23, 2022; Accepted: August 21, 2023; Published: October 31, 2023

<sup>2686-5718 © 2023</sup> Scientax: Jurnal Kajian Ilmiah Perpajakan Indonesia. Published by Directorate General of Taxes

How to Cite:

Dahlan, M. (2023). Does government effectiveness moderate the relationship between regulatory quality and tax complexity? A tale of a hundred nations. *Scientax: Jurnal Kajian Ilmiah Perpajakan Indonesia*, *5*(1), 1–13. https://doi.org/10.52869/st.v5i1.331

a cross-country level of measurement is needed to investigate the tax complexity around the world.

Hoppe et al. (2021) developed a tax complexity index (TCI) to capture the complexity of corporate income tax that Multinational Enterprises (MNEs) need to face in some countries. The latent variables used in TCI were developed initially based on Hoppe et al. (2018) study, which consists of tax code complexity (meaning that complexity derives from the tax laws) and tax framework complexity (complexity is a result of the legislative and administrative burden of the tax system). Later, the dimensions of tax complexity are constructed to build a TCI from cross-country data. Therefore, TCI is the most comprehensive approach to measuring the complexity level among tax authorities worldwide.

TCI can range from zero (the tax system is not complicated) to one (an extremely complex tax system). A quick result of the ten countries with the most efficient tax system is presented in Figure 1, and the ten most complicated tax systems in Figure 2.

Figure 1 shows that Jersey is a jurisdiction with the most efficient (perceived as least complex)

tax system, noting the lowest indices in the TCI, while Brazil has the most complex tax system according to the index. Indonesia shared a similar score with Ghana and is included as one of the countries with the most complicated tax system among a hundred nations in the study. Furthermore, one of the indicators in TCI is the tax framework complexity, which measures the legal process within the tax system. The regulation practices are essential in shaping the policy objectives of a nation (Mahmood et al., 2017), particularly in the context of the tax system. A complicated tax system may arise when the laws and regulations are poorly developed and implemented. Thus, it is worth investigating the impact of regulatory guality on tax complexity.

This study intends to contribute to the debate on the critical notion of countries' regulatory quality, specifically in relation to the development of the tax system. Also, this study intends to fill the knowledge gap because addressing the relationship between regulatory quality and tax complexity has not yet been explored in the Indonesian context. Regulatory quality captures the perception of the



Figure 1 Ten Countries with the Most Efficient Tax System Source: Elaborated from the Tax Complexity Index (Hoppe et al., 2021)



Figure 2 Ten Countries with the Most Complex Tax System Source: Elaborated from the Tax Complexity Index (Hoppe et al., 2021)

government's ability to define, formulate, and implement appropriate policies and regulations that promote private business development (Kaufmann et al., 2011). Here, in the context of tax policy development, it correlates with the MNEs' activities in the tax jurisdictions. The value of countries' regulatory guality is defined by the World Bank's worldwide governance indicators (WGI), which was initiated by Kaufmann et al. (2011) study. The study also corroborates one of the WGI indicators, government effectiveness, as a moderating variable in the relationship between regulatory guality as the independent variable and tax complexity as a dependent variable. According to the WGI, government effectiveness constitutes the quality of public services, policy formulation, and implementation in a country. It also measures the degree of government commitment to enacting such a policy. The author believes that countries with excellent regulation guality would have a less complex tax system, and this relationship is likely to happen in well-governed countries.

# 2. LITERATURE REVIEW AND HYPOTHESIS

In literature, tax complexity has been explored and defined in many tax jurisdictions. From the perspective of the US individual taxpayers, Slemrod (1989) studied that tax system simplification would reduce the non-compliance behavior of the individual taxpayers. From the aspects of the theoretical framework, Cooper (1993) and Evans & Tran-Nam (2010) investigated a novel issue around income tax simplification and the conceptual background of the tax complexity, specifically in the Australian tax system. Cooper (1993) stated that tax complexity resulted from adopting a complex tax base. The claim would raise the political aspect as the basis of the sources of tax complexity. Theoretically, according to Cooper (1993), the tax system has many sources of complexity. Tax complexities are derived from the interests of bureaucrats (government and legislators) to maximize their control power, sizewise and budget-wise. Also, the interests of the political groups in shaping tax policymaking and

the interests of tax professionals to exploit tax laws on behalf of their clients are essential in explaining the sources of complexity. Lastly, the taxpayers' interest in complying with the regulations intentionally, or worse, evading taxes, might be crucial to the tax system's complexity.

