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Determinants of Tax Complexity in Tax Regulations and Tax Procedures – Evidence from a Developing Country

Abstract

This study investigates the determinants of tax complexity in Indonesia, focusing on the perspectives of tax officers and firms, providing a case study relevant to developing countries. Understanding tax complexity in these contexts is crucial, as developing nations frequently encounter legislative, fiscal, and administrative challenges that exacerbate tax complexity. Such complexity can potentially hinder investment, impair tax revenue collection, and impede overall economic development. We adapt a global survey instrument to Indonesia and collect responses from Indonesian tax officers and firms. We identify transfer pricing, statutory tax rates, and dividends as the most complex tax regulations. Tax law enactment and tax appeals are perceived as the most complex tax procedures. This is in part in contrast to the global evidence, where statutory tax rates, dividends, tax law enactment, and appeals are not perceived as highly complex on average. Furthermore, comparative analyses show that tax officers perceive tax regulations as more complex than tax procedures, for example, transfer pricing regulations. This is often due to ambiguity in the regulations. In contrast, firms perceive tax procedures as more complex than tax regulations, particularly tax audits. Our findings provide a nuanced picture of tax complexity in a developing country and helpful insights and guidance for tax reforms in Indonesia. They also serve as a starting point for further analysis of developing countries.

Keywords: tax administration, tax complexity, business taxation, survey, developing country

JEL Classification: H20; H25; C83; K34

I. Introduction

In this study, we investigate the determinants of tax complexity in a developing country, using Indonesia as a key example. Developing countries often grapple with challenges in their legislative, fiscal, and administrative capacities, which can intensify tax complexity, undermining investment attractiveness and tax revenue collection (Bird, Martinez-Vazquez, and Torgler 2008; Besley and Persson 2014; OECD 2014). Although previous research has examined tax complexity for multinational companies across multiple countries (Hoppe et al. 2023), a detailed analysis of the specific determinants of tax complexity within developing countries remains underexplored.

Understanding tax complexity in these regions is crucial, as 70% of the world's foreign direct investment (FDI) flows into developing countries (UNCTAD 2023). Reducing tax complexity is essential to attract FDI, a key driver of economic growth and tax revenues (Amberger, Gallemore, and Wilde 2023; Hoppe et al. 2023). Research indicates that tax complexity can deter FDI and compliance while also presenting tax planning opportunities (Krause 2000). Furthermore, firms facing significant country-level risk and tax complexity tend to respond less effectively to investment incentives (Amberger, Gallemore, and Wilde 2023; Osswald and Sureth-Sloane 2024).

Developing countries encounter unique challenges in managing tax complexity due to economic informalities, limited administrative capacity and heightened tax base erosion from global tax competition (Crivelli, Keen, and de Mooij 2016). Tax uncertainty, fueled by inconsistent or unpredictable tax administration and a lack of reliable dispute resolution mechanisms, impedes investment and tax revenue collection (IMF and OECD 2019; Ferguson, Krupa, and Laux 2024). Despite often implementing simplified tax regimes, developing countries may inadvertently create an overly complex regulatory environment (Oliver and Bartley 2005). Additionally, low voluntary compliance and limited administrative capacity further exacerbate these challenges (Ahmed 2012; Carnahan 2015).

While Hoppe et al. (2023) offer valuable insights into perceived tax complexity across countries, their cross-country approach still needs granularity to fully comprehend the specific determinants of tax complexity in a single developing country. Our study addresses this gap by focusing on Indonesia, examining the perspectives of both tax authorities and firms with varying characteristics. By acknowledging the diversity in stakeholders' perspectives and focusing on Indonesia's unique tax system, we aim to identify the drivers of tax complexity more precisely, thereby providing targeted insights for policymakers. Moreover, prior single-country studies have predominantly focused on developed nations, including the United States (Slemrod 2005), Australia (Tran-Nam, Lignier, and Evans 2016), Germany (Bornemann, Schipp, and Sureth-Sloane 2020), and United Kingdom (Office of Tax Simplification 2022), with South Africa (Hoppe et al. 2019) being an exception.

We measure tax complexity through a survey, adapting the instrument from the Tax Complexity Index developed by Hoppe et al. (2023) to suit the specific context of Indonesia. Their comprehensive approach evaluates the complexity of corporate income tax systems across 15 dimensions of tax regulations (tax code complexity) and five dimensions of tax procedures (tax framework complexity). We modify this construct to reflect the nuances of Indonesia's tax system and benchmark our findings against global evidence and other developing countries.

Our study focuses on Indonesia, a nation with a well-documented issue of tax complexity, often cited as one of the most challenging environments for businesses (World Bank 2020; TMF Group 2023) while being one of the most promising developing economies. The Tax Complexity Index consistently places Indonesia in the top quintile of the world's most complex tax systems since 2016. Moreover, Indonesia's tax-to-GDP ratio is significantly low at 10.3% in 2021, compared to the OECD average of 34.1% (OECD 2023a). Understanding tax complexity as a barrier to economic growth and compliance is crucial for identifying opportunities to enhance the tax system and unlock Indonesia's economic potential.

We conducted our survey among tax officers and firms in Indonesia, with approval and assistance from the Directorate General of Taxes (DGT). The survey was disseminated to 27 out of 50 echelon II units, including various regional offices and directorates. Our sample encompasses tax officers from all types of units, handling firms of different functions, industries, and sizes. Additionally, we surveyed a selection of corporate taxpayers, representing the main stakeholders in the tax system. This approach contributes to the literature, which has predominantly focused on either taxpayer and tax advisors (Ingraham, Karlinsky, and McKerchar 2005; Gupta 2011; Hoppe et al. 2023), or tax administrations (Bornemann, Schipp, and Sureth-Sloane 2020). Given the differing, and sometimes opposing, objectives of tax administrations and taxpayers, capturing the perceived complexity from both perspectives is vital for a comprehensive understanding of tax complexity.

We collect a total of 476 responses, comprising 391 from tax officers and 85 from corporate taxpayers[1]. While tax officers comprise the majority (82.1%) of our sample and are the basis for our main analyses, we recognize the importance of valuing both groups' perspectives. Therefore, in additional comparative analyses, we contrast the viewpoints of tax officers and firms regarding selected aspects.

We first explore the respondent's view on the overall role of tax complexity including its significance, trends, costs and benefits, and potential solutions. In general, the respondents state that tax complexity has become a serious issue in Indonesia and increased over the past five years. Furthermore, tax complexity seems to have become a concern primarily regarding tax compliance, tax dispute and tax risk. Finally, we find that the respondents expect the use of information technology and the primary use of principle-based regulation as potential avenues to mitigate the excessive negative impact of tax complexity.

Our main results indicate that transfer pricing regulations, statutory tax rates, and dividends are perceived as the most complex tax regulations. In tax procedures, the most

[1] Our survey covers all types of corporate taxpayers including corporations and partnerships.

complex procedures are law enactment and tax appeals. Notably, our results from a developing country context, diverge from the global average (Tax Complexity Index, Hoppe et al. 2023) in two aspects. First, while statutory tax rates and dividends are globally considered moderately complex, they rank as the most complex tax regulations in Indonesia. This heightened complexity may be attributed to Indonesia's highly detail of statutory tax rates and rigid computation methods, as well as a principle-based definition of dividends that captures hidden payments and imposes stringent conditions for tax exemptions. Additionally, rapid recent amendments have further complicated these regulations. Second, while tax law enactment and tax appeals are globally viewed as moderately complex, they are perceived as highly complex in Indonesia. This complexity arises from third-party influences in tax law enactment and inconsistent decisions in tax appeals. These findings highlight specific areas for complexity mitigation reform and showcase the uniqueness of a developing country.

In our first comparative analysis, we examine variations in perceived tax complexity between tax officers and firms. The results indicate that tax officers generally view tax regulations as more complex, while firms find tax procedures more complex. Despite differences in overall tax complexity ratings, both groups agree that transfer pricing and statutory tax rates are the most complex regulations. However, instead of dividend, firms perceive loss offset as the third complex regulation. Firms also consider tax guidance and tax audits to be the most complex procedures, aligning with the global average from the Tax Complexity Index.

Our second analysis compares perceived tax complexity between two core functions within the tax authority: revenue collection and dispute resolution. Both functions are significantly impacted by tax complexity, according to our survey. The only significant difference in perceived regulation complexity is in permanent establishment, which is seen as more complex by dispute resolution officers. They view this regulation as ambiguous and open to multiple interpretations. Similarly, in the tax framework, both groups perceive comparable levels of complexity across procedures, except for tax guidance, which is seen as more complex by dispute resolution officers. The dispute resolution subgroup views the rise in tax disputes as a primary concern related to tax complexity.

In our third analysis, we explore perceived tax complexity among tax officers overseeing different sizes of taxpayers—small versus large/medium-sized taxpayers. Small-taxpayer officers find tax loss offset to be one of the most complex regulations. Given the importance of loss offsets as a tax incentive for economic growth, these findings highlight a critical area for improvement in the tax system. Additionally, small-taxpayer officers regard tax guidance as one of the most complex procedures, underscoring the need for support to help small firms navigate the tax code.

Collectively, our analyses reveal that certain regulations and procedures, such as transfer pricing, statutory tax rates, and tax law enactment, are perceived as complex across tax officers and firms. However, complexity perceptions also vary among specific groups in Indonesia. For example, firms find audit procedures particularly complex, while tax officers do not. Dispute resolution officers find permanent establishment particularly complex, while small-taxpayer officers and firms do not but emphasize the complexity of loss offsets and tax guidance, which, for example dispute resolution officers do not consider as highly complex. These findings suggest that policymakers need to prioritize for each regulation and procedure in terms of how important it is to reduce tax complexity at all and whether to reduce it broadly across all stakeholders or for just one specific group.

Our research contributes to the existing literature on tax complexity, particularly within the context of developing countries, in two ways. Firstly, we develop a survey instrument for a developing country which allows us to identify the most complex regulations and procedures. Our findings highlight that specific tax regulations and procedures, that do not seem to incorporate a high level of tax complexity in developed countries, turn to being perceived as highly complex in a developing. For example, we find statutory tax rates, dividend taxation, tax law enactment, and tax guidance as highly complex.

Secondly, our research sheds light on how the perception of tax complexity varies across different stakeholder groups. Notably, factors such as stakeholder type, function, and size shape distinct perceptions of tax complexity. Recognizing the nuanced differences in tax complexity is essential for policymakers endeavoring to alleviate the burden of tax complexity to enhance compliance and the quality of the investment environment in a developing country. Our study provides valuable insights for policymakers seeking to tailor strategies and interventions to address tax complexity effectively for diverse stakeholder groups. Our single-country evidence provides important insights that can be also relevant for studies in the other developing countries.

II. Tax Complexity

Tax complexity refers to the intricate nature of tax regulations and procedures, which arises as a natural outcome of tax system reforms aimed to balance between efficiency and equity (Kaplow 1998; Cuccia and Carnes 2001; Hoppe et al. 2023). Given the absence of standardized parameters for defining tax complexity, its measurement lacks consensus and agreement (Long and Swingen 1987). As a multidimensional concept, tax complexity involves a comprehensive assessment across various facets of a tax system. Noteworthy among these efforts is the Tax Complexity Index developed by Hoppe et al. (2023). They comprehensively measure the perceived complexity of corporate income tax systems across countries and time. They use the definitions provided by Hoppe et al. (2018), that tax complexity is a feature of the tax system that arises from the difficulty of reading, understanding, and complying with the tax code, as well as from various issues within the tax framework. This survey-based index is a composite of two equally weighted subindexes: tax code (regulation) complexity and framework (procedure) complexity.