In addition, Evans & Tran-Nam (2010) discussed that tax changes and reforms were critical in the tax system simplification, which can be done by measuring the compliance costs faced by the taxpayers regularly. The research has similar value to Cooper (1993) on the role of government in managing tax simplification and complexity. From the perspective of tax practitioners, Hoppe et al. (2018) investigated the perspective of tax consultants in 108 countries on what drives tax complexity. The researchers used a qualitative content analysis (QCA) and cluster analysis in analyzing the datasets and found that the tax code was the main driver of the tax system complexity. Other factors that were also important were changes in tax regulations and tax officers' inconsistency in applying tax laws, particularly during the audits.

From a tax complexity measurement standpoint, Slemrod and Blumenthal (1996) measured that higher tax compliance costs were the main effect of the complexity in the US tax system. Their study was based on a survey among 1,329 US largest corporations. It revealed that, sometimes, tax law reforms added complexity to the tax system. However, Eichfelder and Hechtner (2018) challenged the measurement of tax compliance costs due to the survey method. They claimed that the 'questionnaire framing effects' might lead to bias in cost estimation and did not necessarily reflect the tax complexity. Another research by Eichfelder and Vaillancourt (2014) found that tax compliance burdens were the drivers of tax law complexity. The drivers can be seen in the mean of the number of different taxes, the complicated language of tax regulations, and the intricate tax calculations. Thus, the tax system is complicated both narratively and quantitatively.

In relation to the governance's impact on tax complexity, Ajaz and Ahmad (2010) studied that complexity in the tax system leads to the abuse of power by tax officials and drives corruption. Also, the complexity of paying taxes causes corruption among taxpayers. The research incorporated panel data from 25 developing countries and used the Generalized Method of Moments (GMM) to answer the research questions. They found that institutional governance (represented by the governance index) was statistically significant in reducing the complexity and increasing tax revenue. Thus, government effectiveness, accountability, stability, the rule of law, and control of corruption are essential in the tax revenue collection for developing countries.

Another piece of literature exploring the role of governance in the tax system was Epaphra Massawe (2017), who examined the and institutional authority and its role in the tax revenue policy using panel data analysis of 30 African countries. The Random Effects analysis showed that excellent governance, as demonstrated by the government's effectiveness, regulatory guality, the rule of law, and accountability, are determinants for tax revenue generation. The findings suggest that increasing institutional capacity reduces corruption and increases tax efficiency (or minimizes tax complexity). The result of this research is supported by a study by Arif and Rawat (2018), who also found that enhancing governance guality leads to the reduction of corruption rate, broadens the tax base, and reduces complexity in the tax administration. The study addressed the issue in emerging countries using the principal component and multi-factor analysis.

Based on the explanation above and following the tax complexity index by Hoppe et al. (2021) and the worldwide governance index by Kaufmann et al. (2011), two hypotheses using a hundred economies as research objects are developed in this study as follows:

### Hypothesis 1

- H<sub>o</sub> = Countries' regulatory quality does not directly impact the tax complexity.
- H<sub>a</sub> = Countries' regulatory quality does directly impact the tax complexity.

### Hypothesis 2

H<sub>o</sub> = Government effectiveness does not moderate the relationship between regulatory quality and tax complexity. H<sub>a</sub> = Government effectiveness does moderate the relationship between regulatory quality and tax complexity.]

# 3. RESEARCH METHODOLOGY

This study uses documentary research as the basis for the exploration of concern variables (Ahmed, 2010; Scott, 2014). Documentary sources are identified in the form of statistics of the tax complexity index developed by other researchers (Hoppe et al., 2018, 2021) and institutional publications of WGI by the World Bank (Kaufmann et al., 2011). The data will then be analyzed quantitatively. The secondary data as the basis of documentary research comes from the TCI for the dependent variable. This study also incorporates the worldwide governance indicators (WGI) for regulatory guality as an independent variable and government effectiveness as a moderated variable. The data covers a hundred countries following the lists from the TCI database in 2016. According to the database, in 2016, TCI compared the score of tax complexity among nations in 100 countries. As such, this study incorporates the hundred nations as part of the analysis. The rationale is to cover a cross-country analysis and to capture a more reliable result that can be justified accordingly.