Tax code complexity refers to the complexity inherent in the most complex regulations that had been identified previously (Hoppe et al. 2018). The complexity of each regulation depends on five complexity drivers: ambiguity and interpretation, change, computation, detail, and record-keeping (Hoppe et al. 2023). The original survey instrument covers the 15 most complex regulations: (alternative) minimum tax, additional local and industry-specific income taxes, capital gains and losses, controlled foreign corporations, corporate reorganization, depreciation and amortization, dividends, general anti-avoidance, group treatment, interest, investment incentives, loss offset, royalties, statutory corporate income tax rate, and transfer pricing.

We adjust their representation of tax code complexity and delete regulations that do not apply to Indonesia and add the regulations of permanent establishments. Permanent establishment regulation is increasingly important for Indonesia as a growing economy and a target country for foreign direct investment. Indonesia introduced new permanent establishment regulations in 2019[2]. Since the literature emphasizes the strategic role of implementing and designing permanent establishment regulations (Steenkamp 2014), their complexity might be an important issue. This is even more important as in an era where numerous corporations conduct cross-border business, the concept of permanent establishment that governs the taxation rights over foreign profits becomes increasingly pertinent in corporate taxation (Bellemare 2017; Garbarino 2019). Corporations strategically focus on optimizing tax advantages and mitigating disadvantages by restructuring business operations through permanent establishments (PwC 2013). Simultaneously, governments are proactively refining regulations to counteract artificial avoidance of permanent establishment through unilateral and multilateral legal frameworks. For example, OECD BEPS Action 7 mandates countries to redefine permanent establishment definitions to curb exceptions' exploitation and align with the

[2] Indonesian Ministry of Finance Regulation No. 35/PMK.03/2019.

evolving digital economy landscape. Additionally, precise profit attribution computations required by permanent establishment regulations further amplify their complexity.

Tax framework complexity encompasses five dimensions of procedures: tax guidance, tax law enactment, tax filing and payment, tax audits and tax appeals and objections (Hoppe et al. 2023). Tax guidance involves the provision of guidance by the tax authority or by written or soft law to clarify uncertain tax treatments or procedures. Tax law enactment is a dimension that deals with the process of how tax regulations are enacted, starting with discussions of changes in tax law and culminating in the regulation becoming effective. Tax filing and payment covers the process of preparing and filing tax returns, as well as the payment and refund of taxes. Tax audits represent the examination of tax returns by the tax authority and the extent to which these audits can be anticipated and prepared. Finally, tax appeals encompass the process from filing an appeal with the responsible institution to its resolution at the administrative or judicial appeal level.

Several studies indicate that taxpayers' stances on tax complexity are mixed, with a prevailing inclination towards simplification rather than increased complexity (Blesse, Buhlmann, and Dörrenberg 2020). The literature provides several reasons why tax complexity might disadvantage taxpayers, for instance, individual taxpayers sacrifice or underreact to tax incentives because of a complex tax system (Aghion et al. 2018; Abeler and Jäger 2021), tax complexity increases compliance costs (Kaplow 1998; Krause 2000), and introduces uncertainty in tax positions (Krause 2000). However, a specific level of tax complexity is seen as inevitable and crucial (Krause 2000). A complex tax scheme allows for better and more appropriate differentiation of individuals (Kaplow 1998; Galli and Profeta 2009). Tax complexity might also benefit taxpayers, for example, by providing tax planning opportunities (Krause 2000).

Tax authorities, whose main function is to ensure compliance with the tax law, also face costs and benefits of tax complexity. On the one hand, tax authorities receive tax revenue from risk-averse taxpayers who forgo complex tax opportunities or incentives (Krause 2000) or penalties from taxpayers' inability to fully comply with the complex system. On the other hand, tax authorities lose revenue due to taxpayers' exploitation of tax complexity and due to costly and highly uncertain audit outcomes (Krause 2000). Empirical evidence showing an inclination toward simplification or more complex regulations and procedures, however, yet is missing.

Since tax complexity is an inevitable byproduct of tax reforms that aim to balance between efficiency and equity (Kaplow 1998; Cuccia and Carnes 2001; Hoppe et al. 2023) governments need to manage the level of complexity to an optimal degree and mitigate the undesired aspects of tax complexity.

III. Indonesian Tax System

According to Hoppe et al. (2023), Indonesia's tax system exhibits high complexity in both tax regulations and procedures, a phenomenon that contrasts with the expectation of a developing country having simpler tax regulations (OECD 2014). This intriguing observation points to an unusual pattern of excessive tax complexity in Indonesia's tax regulation. According to the Tax Complexity Index for 2016 to 2022[3], Indonesia consistently ranks in the top quartile of the most complex taxation systems[4]. Also in other tax-related indices, Indonesia is recognized for its high complexity in doing global business, ranking as the 6th most complex country in 2021, and the 11th in both 2022 and 2023, out of 78 countries (TMF Group 2021, 2022, 2023). In the 2020 Ease of Filing and Paying Taxes index[5] developed by PwC and the World Bank Group, Indonesia ranked 81st out of 191 countries.

[3] We thank Deborah Schanz, Caren Sureth-Sloane, and their teams for sharing data collected in their Global MNC Tax Complexity survey since 2016 provided at www.taxcomplexity.org.
[4] For instance, in 2022, Indonesia ranked 9th out of 64 countries on the Tax Complexity Index. The ten countries with the highest tax complexity are as follows: 1) Peru, 2) Poland, 3) Israel, 4) Canada, 5) Italy, 6) Belgium, 7) Pakistan, 8) Romania, *9) Indonesia*, and 10) Czech Republic.
[5] source: https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2020/overall-ranking-and-data-tables.html.

In terms of tax collection ratios, Indonesia's tax-to-GDP ratio stood at 10.9% in 2021, which is 23.2 percentage points below the OECD average of 34.1% (OECD 2023b). Notably, corporate income tax contributes significantly, accounting for 28.9% of national tax revenues, well above the OECD average of 9.0% (OECD 2023b). This lower tax collection ratio can be attributed not only to the dominant presence of informal sectors in the country's economic structure but also to limited institutional capacity (Aizenman et al. 2019; OECD 2023b).

As a developing country, Indonesia must offer a competitive tax system to attract investors. The fundamental reform of the income tax system in Indonesia dates to 1983 when the government consolidated several tax laws into a single income taxation law, replacing colonial-era laws inherited from the Netherlands, such as corporate taxation (1925), wealth taxation (1932), and income taxation (1944), as well as post-independence laws like interest, dividends, and royalty taxation (1970). Since first enacted (1983), the income tax law has undergone six amendments until now: 1991, 1994, 2000, 2008, 2020, and 2021.

The pace of change in income tax-related regulations in Indonesia has accelerated significantly in the last decade, with the introduction of key legislations such as the tax amnesty law (2016), fiscal policies in response to COVID-19 (2020), the job creation law (2020), and the harmonization of tax regulations law (2021). In contrast to the initial four iterations of the income tax law, which were contained within a single standalone statute, recent amendments have taken the form of omnibus (collective) legislation aimed at consolidating various regulations. This shift has resulted in a proliferation of new and modified provisions, potentially contributing to increased complexity of income tax law.

IV. Survey Instrument

To assess the perceived complexity of taxation and obtain insights into various perspectives on this matter, we conducted an online survey involving both taxpayers and tax officers. This survey comprises two primary sections: one focused on the perception of tax code and tax framework complexity and the other on the respondents' perspectives on tax complexity, for example, on avenues for tax simplification. At the end of the survey, we gathered demographic information from the participants. We provide the survey instrument and our measurement strategy in the Appendix 1 and 2, respectively.

The first section of the survey aims to measure the level of tax complexity perceived by the respondent (tax officer or taxpayer). We adopt the survey instrument developed by Hoppe et al. (2023) for our study, specifically, tailoring it to the Indonesian tax landscape. For that purpose, we exclude specific questions that were either irrelevant or only minimally applicable to the Indonesian tax context. For instance, we omit questions related to additional local and industry-specific income taxes, alternative minimum taxes, and group treatment, as these concepts do not exist in the Indonesian tax system. We also remove questions that inquire about the existence of specific tax procedures that are not in place in Indonesia. For instance, questions concerning whether tax legislation procedures are defined by the law, whether taxpayers can change their taxation year, and whether tax authorities provide instructions on filing tax returns. To streamline the survey and keep dropout rates at a minimum, we consolidate several questions into matrix questions. Furthermore, we modify several yes/no questions into five-scale response options to capture wider variability of the response.

In addition, we introduce two new questions to the original survey. First, we added a question on permanent establishments to the questions on tax complexity in regulations. This addition was prompted by Indonesia's efforts, as a developing country, to combat tax avoidance by multinational corporations, which involves tightening the administration of permanent establishment taxes[6]. In the tax framework complexity, we added a question about stakeholders' involvement in the tax legislation process. This question is important as it enables us to explore

[6] The Minister of Finance of the Republic of Indonesia obliges the foreign individuals and businesses to have a tax identification number. https://money.kompas.com/read/2019/04/05/134240026/sri-mulyani-wajibkan-wna-dan-badan-usaha-asing-punya-npwp

the extent of stakeholders' involvement in the tax legislation process, thereby shedding light on stakeholders' contributions to the overall complexity of the tax system.

In the second section of the survey, we explore the stakeholders' perspectives on tax complexity. Specifically, we aim to understand potential desires for simplification in the tax system. To do so, we compare stakeholders' perceived level of tax complexity with their expectations regarding the optimal level of complexity. The disparity between these two values reflects their inclination or tolerance toward less or more tax complexity. We also ask whether and how tax complexity provides advantages or disadvantages to stakeholders. Next, we ask participants for their views on how the government should address tax complexity. Finally, we ask for their opinions on the trends in tax complexity over time and its relationship with administrative and compliance costs, cross-border economic activities, and digital business models. Respondents could choose from predefined responses or provide their insights also in a free-entry text box.

The final part of the survey collects demographic details of the stakeholders involved. In addition to standard demographic information such as position, gender, age, years of experience, and educational background, we also ask participants to specify the tax offices to which they are assigned. These tax offices were categorized as small, medium, special, or large, reflecting both the scale of taxpayers handled and the level of oversight exercised by the tax authority. Additionally, we inquired about the primary roles and responsibilities of these tax officers, including functions such as revenue collection, taxpayer assistance, dispute resolution, and formulation of tax regulation.

We distributed the survey in both English and Indonesian language[7]. The inclusion of an Indonesian translation served multiple purposes, including increasing participation rates, and ensuring that all stakeholders could fully comprehend the survey questions. This decision was

[7] The translation of the survey is provided by Fernando Siahaan and reviewed by Maria Tambunan (tax expert from the Faculty of Administrative Science from the University of Indonesia).

made also in response to the request of our survey distribution channel, the DGT, for reasons of utmost caution. To ensure the accuracy of the translation we double-checked the translation by an expert in taxation with command of English and Indonesian. For the clarity of the translation, we conducted a formal pretest involving 15 participants, including taxpayers, tax officers, tax academics, and tax consultants.