TCI scores span from zero to one as an indicator of the tax system's complexity. Zero means the system is perfectly efficient and not complex, while the value of one defines the perfect complexity of the tax system. However, based on the TCI indices, no single country has a score of zero or one. Thus, perfection in the tax system does not exist. On the other hand, regulatory quality and government effectiveness range between -2.5 (considered weak governance, both regulatory and effectiveness) to +2.5 (perceived as strong governance indicators). Each variable has a separate score, respectively ranging from -2.5 to +2.5. Policymakers and scholars have addressed the use of WGI. For example, the US government used WGI to target the millions of dollars of grants to foreign countries (Thomas, 2010). In addition, according to the World Bank (2006, as cited in Thomas, 2010), "Other donor governments, such as the Netherlands, also rely on the Worldwide

Governance Indicators to monitor the quality of governance." This study explores WGI in the form of regulatory quality and government effectiveness due to the uniqueness of the dataset, which is not addressed by any other indexes.

For the regression model, this study incorporates the regression with a moderating effect. The model is constructed using Hayes' moderation model (Hayes, 2018) as follows:



Figure 3 A Simple Moderation Model Source: Hayes (2018)

In a moderation model, the relationship between X and Y (the effect of X on Y) is determined as related to the presence of moderator W, as shown in Figure 3. Testing the moderation effect on the linear regression assumes the linearity between X and Y, and that the relationship is linearly moderated by W. Thus, the estimation model of Y can be presented in the form of the model as follows:

### $Y = \alpha + b1X + b2W + b3XW + \varepsilon \quad (1)$

A linear moderation relationship is examined with the inference of the value of b3, which constitutes the regression weight for XW (the interaction term). Suppose the value of b3 is not zero. In that case, the X's effect on Y varies to the degree of W. The affirmation of the moderation effect can be tested using simple slope analysis or the Johnson-Neyman technique (Hayes, 2018).

Concerning this study, the model can be adjusted according to the variables incorporated and expressed in an alternative form as shown in Figure 4.



Figure 4 A Moderation Model in the Study Source: Author's Analysis Based on Hayes (2018)

$TCI = \alpha + b_1 RegQual + b_2 Govern + b_3 RegQual * Govern + \varepsilon $ (2)					
Explanations:					
TCI	=	the tax complexity scores			
RegQual	=	the regulatory quality indicator			
		of a country			
Govern	=	the government effectiveness			
		indicator of a country			
ε	=	error terms			
α	=	the Y-intercept of the model			

Subsequently, SPSS version 27 will be used to analyze the datasets. The PROCESS system is added to the SPSS to support the moderation analysis into a single calculation and was developed by Hayes (2012).

### 4. RESULTS AND DISCUSSIONS

This part discusses the analysis results using SPSS PROCESS related to the moderation effect of government effectiveness on regulatory quality and tax complexity among a hundred nations. In addition, a brief discussion of tax complexity in Indonesia according to the data will also be addressed.

# 4.1 Results4.1.1 Descriptive Statistics and Correlations

To start the analysis, the author conducts a descriptive analysis to present the data spread for all variables. Table 1 shows the descriptive numbers of regulation quality, government effectiveness,

and tax complexity index. The data indicates that the tax system's complexity score ranged from 0.19 to .53, with a mean of .366. The lowest score (the tax jurisdiction with the least complex system) belongs to Jersey, and the highest (the most complicated tax system) goes to Brazil. In addition, the institutional governance indicators, as shown by the regulatory guality and effectiveness of the government process, virtually share similar values ranging from -1.8 to 2.2, with a mean of around 0.4. Singapore has the most excellent quality regulations, while Venezuela shares the country with the least regulatory quality. Regarding effectiveness, Singapore once again hits the highest mark as a country with the most effective governmental process. At the same time, the Republic of Yemen acts as a nation with the most ineffective government.

Next, before analyzing the correlation, a normality test is conducted to determine whether the data is approximately normally distributed, and parametric analysis can be addressed. The Kolmogorov-Smirnov (K-S) test will determine whether the underlying data follows a normal distribution. The null hypothesis is that the data is generally distributed at the 0.05 level of significance. The K-S result is presented in Table 2.

The result of the K-S analysis confirms the normal distribution of the variables in the study. As shown by the p-value above 0.05 for three variables, we can conclude that normality can be assumed for the dataset, and appropriate parametric analysis can be conducted afterward (Marshall & Samuels, 2017). Next, Table 3 illustrates Pearson's correlation among variables. The data shows a strong correlation between regulatory

Source: Author's Analysis Using SPSS v.27						
Variables	Obs	Missing	Mean	Std. Dev	Min	Max
TCI	100	0	0.366	0.70	0.19	0.53
RegQual	100	0	0.437	0.95	-1.99	2.18
Govern	100	0	0.441	0.91	-1.82	2.20

Table 1 Descriptive Statistics

Table 2 Tests of Normality (K-S) Courses: Author's Applysis Lising CDCC v 27

Source. Author's Analysis Using SPSS V.27					
Variables	statistics	Df	Sig.	Decision	
TCI	0.057	100	0.200	normally distributed	
RegQual	0.081	100	0.106	normally distributed	
Govern	0.082	100	0.092	normally distributed	

n = 100, p is significant at 0.05 level

Table 3 Correlations Among Variables
Source: Author's Analysis Using SPSS v.27

-						
_	Variables	TCI	RegQual	Govern	Govern	
	TCI	1				
	RegQual	-0.387	1			
	Govern	-0.348	0.948	1		

Dependent variable:	ICI				
Model Summary					
$R^2$	SE	F	df1	df2	Р
0.2098	0.0040	8.4979	3.00	96.00	0.000
Model per Variables					
	Coeff	t	р	LLCI	ULCI
constant	0.3811	45.0614	0.000	0.3643	0.3979
RegQual	-0.0483	-2.2821	0.0247	-0.0904	-0.0063 (direct effect)
Govern	0.0209	0.9486	0.3452	-0.0228	0.0647
Interaction	-0.0181	-2.6323	0.0099	-0.0318	-0.0045
(RegQual*Govern)					
	R <sup>2</sup> change	F	df1	df2	Р
X*W	0.057	6.9290	1.00	96.00	0.0099 (moderation effect)

#### Table 4 Direct and Moderation Effects Source: Author's Analysis Using SPSS PROCESS Macro

quality and government effectiveness, as indicated by a value of 0.948.

The correlation between two variables is considered significant if the Pearson value is more than 0.70 (Boslaugh, 2012). As such, the correlation between variables would diminish the quality of the moderation model in this research. To overcome such problems, some researchers proposed using the mean-centering method of the predictor variables. The mean-centered means subtracting the variable's mean from each value or case to reduce multicollinearity problems in multiple regression (Aiken et al., 1991; Eveland Jr, 1997; Hayes, 2020; Jaccard & Turrisi, 2003). Therefore, this study uses this approach to solve the correlation problems between regulatory quality and the effectiveness of the government process. SPSS PROCESS provides a one-click feature of the mean-centered of variables in the system. Also, the classical regression assumptions regarding the residual's independence, normality of residuals, and heteroscedasticity are already met in this study before conducting the moderated analysis.

# 4.1.2 Moderated Regression Analysis

To test and answer hypotheses 1 and 2, the author used PROCESS macro in SPSS version 27, following Model 1 developed by Hayes (2012). SPSS PROCESS could generally estimate the direct effect of regulatory quality on tax complexity and test the moderated effect of government effectiveness. Further, the bootstrap samples provided by the PROCESS are elaborated in the model to evaluate the direct significance with 95% confidence intervals (Scarpi et al., 2019). If zero is outside the confidence intervals (zero is not within the Lower-Level Confidence Interval – LLCI and Upper-Level Confidence Interval – ULCI), the model has a significant outcome. The result of the analysis is presented in Table 4.

Based on Table 4, the overall model has a significant level with the *p*-value < 0.001 and  $R^2$ equal to 0.2098. The value means that the model in this study can explain approximately 20.98% of the tax complexity model. Moreover, hypothesis 1 is tested using a direct effect of RegQual on TCI and can be summarized as b = -0.0483, t(96) = -2.2821, p = 0.0247, LLCI = -0.0904, and ULCI = -0.0063. The conclusion of direct effect analysis suggests a statistically significant effect of regulatory quality on tax complexity (*p-value* is less than 0.05, and zero is outside the value of LLCI and ULCI). Because the t value is negative, the slope of the regression line would be a reverse relationship. The increasing score of regulatory guality would decrease the tax complexity index. Thus, the more excellent the quality of countries' regulation is, the more efficient the tax system in those countries, as indicated by the low scores of tax complexity. As a result, Ho in hypothesis 1 is rejected, and we can accept the  $H_{a}$ , which means that countries' regulatory quality directly impacts the tax system's complexities.

Additionally, to determine the moderation effect of government effectiveness, we can look at the interaction result under the unconditional interaction of X\*W. The result reveals that the interaction between X (regulatory guality) and W (government effectiveness) is significant, with a pvalue less than 5% significance level. The interaction can be written as b = -0.0181, t(96) = -2.6323, p = 0.0099, LLCI = -0.0318, and ULCI = -0.0045. The interpretation of the result is that there is a statistically significant effect of the moderation variable of government effectiveness, as indicated by the low *p-value* (less than 5%), and zero is not within ULCI and LLCI. Also, there is a change in the value of R<sup>2</sup> by 5.7% due to the moderation effect of the government effectiveness. Thus, we can reject  $H_o$  and accept  $H_a$  in hypothesis 2 because government effectiveness does moderate the relationship between regulatory guality and tax complexity.