We distribute the survey to tax officers and corporate taxpayers[8] with the assistance of the Indonesian tax authority, the DGT, and a tax application service provider. Our primary distribution channel is the DGT Echelon II units[9]. We ask permission to conduct a survey from 41 Echelon II units[10]. After receiving approval from 27 units, we request the heads of participating offices to distribute the survey link to tax officers under their supervision and corporate taxpayers under their administration. We do not interfere in the selection of respondents. Additionally, as a secondary channel, we ask for the assistance of an ASP to additionally reach out to corporate taxpayers.

Our survey distribution network encompasses six directorates at the DGT head office and 21 regional offices spanning across Indonesia[11]. Among the 21 regional offices, two hold special designations as "large or special" units. These offices administer the largest and special category taxpayers including the largest corporations both domestic and multinational from various industries and legal forms including foreign investments, permanent establishments, and the oil and gas sector, covering the entire country geography. The remaining 19 regional offices are responsible for managing medium and small taxpayers based on their geographical locations.

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[8] Corporate taxpayers are represented either by the owner or by the designated employee in charge for responsible for corporate taxation.

[9] Echelon II units refers to the direct unit under the Director of DGT. The DGT is the Echelon I unit of Ministry of Finance. The DGT comprises 50 Echelon II units, including one secretariat, 14 directorates, and 34 regional offices and one technical unit.

[10] We exclude nine units which are less involved in the core of tax administration, such as those dealing with the secretariate, information technology, data and information, document, and internal compliance.

[11] The directorates constitute the core strategic units within the tax head office, bearing responsibility for the specific strategic functions of tax administration at the national level. Regional offices function as operational units with the primary role of coordinating tax administration within tax offices.

A comprehensive overview of our distribution channels is presented in Appendix 3 and 4, which provide a detailed list and geographical coverage of these channels.

We collect initial responses from 1,127 individuals, including 914 tax officers and 213 taxpayers. We employ quality checks leading to several steps of sample selection, as presented in Table 1. We exclude 601 (53.3%) responses with less than 50% completed answers to ensure a sufficient coverage of answers to questions that are also included in the survey instrument of the Tax Complexity Index to enable us to conduct respective comparative analyses. We then eliminate 12 (1.1%) responses with extremely short completion times, specifically those under five minutes because against the background of an average time of completion of 33 minutes in our pretests, this duration casts doubts about the quality of the answers. To mitigate concerns of low engagement we deleted these responses. To uphold the integrity of our data, our survey system restricts submissions to one response only per electronic device. Further, we exclude 38 (3.3%) responses that took excessively long to complete, namely those exceeding three hours to ensure each response came from a single respondent.[12] After applying these criteria, our final dataset comprises responses from 391 (82.1%) tax officers and 85 (17.9%) taxpayers.

[insert Table 1 about here]

Detailed demographic characteristics of these respondents are displayed in Table 2. Table 2 Panel A focuses on general demographics, revealing that 78.0% of tax officer respondents and 32.9% of taxpayer respondents possess over ten years of work experience. Regarding educational qualifications, 39.1% of tax officers and 20% of taxpayer respondents hold at least a master’s degree. Additionally, 54.2% of tax officers and 55% of taxpayer respondents have backgrounds in fiscal policy, law, or business administration. In terms of gender distribution, 70.3% of tax officer respondents and 50.6% of taxpayer respondents are male, while 20.7% and 41.2% are female, respectively.

[12] For robustness we reconducted our analyses for a sample that includes these answers that need very long time to answer. We decided to conduct this robustness check because participants could have been interrupted in completing the survey and continued later. The results are robust in the expanded sample and values only change on the second or third digit after the decimal point.

[insert Table 2 about here]

Table 2 Panel B presents specific demographic characteristics related to tax administration. A significant proportion of respondents (34.2%) occupy echelon level or managerial level positions. The primary responsibilities of these tax officers include tax revenue collection (40.1%), resolving tax disputes (13.3%), and delivering taxpayer services (13.3%). Regarding office types, 11.3% of respondents are from front offices serving large/special taxpayers, 3.6% from medium, and 44.8% from small taxpayer tax offices; the rest are from back offices, including regional offices (23.5%) and the head office (8.4%), among others.

Finally, Table 3 Panel C displays specific demographics of taxpayer respondents. These include their position such as directors, partners, or principals (11.9%), managers or senior staff (42.4%), assistants or junior staff (32.9%), and others. In terms of their tax office administration, 18.8% are associated with large/special taxpayers, 28.2% with medium, and 48.2% with small taxpayers. Overall, our survey encompasses a wide range of demographic characteristics with overall very qualified respondents.

V. Analyses

To measure complexity on the basis of the responses, we apply the approach developed by Hoppe et al. (2023). They describe tax complexity to arise from two major facets of the tax system: tax code complexity, the complexity that arises from the regulations of the tax code and tax framework complexity, the complexity that arises from the legislative and administrative processes and features within a tax system. To capture these facets of complexity we deduce complexity levels for each regulation and procedure based in the results of our survey. In the regulations part, we ask participants to indicate the complexity of the regulations regarding the complexity drivers: ambiguity and interpretation, change, computation, detail, and record keeping on five-point-likert-scales.

To aggregate the single responses to average values, we transfer the answers on the likert scales to numerical values (no extent = 0, little extent = 0.25, some extent = 0.5, great extent =

0.75, very great extent = 1) and aggregate them to unweighted mean values for the (sub)samples. This leads to one single complexity value for each regulation as an unweighted average of the single responses by the five complexity drivers. In the procedures part, we apply a mixture between likert-scales and yes/no answers. The likert scales are coded the same as in the regulations part (no extent = 0, little extent = 0.25, some extent = 0.5, great extent = 0.75, very great extent = 1). For the yes/no answers, we apply a counting mechanism (no = 0, yes = 1). This means, the more facets of the tax procedures are perceived as being complex, the higher the complexity value for the procedure.

Afterwards we aggregate the single answers to unweighted average values for the procedures tax guidance, tax law enactment, tax filing & payment, tax audits, & tax appeals. In the general perception and perspectives on tax complexity part, we apply the same mixed scaling approach. Tax code complexity can then be compiled as an aggregate of the values of each regulation. Tax framework complexity is an aggregate of the aggregated values for legislative procedures, guidance, payment and filing, audits, and appeals. We refrain from Hoppe et al. (2023) by not weighting the regulations based on self-assessed averages of the level of the importance of the specific drivers or dimensions of the respondents. This seems appropriate for the purpose of this study as this is a single country study and the importance of the regulations should be equal across participants. Accordingly, for tax framework complexity, weights are evenly distributed among the various drivers and dimensions.[13]

In the first part of our analysis, we explore the peculiarities of the complexity of the Indonesian tax system by investigating the complexity in regulations and procedures from the perspective of the Indonesian tax administration. We provide an overview of the general complexity perceptions of tax officers in Indonesia, detect advantages and disadvantages of complex tax systems and provide possible strategies to address tax complexity as perceived by the participants from the Indonesian tax authority. Additionally, we present descriptive results

[13] See (Hoppe et al. 2023) pp. 248-252.

of the complexity of the investigated regulations and procedures. To gain insights into the mechanics of the complexity of the Indonesian tax system, we derive insight into the drivers of the most complex regulations and procedures and therefore provide a better understanding of potential reasons for extensively complex areas in the Indonesian tax system.

In the second part of the analysis, we conduct comparative analyses of different groups to detect possible differences in the perception on complexity regarding the different angles of the groups. First, we compare the perceptions of tax officers with those of corporate taxpayers. In an additional survey, we gathered data from Indonesian corporate taxpayers from all sizes and compare them to our findings from the tax administration side. This is particularly important for getting a better understanding of the complexity of the tax system, since different stakeholders may differ in their perceptions and therefore are differently impacted by this perception (Blaufus et al. 2022). These differing perceptions, if not considered, may lead to suboptimal decisions in the urge to mitigate excessive complexity.

Second, we perform sample splits concerning tax officers' primary focus in their daily tasks: revenue collection and dispute resolution. For developing countries, collecting tax revenue is particularly crucial to address emerging legislative, fiscal, and administrative challenges. Tax complexity exacerbates noncompliance, thereby posing potential harm to revenue collection and increasing the number of disputes due to noncompliance (Milliron 1985; Borrego, Lopes, and Ferreira 2016; Blesse 2021). By identifying overly complex areas in the tax system from the viewpoint of these tax officers, we can help to possibly diminish harmful complexity.

Third, we split our sample of tax officers depending on the size of the corporate taxpayers they are working with. Corporate taxpayers of different sizes encounter varying levels of exposure to specific regulations and procedures and possess differing capacities (Engelschalk 2007). Since complexity may be prone to be influenced by multinational aspects, such as anti-tax avoidance regulations for multinational corporations, little is known about the peculiarities of the complexity of national operating companies. We split our sample to investigate the company-size-dependent peculiarities of tax complexity.

VI. Main Results

VI.1 Overview of Tax Complexity in Indonesia

To assess how respondents perceive tax complexity in Indonesia, including its costs, benefits, and potential solutions we ask them about five statements regarding tax complexity on a five-point Likert scale. The results are presented in Figure 1. 67.91% of the participants report that tax complexity has increased in the last five years (Panel A). Moreover, 64.46% (66.58%) of the respondents expect tax complexity-induced additional tax administration (tax compliance) efforts in the future. More than three fourth (78.78%) of the respondents' report growing cross-border activities and 72.42% growing digital business models being the main drivers of this increase in tax complexity. Overall, these results show that tax complexity is a serious issue for the respondents inhibiting negative externalities.

[insert Figure 1 about here]

Next, we find mixed results on the potential costs and benefits of tax complexity as shown in Panel B of Figure 1. While 36.8% (29.9%) of respondents perceive enhanced payment (administrative compliance due) to tax complexity, a similar proportion believe it leads to a decline in payment (35.3%) and administrative (34.8%) compliance. A high share of 44.5% (35%) of all responding tax officers expects more tax disputes (tax risk), while only 19.4% (20.7%) expect fewer disputes (less risk). At the same time only 18.7% of the tax officers perceive an increase in tax administration costs. Apparently, tax disputes and tax risk are seen as the most critical negative concerns. Nevertheless, participants do not expect the tax administration costs to increase accordingly. This leads to the conclusion that complexity induced disputes are not necessarily costly for administrations and could potentially be cost decreasing, e.g., through prevented tax evasion due to the disputes.

Finally, we ask about measures to mitigate the excessive impact of tax complexity and present the result in Panel C of Figure 1. 72.1% of participants indicate that the government should improve the use of information technology to fight tax complexity. More than half of the surveyed tax officers (55.5%) state that principle-based instead of rule-based regulation can help to mitigate tax complexity. Moreover, 54.7% believe cooperation between tax authorities and taxpayers, e.g., in the form of cooperative compliance, is a useful tool to decrease undesired tax complexity. Taken together, the results indicate ample room for improvement.

The investigation of the general perception of tax complexity shows that complexity in Indonesia increased in the recent past and is expected to be further increased by digitalized and globalized businesses. However, there are strategies to address these trends, e.g., through the optimization of information technology.

VI.2 Most Complex Tax Regulations

We present descriptive statistics in Table 3 for tax officers' (82.1% of our sample) perception of tax complexity. More details are reported in Appendix 6. Panel A of Table 3 presents the perceived level of tax code complexity. The results show that the tax code complexity average is 0.733, ranging from 0.695 to 0.787 among regulations.

[insert Table 3 about here]

In comparison the most recent values for the world average in the Tax Complexity Index in 2022, all regulations are perceived as very complex in our study. The world average of the Tax Complexity Index in 2022 for all regulations (unweighted Tax Code Complexity Subindex) is 0.417 and therefore substantially lower. The average unweighted Tax Code Complexity Subindex for Indonesia is above the global average (0.511). Nevertheless, it reflects substantially lower absolute values compared to our results. Taking only developing countries into account[14], the unweighted Tax Code Complexity Subindex of the Tax Complexity Index

[14] We qualify countries as developing countries based on the definition of the International Monetary Fund (IMF) as per the latest classification in April 2023 (https://www.imf.org/en/Publications/WEO/weo-

displays a value of 0.426 and is, correspondingly, substantially lower than the value in this study. These results might reflect that tax officers in Indonesia perceive tax regulations as very complex overall and even more complex than in other developing countries.

The most complex regulations in Indonesia encompass transfer pricing (0.787), statutory tax rates (0.754), and dividends (0.738)[15]. While transfer pricing is the most complex regulation consistent with the global evidence, the high complexity of statutory tax rates and dividends in Indonesia may come as a surprise. On average, statutory tax rates rank much lower worldwide, namely in the third quartile. Also, dividends rank lower in the world average in the second quartile.

The drivers of the complexity of transfer pricing in Indonesia are record keeping (0.808) and ambiguity & interpretation (0.801)[16] (see Figure 2, Panel A). This complexity arguably increased by enhanced transfer pricing documentation requirements following the BEPS Action 13 implementation (2016)[17]. Additionally, the extensiveness of these regulations often complicates interpretation, especially given tax officers' limited expertise in sophisticated related-party transactions.

[insert Figure 2 about here]

For the second most complex regulation, statutory tax rate, the complexity is primarily stemming from the intricacies in computation (0.769) and the details (0.760) (Figure 2 Panel B). Surprisingly, in the 2022 wave of the MNC Tax Complexity Survey (Hoppe et al. 2023)

database/2023/April/groups-and-aggregates). The developing countries included are Armenia, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Hungary, India, Indonesia, Kazakhstan, Kenya, Malaysia, Mexico, Nigeria, Pakistan, Peru, Philippines, Poland, Romania, South Africa, Thailand, Türkiye, Ukraine, Urugay, and Vietnam.

[15] While transfer pricing and statutory tax rates are considerably more complex than the next complex regulation (dividends), we have to note that dividends is the most complex regulation of the next-tier cluster of regulations that all are rather similar in that respect, but lower in complexity than transfer pricing and statutory tax rate regulations. For brevity of our analysis, we focus on the top quintile of tax regulations (transfer pricing, statutory tax rates, dividend taxation) and thus abstain from discussing the other regulations of this next-tier cluster.

[16] See Appendix 3 for a detailed description of the drivers of the complexity of the captured regulations.

[17] Regulation of the Minister of Finance of the Republic of Indonesia number 213/PMK.03/2016 concerning The Types of Documents and/or Additional Information that must be Retained by Taxpayers who Conduct Transactions with a Related Party, and the Procedures.

statutory tax rates is perceived as moderately complex in Indonesia (Rank 8 of 15), as well as in other developing countries (Rank 11 of 15).

Indonesian firms face two corporate income taxation regimes: a turnover-based corporate income tax for SMEs and selected industries, and a traditional corporate income tax for all other firms[18]. Notably, the turnover-based corporate income tax rates vary significantly across and within industries[19]. Also, the traditional corporate income tax rates differ depending on total turnover and corporate type. The rates are discounted by 50% for incomes below a certain threshold[20] and are three percentage points lower for public corporations[21]. Furthermore, recent government amendments have modified the rates, further contributing to the perceived complexity in this regulation. In 2020, the government adjusted the rates from 25% to 22% for 2020 and 2021, and then to 20% thereafter[22], only to be amended again in 2021 to 22% for 2022 and thereafter[23]. This diverse tax rates for different taxpayers and the frequent changes provide an explanation for the considerable tax rate complexity.

Dividend taxation ranks as the third most complex tax regulation, primarily driven by ambiguity and unclear interpretations (0.752) and by record-keeping (0.743) (Figure 2 Panel C). As there is a principle-based definition of dividends in Indonesia hidden dividend payments may trigger dividend taxes[24]. Furthermore, dividend regulation includes tax exemptions that have the potential to reduce tax complexity; however, these exemptions are subject to very stringent conditions.[25]. Significant changes have been made to these exemptions, since 2020 all broadening the scope of the exemption but at the same time complicating the exemption

[18] For additional insights into the implications of turnover-based corporate income taxation, refer to Amberger, Siahaan, et al. (2023).
[19] Article 4(1) of the Income Tax Law.
[20] Article 31E of the Income Tax Law.
[21] Article 17(2) of the Income Tax Law.
[22] Law Number 2 of 2020 on Enactment of the Government Regulation in Lieu of Law Number 1 of 2020 on State Financial Policy and Financial System Stability for the Handling of the Corona Virus Disease 2019 (COVID-19) Pandemic and/or In the Context of Facing Threats Endangering National Economy and/or Financial System Stability into Law
[23] Law Number 7 of 2021 on Tax Regulation Harmonization
[24] Article 4(1) of the Income Tax Law stipulates the broad definition of dividend
[25] Article 4(3) of the Income Tax Law stipulates the specific criteria of the exemption of the dividend

criteria[26]. Furthermore, the government also defines types of non-dividend income to be considered as deemed dividends to prevent tax avoidance[27]. Finally, complexity in administering withholding taxes on dividends further elevates the perceived complexity.

Panel B of Table 3 shows the drivers of the complexity of all regulations. Record keeping is the most important driver of the complexity of Indonesian tax regulations. Ambiguity and interpretation, computation, and the details of regulations are of nearly similar importance, while change is the least important driver of tax complexity in Indonesia. Nevertheless, the absolute values reach relatively high levels for each driver in the survey. Moreover, all drivers are highly correlated (see Appendix 6 Panel B). and therefore, each driver seems to have a significant impact on the complexity of the regulations. None of the drivers stand out as the major reason for complexity. This underlines the multidimensional nature of complexity and points towards an in-depth analysis of the complexity of certain regulations to understand the mechanics behind the complexity of a specific regulation.

We identify the regulations regarding transfer pricing, statutory tax rates and dividends to be the most complex regulation in our survey. Since transfer pricing and dividend taxation regulation are known to be comparatively complex,[28] statutory tax rates mostly do not rank under the most complex regulations. We find that the computation and the details of these regulations are the main drivers of complexity. These finding may refer to the recent government amendments have modified the statutory tax rates in Indonesia and may have led to unintended consequences in the form of excessive complexity.

[26] For example, to be exempted for income tax the dividend should be invested in specifics minimum amount, specific sectors within specific periods. There also different criteria for dividend from listed (in stock exchange) and non-listed company.
[27] Ministry of Finance Regulation number 107/PMK.03/2017 concerning the Determination of the Time of Dividend Acquisition and Its Calculation Basis by Domestic Taxpayers for Capital Participation in Foreign Business Entities Other Than Business Entities Selling Their Shares on the Stock Exchange.
[28] See taxcomplexity.org.

VI.3 Most Complex Tax Procedures

Panel A in Table 4 presents the perceived levels of tax complexity in tax procedures. Our findings reveal an average framework complexity of 0.286, ranging from 0.251 to 0.372. This value is in line with the world average of the tax framework complexity documented in the for 2022 (0.284). Noticeably, according to the tax complexity index of 2022 and thus from the perspective of tax experts in tax advisory firms, Indonesia has a framework complexity of 0.327 similar to the average of all developing countries (0.333) in the index, higher than the average of developed countries.

Further, we find tax law enactment (0.372) and tax appeals (0.234) emerge as among the most complex procedures perceived by Indonesian tax officers, while tax audits are perceived as the least complex (0.251). These results deviate from the world average, where tax law enactment and tax appeals are regarded as moderately complex. These results point toward the different roles of tax officers in tax law enactment and tax appeals as compared to tax professionals.

[insert Table 4 about here]

In detail, our survey indicates that tax law enactment is exceptionally complex. This high level of complexity seems to primarily arise from the considerable influence of third parties, with a complexity score of 0.570 (Figure 3). In many developing countries, the process of enacting tax laws often is not transparent in its structure and process. This may not allow tax officers to provide input but, at the same time, might open room for the influence of self-interested (lobbying) groups. This lack of participation of tax officers in legislative procedures might lead to regulations that do not adequately reflect issues of practical relevance for tax administrations. Additionally, the power of third parties, like lobbying groups, introduces further complications, potentially skewing legislation towards specific interests rather than being perceived as serving the broader public interest. The time between the announcement of tax changes and their enactment (0.368), the time at which tax legislation becomes effective

(0.358), and the quality of the tax legislation draft (0.340) also add to the above-average value of the complexity of the tax law enactment process. These findings point towards time-consuming and inefficient processes in the Indonesian enactment process.

[insert Figure 3 about here]

Further, our survey evidence indicates that tax appeals represent a significant complexity, ranking as the second most complex tax procedure. In Indonesia, tax appeal procedure comprises two sequential stages: objections handled by the tax administration and appeals processed by the tax court. Both stages are included in our survey. The primary complexity drivers in tax appeals are inconsistent decisions in tax appeals (0.427) and the influence of third parties in these processes (0.348) and unpredictable completion time in tax appeals (Figure 3 Panel B). Interestingly, these high complexity factors are predominantly associated with the appeals stage, particularly involving the tax court, highlighting challenges in the dispute resolution system outside the tax administration. In the tax objection process, inconsistent decisions are the most crucial complexity driver.

Panel B of Table 4 shows the correlation coefficients between the investigated tax procedures. The complexity of the procedure of tax law enactment is significantly positively correlated with tax filing and payment and tax audits. All other correlations are statistically insignificant or low.

In this chapter, we provided insides into the complexity of tax procedures as perceived by Indonesian tax officers. We identified the processes tax law enactment and tax appeals and objections to be the most complex procedures. Moreover, we show that the influence of third parties is the biggest complexity driver in the enactment process. In the appeals and objections procedure, inconsistent decisions are the most serious driver of complexity.

VII. Comparative Analyses

VII.1 Tax Officers vs. Taxpayers

To put our findings into perspective and elucidate the heterogeneity across stakeholders we compare the perceived levels of tax complexity of our two distinct respondent groups, tax officers and taxpayers (Table 5).

[insert Table 5 about here]

We find a notable variance in the perception of tax code complexity. We find that tax officers report a significantly higher complexity level (0.734) compared to taxpayers (0.678). Conversely, in the domain of tax procedures, taxpayers perceive a significantly higher level of complexity (0.406) than tax officers do (0.300). These findings highlight the disparity in perceptions.

We examine these contrasting views and sensitivities to tax complexity between the two groups for the various tax regulations (Panel A Table 5). We observe a consistent trend: tax officers generally perceive higher levels of tax complexity across most regulations compared to taxpayers, with only statutory tax rates and investment incentives being very similarly assessed by both groups. Both groups report transfer pricing and statutory tax rates as the most complex regulations. However, opinions diverge for the third most complex regulation. Tax officers rate dividend taxation as more complex, whereas taxpayers perceive the loss-offset provisions to be more complex. We find that both groups rank record keeping as the most important driver of the complexity of transfer pricing regulation. Interestingly, ambiguity and interpretation of transfer pricing regulations ranks second in the tax officers' group but only fourth in the taxpayers' group after record keeping, computation, and detail. Both groups agree in the fact that complexity due to changes in transfer pricing regulations are of comparatively minor importance. We find all differences in the values of the drivers by the two groups are statistically significant.