### 4.2 Discussions

This study aims to explore the impact of the government's ability to formulate sound policies and regulations on the complexities of a tax system and to observe the moderating variable of regulations' effectiveness. Firstly, the finding reveals that countries' ability to provide sound rules correlates significantly with the tax complexity the taxpayers face. The result is consistent with previous research that governance is essential in addressing tax complexity (Ajaz & Ahmad, 2010; Arif & Rawat, 2018; Epaphra & Massawe, 2017). That is, countries with improved regulatory quality promote simplification in the tax system and provide efficient tax policies and administrations. Secondly, the study findings show that countries' public service quality (as shown in government effectiveness) moderates the first finding.

Consequently, countries with excellent regulations and simplified tax systems have topnotch public services and keep the highest standard of public quality. Lastly, the degree of moderation effect can be seen with the simple slopes to understand the moderating effect of government effectiveness. The overall moderation model of this study is captured in Figure 5. Further, it shows the degree of significance and slope of regression for the main effects of regulatory quality on tax complexity. It also presents the moderated effect of government effectiveness on the relationship between independent and dependent variables.



Figure 5 A Moderation Model With p and t Values Source: Author's Analysis Using SPSS PROCESS Macro

In addition to the moderation effect, the conditional effects of the moderator are also tested using simple slopes. The three categories of the moderator are assessed: below the mean (-1SD), equal to the mean (OSD), and above the mean (+1SD) (Buchanan, 2015). As illustrated in Figure 6, the moderating effects appear in all three categories of the moderator (low, average, and high), which shows that the effectiveness of government is indeed moderating the relationship between regulatory guality and countries' tax complexities. Examination of the interaction plots shows an illustrative effect that increasing the guality of regulations (both formulation and implementation) would decrease the value of tax complexity at every level of countries' government effectiveness. Here, the meaning is clear: if a country wants to have an efficient and less complex tax system, the government must formulate and implement sound policies and regulations that encourage corporate taxpayers to develop their businesses (pro-investment tax policies). The rationale behind this conclusion is that the tax complexity, as proposed by Hoppe et al. (2021), is examined from the perspective of MNEs (corporate taxpayers).



Figure 6 Interaction Plots of Regulatory Quality and Tax Complexity as Moderated by Government Effectiveness Source: Author's Analysis Using SPSS PROCESS Macro

Moreover, a cluster analysis is corroborated to group countries based on similarity from the value of regulatory and complexity to validate the interaction plots. Figure 7 illustrates the countries' clusters using the Twostep Cluster Analysis provided in the SPSS. The model summary provides two groups with good quality.

According to the cluster output, there are two clusters for the association between regulatory and complexity. Firstly, the cluster consists of case numbers, for example, 11 (Pakistan), 30 (Indonesia),



Figure 7 Twostep Cluster Ouput Source: Author's Analysis Using SPSS v.27

31 (Lebanon), 47 (Mexico), and 69 (Russian Federation). Secondly, the cluster with case numbers 49 (Qatar), 63 (Luxembourg), 65 (Malta), 80 (New Zealand), and 95 (Ireland). The first clusters are countries categorized as low- and middle-income countries and have slightly poorly regulated policies and complex tax systems (as indicated by high TCI scores and low regulatory values). Conversely, the second cluster is formed by the high-income nations, which also have high quality in the regulations development and less complex tax system. Thus, the findings provide robust empirical evidence that quality in the m countries' regulations shapes efficient tax laws and



Figure 8 Cluster Output of Regulatory Quality and Tax Complexity Source: Author's Analysis Using SPSS v.27



Figure 9 Comparison of Variables for Indonesia Source: Author's Analysis

frameworks. This result supports the study by Ajaz and Ahmad (2010), Hoppe et al. (2021), and Jalilian et al. (2007). They found that the quality of governance was critical for the countries' development, reducing the complexity of the tax policy and tackling corruption. Also, this study confirms the research by Evans (2012), who stated that regulatory reform is essential in managing tax complexity and helping taxpayers reduce the compliance burden.