[insert Table 6 about here]

Overall, these results suggest that despite variations in perceived levels of complexity, there exists a notable consensus regarding the ranking of the complexity in regulations. Tax officers and taxpayers agree that transfer pricing and statutory tax rates are marked with particularly high levels of complexity but perceive the complexity of regulations regarding loss offset and dividend taxation different.

We provide a comparison for the perceived complexity in tax procedures in Panel B of Table 5. We find that tax officers tend to perceive the procedures as less complex relative to taxpayers in all procedures. However, the two groups differ significantly in what they consider most complex. As discussed earlier, tax officers rank tax law enactment as the most complex procedure. By contrast, taxpayers perceive tax guidance as the most complex procedure and rank tax law enactment fourth. We find the largest difference in value (statistically significant) and in ranks for tax audits. Taxpayers rank tax audits second, tax officers rank tax audits as the least complex regulation. This is interesting because tax audits are a procedure in which tax officers and taxpayers meet in the process. Possibly tax officers feel that they have command of the tax audit, which leads to moderate complexity. Taxpayers might not feel alike and particularly might fear the complexity of tax audits because they the lack of comprehensive and easily applicable tax guidance does not allow them to be confident that they managed to comply with all regulations. To understand tax audit complexity even better, we take a closer look into the reasons for this differing perception (Figure 4).

[insert Figure 4 about here]

Taxpayers are concerned about the insufficient disclosure of selection criteria before a tax audit, inconsistent decisions by tax officers, the lack of additional guidance and bad communication on audit topics as the most important complexity drivers with respect to tax audits. These aspects indicate a lack of trust and deficiencies in communication between tax officers and taxpayers and point toward a demand for efficient and cooperative tax procedures. This not only seems to be the taxpayers view but also tax officers confirm this view.

VII.2 Revenue Collection vs. Dispute Resolution

The literature provides evidence that tax complexity is a threat to the economy and fosters non-compliance (Milliron 1985; Borrego, Lopes, and Ferreira 2016; Blesse 2021). Therefore, it is of particular importance to investigate the perceived complexity of tax officers in the revenue collection unit. Moreover, through increased tax planning opportunities due to tax complexity, disputes are likely to increase, too. Therefore, we investigate the perceptions of tax complexity of employees in dispute resolution.

We compare the answers of the tax officers of both groups, specifically their answers on the perceptions of regulations of transfer pricing, statutory tax rates, and permanent establishments, thus, those regulations that are perceived as most complex in both groups and reveal the biggest differences in complexity perception between both groups. We scrutinize the drivers of the complexity of these regulations to investigate the driving forces of complexity perceptions.

Our results reveal there is no significant differences in the complexity in each tax regulation, except in permanent establishment (Table 6 Panel A). Regulations on permanent establishments are perceived as significantly more complex in the group of tax officers in dispute resolution, this perception is most pronounced in the dispute resolution group and only of minor importance in the revenue collection group. The pronounced role of the complexity of regulations on permanent establishments for dispute resolution is consistent with global evidence and concerns in public discussions (Olbert and Spengel 2019). This finding is important because tax complexity may result in tax disputes (Lindsey, McDonnell, and Moser 2023; White 2023) and ultimately hinder economic growth (OECD 2018, 2019; Fox et al. 2022) and investment (De Waegenaere, Sansing, and Wielhouwer 2007; Becker, Davies, and Jakobs 2017; Diller et al. 2017).

Regarding the complexity of the tax framework, both groups perceived similar levels of complexity across all procedures, with the exception of tax guidance (Table 6 Panel B). Tax officers in the dispute resolution seem to be more exposed to complexity in the tax guidance procedure. This leads to the conclusion that guidance for dispute resolution has to be clearer in its formulation and application. This is of particular importance because disputes are perceived to be increased via complexity (Figure 1, Panel B).

Consistently and again, the most complex regulation in both groups is transfer pricing. The second most complex regulation is statutory tax rates in the revenue collection subsample, but it only ranks seventh in the dispute resolution subsample. This finding reflects that, in the revenue collection process, statutory tax rates are crucial and so is its complexity.

To investigate the differences in complexity perceptions in the two groups, we investigate the complexity drivers of the regulations of transfer pricing, statutory tax rates, and permanent establishment (Table 6 Panel C). Record keeping emerges as a crucial driver of tax complexity of transfer pricing in both groups. It ranks first in the revenue collection and second in the dispute resolution subsample. Ambiguity and interpretation in transfer pricing regulations is more pronounced in the dispute resolution subsample.

[insert Table 6 about here]

The high detail of statutory tax rates is a serious issue for both groups. Additionally, the computation of statutory tax rates and the ambiguity and interpretation of the tax rates are serious complexity drivers for them. This is not surprising because, besides the two different corporate income tax regimes (turnover-based corporate income taxation for SMEs and selected industries and traditional corporate income taxation), statutory tax rates have been subject to frequent changes in the recent past (see section V.2.1).

The complexity of regulations regarding permanent establishments is mainly driven by the ambiguity and interpretation in the dispute resolution subgroup. Record keeping is the main driver in the revenue collection subgroup. Ambiguity and interpretation only rank fourth in the revenue collection subgroup. This points to complexity for dispute resolution primarily is due to the complexity in documentation and the arising potential misleading or misinterpreted disclosed information.

When asked about the potential disadvantages of overall tax complexity, participants in the dispute resolution subgroup perceive more disputes in the taxation process due to tax complexity as a serious concern. They are also more concerned about tax complexity than other respondents in the sample (Figure 5) and more in favor of cooperation between tax authorities and taxpayers to fight tax complexity. This, again, signals that cooperation between taxpayers and tax administrations can be a useful tool to handle and decrease undesired tax complexity.

[insert Figure 5 about here]

VII.3 Taxpayers' Size

We split the sample into groups of tax office with taxpayers of different size. On the one hand, we investigate tax offices for large and medium taxpayers and, on the other hand, we for small taxpayers. Small taxpayers face quite different challenges and opportunities than large and medium taxpayers do (Engelschalk 2007). Most importantly, small taxpayers are less likely to act in multinational contexts. Therefore, it is of particular importance for governments to understand the perceptions of the tax officers working with small taxpayers to tackle undesired tax complexity for these enterprises. This aspect is of special importance for Indonesia, since more than 99% of the total business population are SMEs (OECD 2022).

As displayed in Panel A of Table 7, there are no significant differences in the perception of the complexity of tax regulations between the groups of small-taxpayer officers and large/medium-taxpayer officers. Both groups rank transfer pricing regulations as the most complex and statutory tax rate regulations as the second most complex regulations.

[insert Table 7 about here]

Surprisingly, small-taxpayer officers rank loss offset regulations as the third most complex regulation while large/medium-taxpayer officers only rank these regulations seventh and instead rank dividend regulations third. This is an important finding because there is ample evidence that tax-specific country-level risk in loss offset regulations translates undermines risk-taking an investment (Osswald and Sureth-Sloane 2024).

Looking at the tax procedures displayed in Panel B, we see that both groups perceive the tax law enactment process as the most complex procedure. Again, we find that only the difference between the two tax officer groups for tax guidance procedure is statistically significant. It ranks fourth in large/medium-taxpayer officers and second in the small-taxpayer officers. This finding suggests that overly complex guidance is seen as particularly complex for small taxpayer officers and might be an obstacle for compliance

Overall, our survey evidence suggests that government should focus on decreasing the complexity in loss offset, and especially in record keeping and computation for this purpose to support small-taxpayer officers.

VIII. Conclusion

We investigate the factors contributing to tax complexity in tax regulations and procedures in Indonesia as a prominent developing country. Utilizing the approach developed by Hoppe et al. (2023) for the Tax Complexity Index, we assess the perceived tax complexity in Indonesia. Our study encompasses a survey customized for Indonesian tax officers and a small sample of Indonesian corporate taxpayers. We identify the crucial determinants of tax complexity in tax regulations and tax procedures and contrast them with global evidence and evidence for developing countries. Additionally, we conduct comparative analyses for different groups of tax officers and taxpayers. Overall, the respondents perceive an increase in tax complexity over the last five years, driven by global factors such as globalization and digitalization, implying additional tax administration and compliance efforts, along with an increase in tax disputes.

Consistent with prior findings (Bornemann et al. 2020; Hoppe et al. 2023), we find transfer pricing regulations to be the most complex regulation. Surprisingly we find statutory tax rates and the taxations of dividend payments to rank second and third, highlighting areas of tax complexity that seem to be specific for a developing country. Tax law enactment emerges as the most complex tax procedure with the influence of third parties appearing to be the most important complexity driver in tax law enactment. Tax appeals rank second in tax framework complexity with inconsistent decisions being the main driver of the complexity of tax appeals.

Our comparative analysis across stakeholder clusters reveals both universally and specifically perceived complexities in tax regulations and procedures. Transfer pricing, statutory tax rates, and tax law enactment are widely regarded as highly complex by most stakeholders. However, certain complexities are perceived differently depending on the stakeholder group. For example, dispute resolution officers find permanent establishment rules particularly challenging, while small-taxpayer officers and taxpayers emphasize the complexity of loss offsets and tax guidance.

Our analysis provides helpful insights to help policymakers to develop more effective and better targeted improvements of the tax system of developing countries. However, our study has some limitations. It focuses solely on one developing country, necessitating caution and additional analyses when drawing broader conclusions. Nonetheless, as Indonesia is one of the largest and strongly growing developing economies our study provides a starting point for analyses of tax complexity and its implications for investment and compliance in other developing countries.

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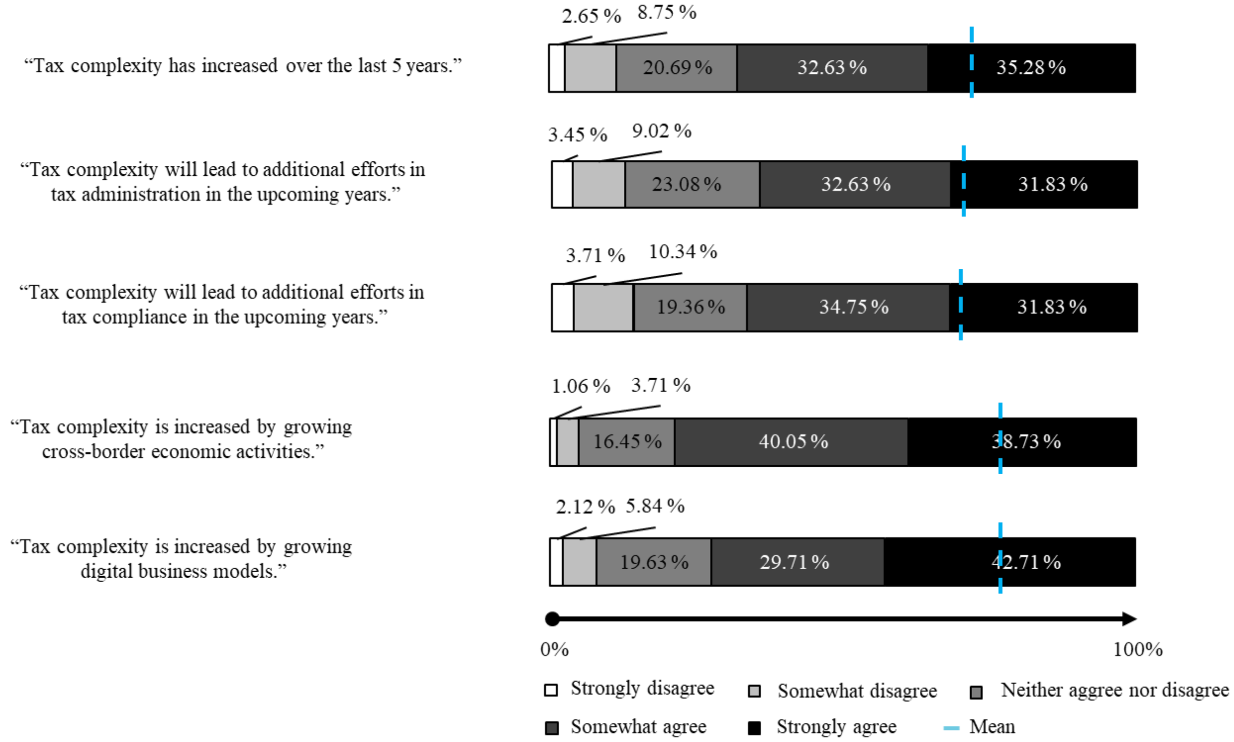
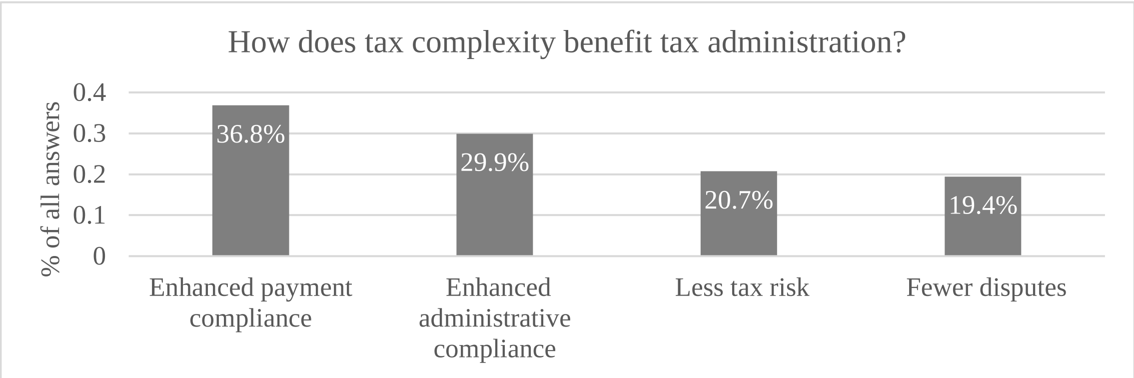
Figures

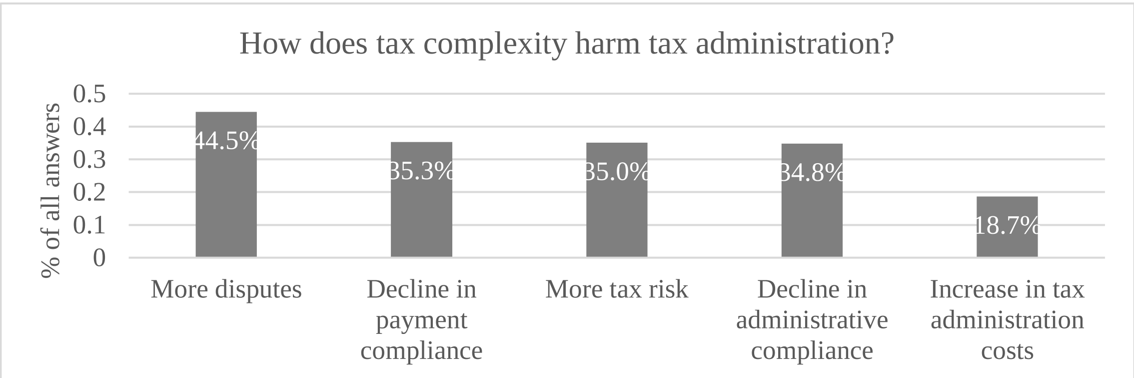
Figure 1: Overview of Perceived Overall Tax Complexity in Indonesia

Panel A: Statements regarding Tax Complexity

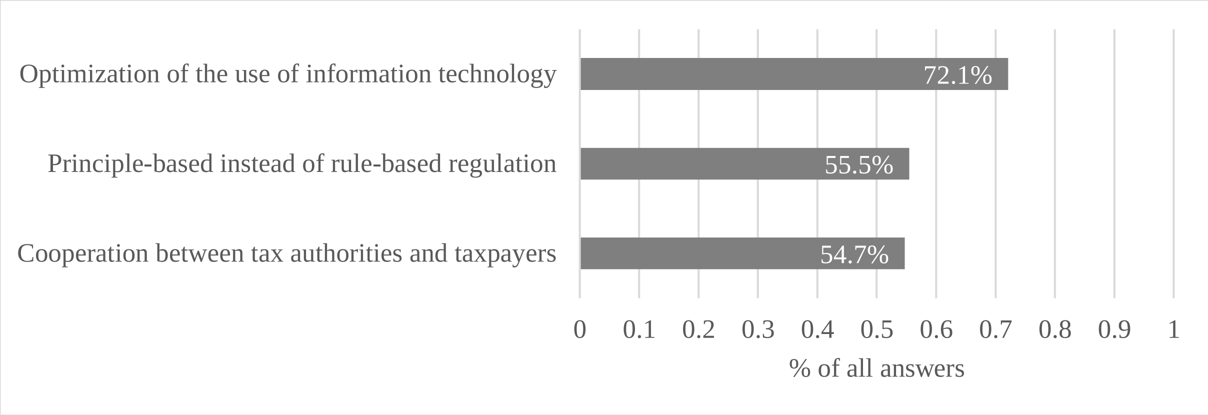


Panel B: Perceived advantage and disadvantage of Tax Complexity





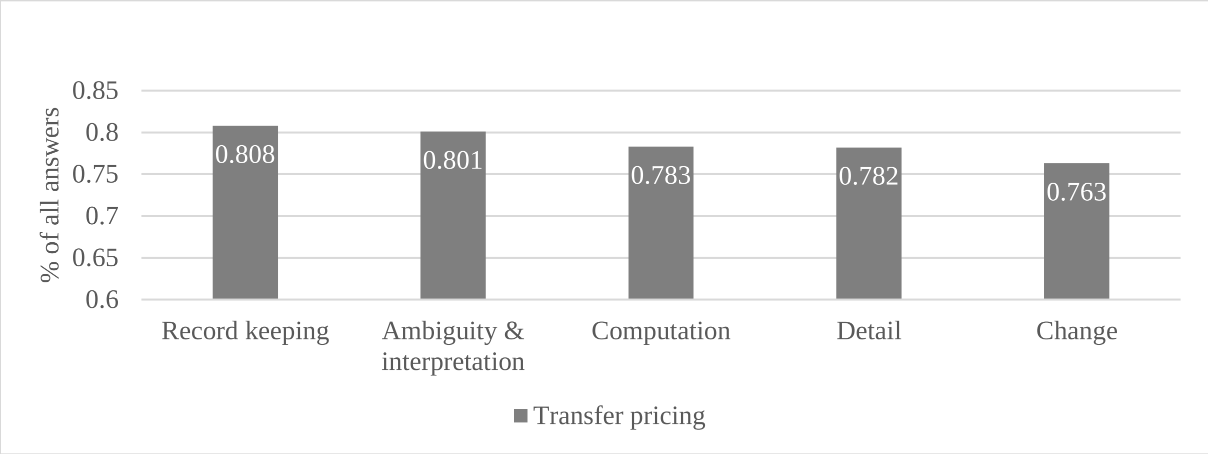
Panel C. Strategies to Address Tax Complexity



Notes: Notes: The figure visualizes the overview of Indonesian Tax Complexity. Panel A presents the respondents' levels of agreement and disagreement on various statements regarding trends in tax complexity. Panel B presents the perceived advantages and disadvantages of tax complexity as perceived by the respondents. Panel C presents the preferred strategies to address tax complexity.

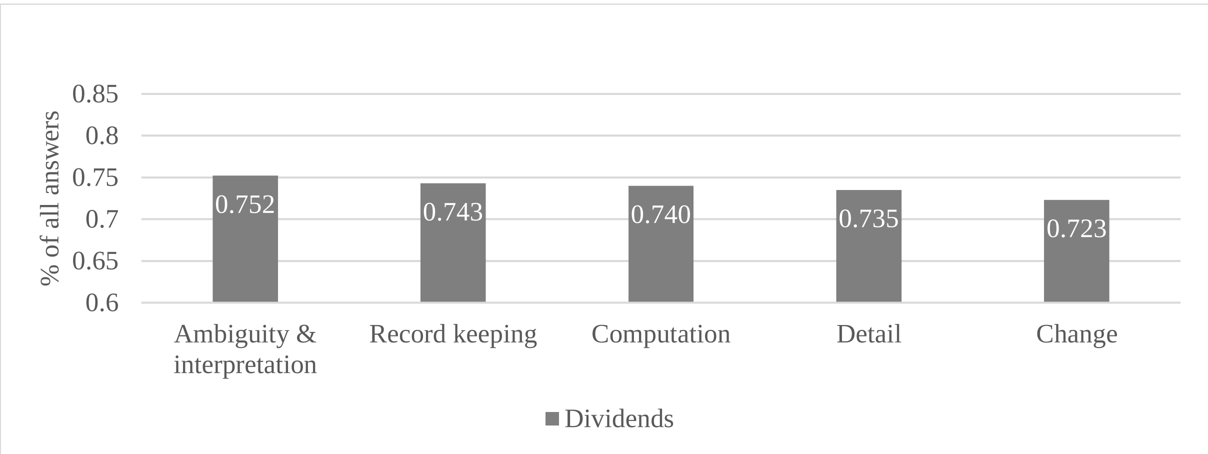
Figure 2: Drivers of The Most Complex Regulations