From the perspective of Indonesia, which includes one of the countries with the most complicated tax system, as shown in Figure 9, the finding is essential in managing tax policy and administration by the Indonesian tax authority, the Directorate General of Taxes. Figure 9 provides precise data that Indonesia has the lowest quality in all aspects of variables in this study compared to the average value of the overall sample in this study and ASEAN countries. The areas of complexity include filing different kinds of direct and indirect taxes, system disruptions or errors during the filing process, transfer pricing regulations, and intricate audit processes (Adila, 2015; Hoppe et al., 2018, 2019, 2021; Wicaksono, 2016).

Moreover, to reduce and manage the burden of complexity, the institutional capacity to reform the direction of tax administration is crucial in providing certainty and increasing compliance. The recently enacted law, the Tax Regulations Harmonization Law (HPP Law), takes an essential step to reduce the regulatory burden in the Indonesian tax system that might lead to the reduction of tax complexity in the coming years. The HPP Law is simple, efficient, promote certainty, and supports the nation's interests (Koesmoeljana, 2021). Also, the core tax system reform initiated by the DGT might put an inspiring vision to simplify the Indonesian tax system and increase DGT's capacity to manage complexity. The administrative and legislative process of tax regulatory formulation is essential to reduce the complexity and foster taxpayers' compliance (Evans & Tran-Nam, 2010).

Further, the increased attention from global tax institutions plays a vital role in simplifying tax systems (Harpaz, 2014). Harmonizing tax code initiatives proposed by the OECD in the form of the Base Erosion and Profit Shifting (BEPS) action plan is a way of achieving global equality in tax treatment (OECD, 2018). Thus, reducing tax complexity, not only in Indonesia but also on a global scale, is not a fantasy. Also, an efficient global tax system could be achieved in the foreseeable future.

### 5. CONCLUSION

This study tested the main effect of regulatory quality on the complexity of the tax system and the moderation effect of government effectiveness on such relationships. The analysis's examination using SPSS PROCESS Macro found that the quality of formulated regulation directly impacts the tax complexity (p = <0.05, t = -2.2821). Also, the government effectiveness moderates the relationship ( $p = \langle 0.05, t = -2.6263 \rangle$ ) in every level of moderation (low, average, and high). In brief, the findings generally draw on the tax code and tax framework complexity using a hundred nations as samples using the index developed by Hoppe et al. (2021). Two clusters are also presented in the study to further capture the importance of regulatory quality in reducing the complexity of the tax system. A regulatory reform might be essential in managing the efficient tax system (as indicated by the reduction in complexity).

Global coordination is also essential in reducing tax complexities, promoting fairness, and enhancing efficiency. Tax complexity is not only an issue of a tax authority. Thus, harmonization and coordination must be done globally to foster tax compliance, simplify the system, and support the global economy.

# 6. IMPLICATIONS AND LIMITATIONS

Some limitations may be drawn from this study. First, using a single year might not be sufficient to generalize the findings. This is due to the limited data on the cross-country tax complexity index in the literature and only one research connected to the development of the index. Thus, future studies could incorporate a panel data analysis to increase the robustness, assuming that there will be a multiyear index available. Second, this study uses only two indicators instead of all indicators in the worldwide governance index. Hence, limiting the government's ability to capture good governance in the study. Lastly, the complexity index captures the MNEs' view of the tax system. Future research may incorporate individual taxpayers' or tax practitioners' perceptions of the tax complexity.

Other than limitations, this research contributes to the development of determinants of tax complexity, particularly related to governance across many countries. Furthermore, tax authorities could use this study's findings to mitigate and address the issue of the complexity of tax laws. So, efficient tax policies and administrations will be achieved worldwide and promote future compliance of the taxpayers.

### ACKNOWLEDGEMENT

This paper is written explicitly for the DGT's Taxation Call for Paper 2022 and conducted during the author's Ph.D. study at Cardiff University, funded by the Indonesia Endowment Fund for Education (LPDP). Also, the author has no conflict of interest in this research.

# REFERENCES

- [1] Abeler, J., & Jäger, S. (2015). Complex tax incentives. American Economic Journal: Economic Policy, 7(3), 1–28. https://doi.org/10.1257/pol.20130137
- [2] Adila, R. (2015). Sistem administrasi pajak RI paling rumit se-Asean [Indonesia's tax administration system is the most complicated in ASEAN]. Okezone. https://economy.okezone.com/read/2015/03/29/ 20/1126002/sistem-administrasi-pajak-ri-palingrumit-se-asean
- [3] Ahmed, J. U. (2010). Documentary research method: New dimensions. *Indus Journal of Management & Social Sciences*, 4(1), 1–14.
- [4] Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions.* Sage.
- [5] Ajaz, T., & Ahmad, E. (2010). The effect of corruption and governance on tax revenues. *The Pakistan Development Review*, 405–417. https://www.jstor.org/stable/41428665
- [6] Arif, I., & Rawat, A. S. (2018). Corruption, governance, and tax revenue: evidence from EAGLE countries. *Journal of Transnational Management*, 23(2–3), 119–133. https://doi.org/10.1080/15475778.2018.1469912
- [7] Beck, P. J., Davis, J. S., & Jung, W.-O. (1991). Experimental evidence on taxpayer reporting under uncertainty. *Accounting Review*, 535–558. https://www.jstor.org/stable/247808
- [8] Boslaugh, S. (2012). *Statistics in a nutshell: A desktop quick reference* (2nd ed.). O'Reilly Media, Inc.
- [9] Buchanan, E. M. (2015). *SPSS Moderation analyses with simple slopes + process*. Statistics of DOOM.

- [10] Budak, T., & James, S. (2018). The level of tax complexity: A comparative analysis between the UK and Turkey based on the OTS Index. *International Tax Journal, 2018,* 27–40.
- [11] Carnes, G. A., & Cuccia, A. D. (1996). An analysis of the effect of tax complexity and its perceived justification on equity judgments. *The Journal of the American Taxation Association*, 18(2), 40–56.
- [12] Collier, R., Kari, S., Ropponen, O., Simmler, M., & Todtenhaup, M. (2018). *Dissecting the EU's recent anti-tax avoidance measures: Merits and problems*. EconPol Policy Report. https://www.econpol.eu/publications/policy\_repor t\_8
- [13] Cooper, G. S. (1993). Themes and issues in tax simplification. *Australian Tax Forum*, *10*, 417–460.
- [14] Deloitte. (2014). 2014 Asia Pacific tax complexity survey: Risk, uncertainty and opportunity in a changing tax landscape. https://www2.deloitte.com/cn/en/pages/tax/articl es/2014-asia-pacific-tax-complexity-survey.html
- [15] Eichfelder, S., & Hechtner, F. (2018). Tax compliance costs: Cost burden and cost reliability. *Public Finance Review*, 46(5), 764–792. https://doi.org/10.1177/1091142117691603
- [16] Eichfelder, S., & Vaillancourt, F. (2014). Tax compliance costs: A review of cost burdens and cost structures. SSRN Electronic Journal, 178. https://doi.org/10.2139/ssrn.2535664
- [17] Epaphra, M., & Massawe, J. (2017). Corruption, governance, and tax revenues in Africa. *Business and Economic Horizons (BEH)*, *13*(4), 439–467. http://doi.org/10.22004/ag.econ.285100
- [18] Evans, C. (2012). Tax governance issues: managing system complexity. *Economic Papers: A Journal of Applied Economics and Policy*, 31(1), 30–35. http://doi.org/10.1111/j.1759-3441.2012.00170.x
- [19] Evans, C., & Tran-Nam, B. (2010). Controlling tax complexity: Rhetoric or reality. In C. Evans, R. Krever, & P. Mellor (Eds.), *Australia's future tax system: The prospects after Henry* (pp. 439–463). Thomson Reuters.
- [20] Eveland Jr, W. P. (1997). Interactions and nonlinearity in mass communication: Connecting theory and methodology. *Journalism & Mass Communication Quarterly*, 74(2), 400–416. https://doi.org/10.1177/107769909707400211
- [21] Freudenberg, B., Tran-Nam, B., Karlinsky, S., & Gupta, R. (2012). A comparative analysis of tax advisers' perception of small business tax law complexity: United States, Australia and New Zealand. *Australian Tax Forum*, 27(4), 677–718.