Panel A: Transfer Pricing



Panel B: Statutory Tax Rate

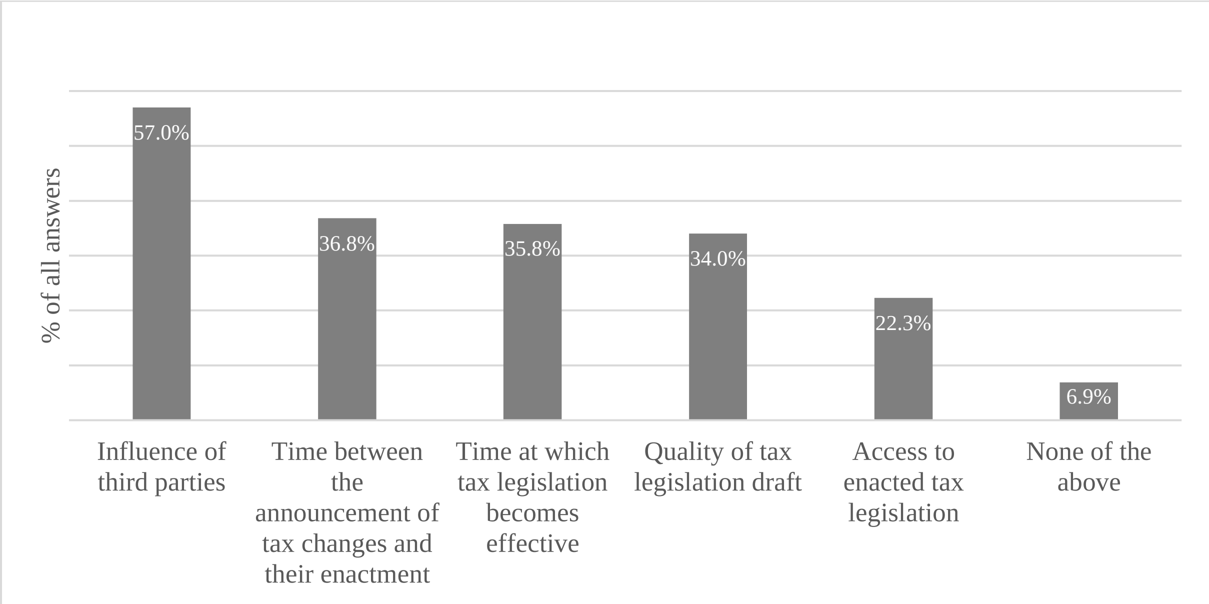
Panel C: Dividends



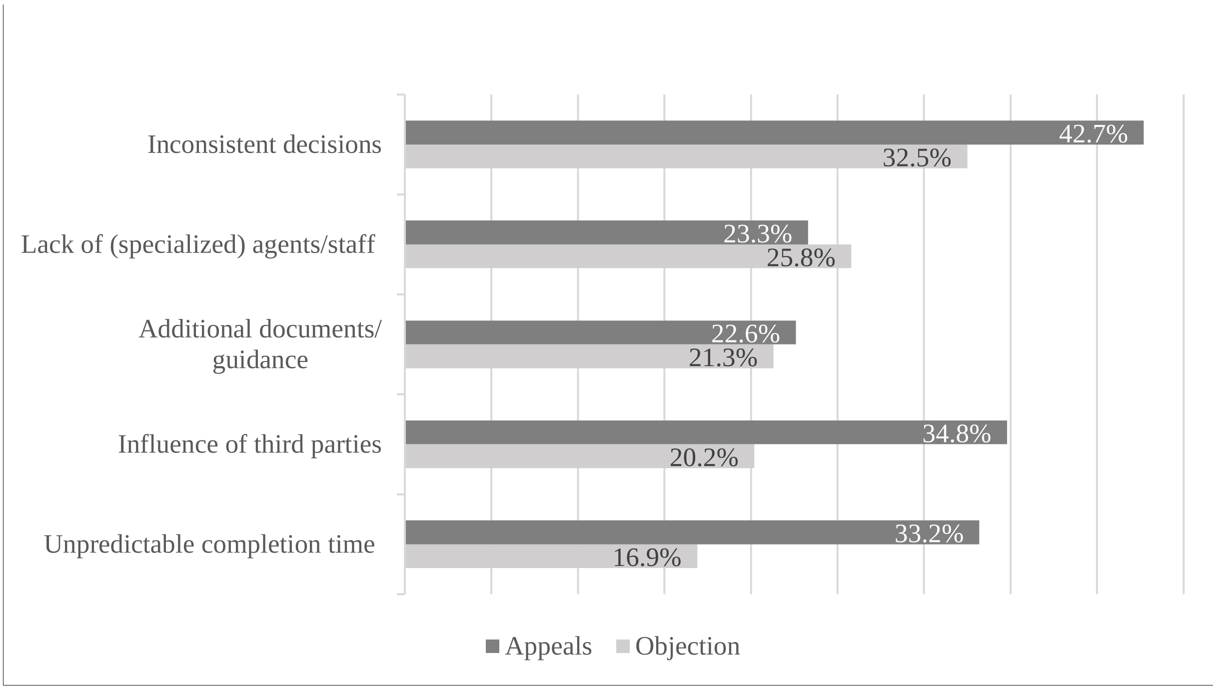
Notes: The figures present the relative importance of the five drivers for the top three most complex regulations: transfer pricing (Panel A), statutory tax rate (Panel B) and dividends (Panel C). The displayed values reflect the average perception of respondents from the Indonesian tax administration. Scaled between 0.6 and 0.85.

Figure 3: Drivers of The Most Complex Tax Procedures

Panel A: Tax Law Enactment

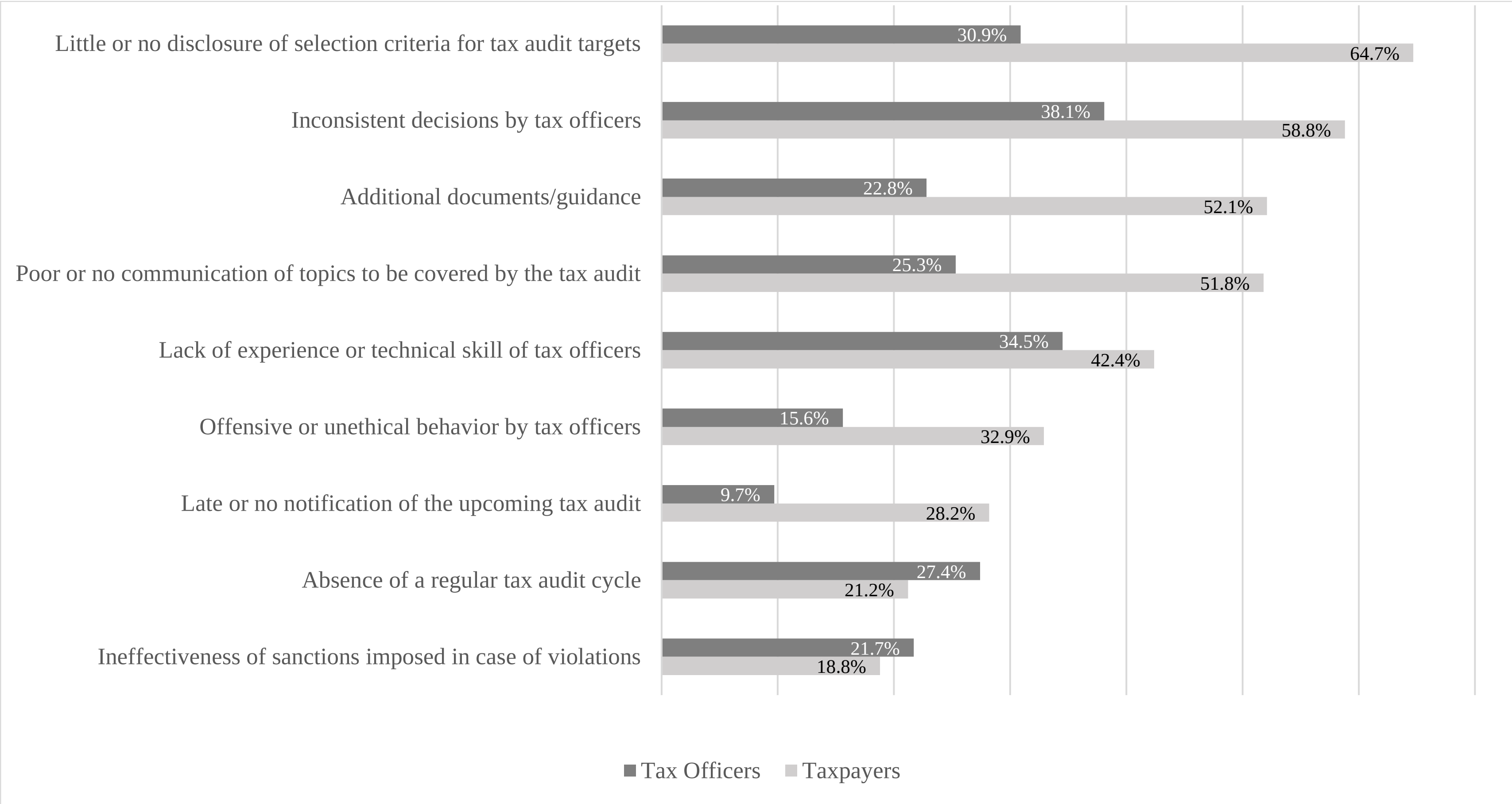


Panel B: Tax Appeals



Notes: The figures present the drivers of the most complex procedures. The displayed values reflect the average perception of respondents from the Indonesian tax administration. Panel A presents the drivers for the complexity tax law enactment. Panel B presents the drivers for the tax complexity in tax appeals during the tax appeals process, distinguishing between the objection (administrative) and appeal (litigation) stages.

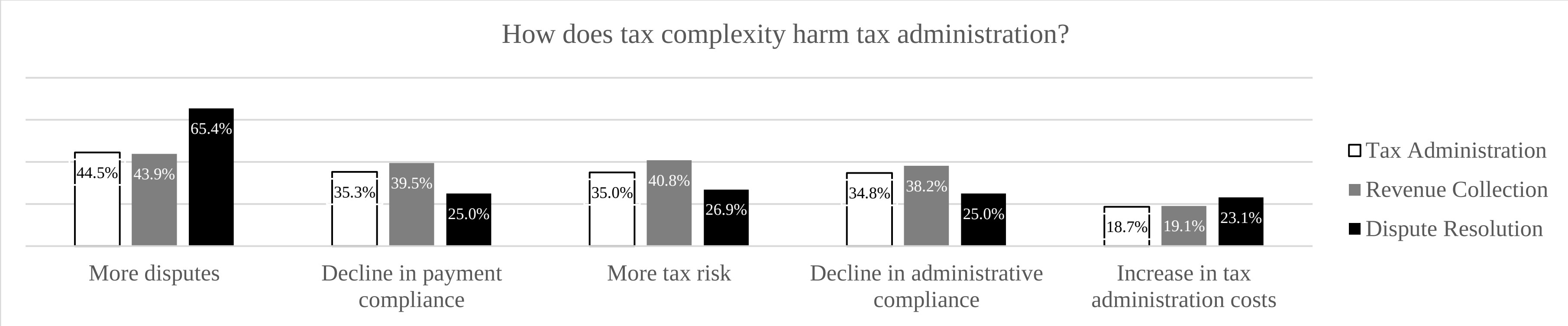
Figure 4: Complexity Drivers in the Tax Audit Process



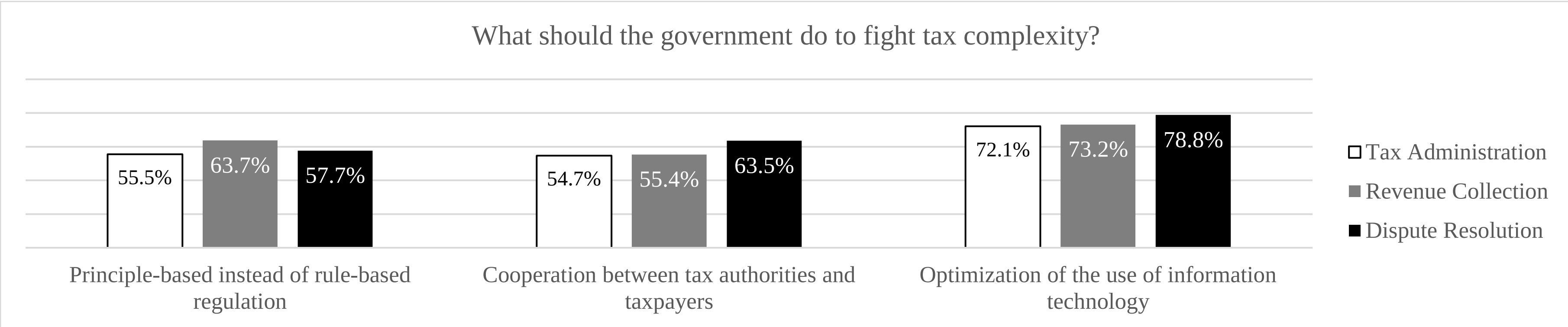
Notes: The figure displays the average perceived complexity of different facets of the tax audit process, displayed separately for corporate taxpayers (dark grey) and tax officers (light grey). The different facets are sorted by the taxpayers' values. Scaled between 0 and 0.7.