- [22] Harpaz, J. (2014). How to simplify taxes in the most complicated country in the world. Forbes. https://www.forbes.com/sites/joeharpaz/2014/09/ 30/how-to-simplify-taxes-in-the-mostcomplicated-country-in-theworld/?sh=7aecc6766c72
- [23] Hayes, A. F. (2012). *PROCESS: A versatile* computational tool for observed variable mediation, moderation, and conditional process modeling. University of Kansas.
- [24] Hayes, A. F. (2018). Partial, conditional, and moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, *85*(1), 4–40. https://doi.org/10.1080/03637751.2017.1352100
- [25] Hayes, A. F. (2020). Statistical methods for communication science. Routledge.
- [26] Hoppe, T., Schanz, D., Sturm, S., & Sureth-Sloane, C. (2018). What are the drivers of tax complexity for MNCs? Global evidence. *Intertax*, 46(8/9), 654-675.
- [27] Hoppe, T., Schanz, D., Sturm, S., & Sureth-Sloane, C. (2019). Measuring tax complexity across countries: A survey study on MNCs. *Arqus Discussion Paper*, 245.
- [28] Hoppe, T., Schanz, D., Sturm, S., & Sureth-Sloane, C. (2021). The tax complexity index – A surveybased country measure of tax code and framework complexity. *European Accounting Review*, 1–35. https://doi.org/10.1080/09638180.2021.1951316
- [29] Ingraham, L. R., & Karlinsky, S. S. (2005). Tax professionals' perceptions of small business tax law complexity. *Tax Notes*, *107*(1), 79–89.
- [30] Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression* (Issue 72). Sage Publications, Inc.
- [31] Jalilian, H., Kirkpatrick, C., & Parker, D. (2007). The impact of regulation on economic growth in developing countries: A cross-country analysis. *World Development*, 35(1), 87–103. https://doi.org/10.1016/j.worlddev.2006.09.005
- [32] Kaplow, L. (1994). *Accuracy, complexity, and the income tax.* National Bureau of Economic Research Cambridge, Mass.
- [33] Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. *Hague Journal on the Rule of Law*, 3(2), 220–246. https://doi.org/10.1017/S1876404511200046
- [34] Koesmoeljana, B. (2021). Wide-ranging changes in Indonesia under Tax Regulation Harmonization Law. EY. https://www.ey.com/en\_id/taxservice/wide-ranging-taxation-changes-inindonesia-under-tax-regulation-

- [35] Krause, K. (2000). Tax complexity: Problem or opportunity? *Public Finance Review*, 28(5), 395– 414. https://doi.org/10.1177/109114210002800501
- [36] Mahmood, S. A., Ladegaard, P. F., & Saltane, V. (2017). A Joint Offering of the Governance and Trade & Competitiveness Global Practices. World Bank Group. http://documents.worldbank.org/curated/en/7532 91501065430312/Good-regulatory-practices-ajoint-offering-of-the-governance-and-trade-andcompetitiveness-global-practices
- [37] Marshall, E., & Samuels, P. (2017). *Checking normality for parametric tests*. ResearchGate.
- [38] McKerchar, M. (2005). The impact of income tax complexity of practitioners in Australia. *Australian Tax Forum, 20*(4), 529–554.
- [39] Müller, C., & Voget, J. (2012). Tax complexity and foreign direct investment. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3051912
- [40] OECD. (2018). OECD/G20 Inclusive Framework on BEPS. OECD. https://www.oecd.org/tax/beps/flyer-inclusiveframework-on-beps.pdf
- [41] Saad, N. (2014). Tax knowledge, tax complexity, and tax compliance: Taxpayers' view. *Procedia-Social and Behavioral Sciences*, *109*, 1069–1075. https://doi.org/10.1016/j.sbspro.2013.12.590
- [42] Scarpi, D., Mason, M., & Raggiotto, F. (2019). To Rome with love: A moderated mediation model in Roman heritage consumption. *Tourism Management*, *71*, 389–401. https://doi.org/10.1016/j.tourman.2018.10.030
- [43] Scott, J. (2014). A matter of record: Documentary sources in social research. John Wiley & Sons.
- [44] Slemrod, J. (1989). Complexity, compliance costs and tax evasion. In J. A. Roth & J. T. Scholz (Eds.), *Taxpayer compliance* (pp.156-181). University of Pennsylvania Press.
- [45] Slemrod, J. (2005). The etiology of tax complexity: Evidence from US state income tax systems. *Public Finance Review*, *33*(3), 279–299. https://doi.org/10.1177/1091142105275003
- [46] Slemrod, J. B., & Blumenthal, M. (1996). The income tax compliance cost of big business. *Public Finance Quarterly*, 24(4), 411–438. https://doi.org/10.1177/109114219602400401
- [47] Stantcheva, S. (2021). Understanding tax policy: How do people reason? *The Quarterly Journal of Economics*, 136(4), 2309–2369. https://doi.org/10.1093/qje/qjab033
- [48] Thomas, M. A. (2010). What do the worldwide governance indicators measure? *The European*

Journal of Development Research, 22(1), 31–54. https://doi.org/10.1057/ejdr.2009.32

[49] Wicaksono, P. E. (2016). Prosedur yang rumit jadi pemicu orang RI malas bayar pajak [Complicated procedures trigger Indonesians to be lazy about paying taxes]. Liputan6. https://www.liputan6.com/bisnis/read/2652666/pr osedur-yang-rumit-jadi-pemicu-orang-ri-malasbayar-pajak