Figure 5: Comparative Analysis: Revenue Collection and Dispute Resolution Officers

Panel A: Comparative Perceived Disadvantages of Tax Complexity



Panel B: Comparative Preferred Strategies to Address Tax Complexity



Notes: The figure visualizes the comparative analysis on tax complexity between revenue collection officers and dispute resolution officers. Panel A presents the perceived disadvantages of tax complexity, divided by the subsamples of revenue collection and dispute resolution. Panel B presents the preferred strategies to address tax complexity, divided by the subsamples of revenue collection and dispute resolution.

Tables

Table 1: Sample Selection

Selection procedures	Tax Administration	Taxpayers	Total
Total responses	914	213	1127
Less: progress less than 50%	486	115	601
Less: completion time less than 5 minutes	10	2	12
Less: completion time more than 3 hours	27	11	38
Final Sample	391	85	476

Notes: The table presents the sample selection procedures. In the first step, we exclude responses with less than 50 % completion of the survey. Afterwards, we exclude responses with less than 5 minutes and more than 3 hours of completion time.

Table 2: The Demography of the Sample

Panel A: General Demography

Respondent Group

	Freq.	Percent
Tax Officer	391	82.14
Corporate Taxpayer	85	17.86
Total	476	100.00

Working Time in Taxation

	Tax Administration			Taxpayer		
	Freq.	Percent	Cum.	Freq.	Percent	Cum.
15 years or more	226	57.80	57.80	13	15.29	15.29
10 years or more but fewer than 15 years	79	20.20	78.00	15	17.65	32.94
5 years or more but fewer than 10 years	50	12.79	90.79	20	23.53	56.47
Fewer than 5 years	17	4.35	95.14	33	38.82	95.29
No answer	19	4.86	100.00	4	4.71	100.00
Total	391	100.00		85	100.00	

Highest Education

	Tax Administration			Taxpayer		
	Freq.	Percent	Cum.	Freq.	Percent	Cum.
Doctoral or equivalent level	3	0.77	0.77	1	1.18	1.18
Master or equivalent level	150	38.36	39.13	16	18.82	20.00
Bachelor or equivalent level	155	39.64	78.77	57	67.06	87.06
Diploma III	31	7.93	86.70	7	8.24	95.30
Diploma I or II	29	7.42	94.12	.	.	.
Other	4	1.02	95.14	.	.	.
No answer	19	4.86	100.00	4	4.71	100.00
Total	391	100.00		85	100.00	

Field of Education

	Tax Administration		Taxpayer	
	Freq.	Percent	Freq.	Percent
Fiscal Policy	41	10.49	13	15.29
Law	23	5.88	2	2.35
Business and administration	148	37.85	32	37.65
Other	160	40.92	34	40.00
No answer	19	4.86	4	4.71
Total	391	100.00	85	100.00

Gender

	Tax Administration		Taxpayer	
	Freq.	Percent	Freq.	Percent
Prefer not to answer	16	4.09	3	3.53
Female	81	20.72	35	41.18
Male	275	70.33	43	50.59
No answer	19	4.86	4	4.71
Total	391	100.00	85	100.00

Panel B: Demography of Tax Administration

Current Position Tax Administration

	Freq.	Percent	Cum.
Echelon Officer/Management	134	34.27	34.27
Account Representative	77	19.69	53.96
Other Administrative Staff	56	14.32	69.28
Other	41	10.49	78.77
Tax Objection/Appeal Reviewer	39	9.97	88.74
Tax Auditor	25	6.39	95.13
No answer	19	4.86	100.00
Total	391	100.00	

Main Focus Tax Administration

	Freq.	Percent
Tax revenue collection	157	40.15
Tax disputes	52	13.30
Taxpayers service	52	13.30
Other	43	11.00
General management	37	9.46
Public relations	15	3.84
Tax regulation	12	3.07
Information infrastructure	4	1.02
No answer	19	4.86
Total	391	100.00

Office Type

	Freq.	Percent	Cum.
Head Office	33	8.44	8.44
Regional Office	92	23.53	31.97
Large/Special Taxpayers Office	44	11.25	43.22
Medium Taxpayers Tax Office	14	3.58	46,80
Small-taxpayers Tax Office	175	44.76	94.56
Other	14	3.58	95.14
No answer	19	4.86	100.00
Total	391	100.00	

Panel C: Demography of Taxpayers

Current Position Taxpayer

	Freq.	Percent	Cum.
Manager/Senior Staff	36	42.35	42.35
Junior Assistant/Staff	28	32.94	75.29
Director/Partner/Principal	10	11.76	87.05
Other	7	8.24	95.27
No answer	4	4.71	100.00
Total	85	100.00	

Office Type Taxpayer

	Freq.	Percent	Cum.
Large/Special Taxpayers Office	16	18.82	18.82
Medium Taxpayers Tax Office	24	28.24	47.06
Small-taxpayers Tax Office	41	48.24	95.30
No answer	4	4.71	100.00
Total	85	100.00	

Notes: The tables present the demographic characteristics of the sample. Panel A details the general demographic features of the entire sample, while Panel B focuses on the demographic attributes of the tax officers, and Panel C outlines those of the taxpayers.

Table 3: Complexity in the Tax Code

Panel A: Tax Code Complexity

Regulations	N	Mean	Std. dev.	Var. coeff.	Min	25%	50%	75%	Max.
Transfer pricing	391	0.787	0.164	0.209	0	0.70	0.80	0.95	1
Statutory tax rate	391	0.754	0.183	0.243	0	0.65	0.75	0.90	1
Dividends	391	0.738	0.181	0.245	0	0.60	0.75	0.85	1
Capital gains/losses	391	0.734	0.182	0.248	0	0.60	0.75	0.85	1
Interest	391	0.733	0.183	0.250	0	0.60	0.75	0.85	1
Permanent establishment	391	0.733	0.182	0.248	0	0.65	0.75	0.85	1
Royalties	391	0.731	0.184	0.251	0	0.60	0.75	0.85	1
Loss offset	391	0.729	0.186	0.256	0	0.60	0.75	0.85	1
Depreciation & amortization	391	0.720	0.183	0.254	0	0.60	0.75	0.85	1
Investment incentives	391	0.709	0.181	0.255	0	0.60	0.75	0.80	1
Corporate reorganization	391	0.695	0.193	0.277	0	0.55	0.75	0.80	1
Code index	391	0.733	0.162	0.027	0	0.64	0.75	0.83	1

Panel B: Tax Complexity Drivers of Tax Regulations

Drivers	N	Mean	Std. dev.	Var. coeff.	Min	25%	50%	75%	Max.
Record keeping	391	0.745	0.186	0.250	0	0.614	0.750	0.909	1
Ambiguity & interpretation	391	0.738	0.185	0.250	0	0.614	0.750	0.886	1
Computation	391	0.736	0.183	0.249	0	0.636	0.750	0.864	1
Detail	391	0.733	0.182	0.249	0	0.614	0.750	0.841	1
Change	391	0.712	0.185	0.260	0	0.591	0.750	0.795	1

Notes: The tables present the complexity of eleven regulations of the tax code. Panel A presents the mean complexity values of all 391 tax administration respondents, standard deviations, variance coefficients, and min., max., 25%, 50% and 75% values of the regulations. Panel B shows the mean complexity drivers for the 11 regulations and the respective statistics. Items are sorted by value.

Table 4: Complexity in the Tax Framework

Procedures	N	Mean	Std. dev.	Var. coeff.	Min	25%	50%	75%	Max.
Tax law enactment	391	0.372	0.247	0.664	0	0.200	0.400	0.600	1
Tax appeals	391	0.273	0.234	0.856	0	0.050	0.250	0.450	1
Tax guidance	391	0.273	0.146	0.537	0	0.200	0.250	0.350	0.8
Tax filing & payment	389	0.259	0.187	0.720	0	0.139	0.222	0.333	1
Tax audits	391	0.251	0.210	0.834	0	0.111	0.250	0.361	1
Framework index	389	0.286	0.140	0.020	0	0.181	0.271	0.367	0.838

Notes: The table presents the complexity of five procedures in the tax framework. It presents the mean complexity values of all 391 tax administration respondents, standard deviations, variance coefficients, and min., max., 25%, 50% and 75% values of the regulations. Two respondents refused to answer in the dimension tax filing & payment. Items are sorted by value.

Table 5: Comparative Analysis: Tax Officers and Taxpayers

Panel A: Tax Code Complexity

	Tax Officers		Taxpayers			
Regulations	Obs.	Mean	Obs.	Mean	Difference	p-value
Transfer pricing	391	0.787*	85	0.702*	(0.085)	0.000
Statutory tax rate	391	0.754	85	0.747	(0.007)	0.753
Dividends	391	0.739*	85	0.671*	(0.068)	0.002
Capital gains	391	0.734*	85	0.664*	(0.069)	0.002
Interest	391	0.733*	85	0.664*	(0.069)	0.002
Permanent establishment	391	0.733*	85	0.653*	(0.080)	0.000
Royalties	391	0.732*	85	0.679*	(0.052)	0.019
Loss offset	391	0.729*	85	0.681*	(0.048)	0.034
Depreciation & amortization	391	0.720*	85	0.667*	(0.053)	0.016
Investment incentives	391	0.709	85	0.674	(0.035)	0.111
Corporate reorganization	391	0.695*	85	0.638*	(0.056)	0.017
Mean	391	0.734*	85	0.678*	(0.045)	0.021

Panel B: Tax Framework Complexity

	Tax Officers		Taxpayers			
Procedures	Obs.	Mean	Obs.	Mean	Difference	p-value
Tax law enactment	391	0.372	85	0.391	0.019	0.527
Tax guidance	391	0.273*	85	0.414*	0.142	0.000
Tax appeal	391	0.273*	85	0.404*	0.131	0.000
Tax filing & payment	389	0.259*	85	0.324*	0.065	0.004
Tax audits	391	0.251*	85	0.412*	0.161	0.000
Mean	391	0.300*	85	0.406*	0.106	0.000

Panel C: Hierarchical Ranks of Complexity Drivers of Regulation Transfer Pricing

No	Tax Officers		Taxpayers	
1	Record keeping	0.808*	Record keeping	0.750*
2	Ambiguity & interpretation	0.801*	Computation	0.703*
3	Computation	0.783*	Detail	0.700*
4	Detail	0.782*	Ambiguity & interpretation	0.685*
5	Change	0.763*	Change	0.671*
	Mean	0.787*	Mean	0.702*

Notes: The tables present a comparative analysis of the perceived levels of tax complexity between taxpayers and tax officers. Panels A and B respectively report the comparisons within the dimensions of tax regulation and tax procedure. Items are sorted by tax officers value. Panel C displays rank of complexity drivers for transfer pricing by subgroups tax officers and taxpayers . * indicates a statistically significant difference between the two groups at the 10% level.

Table 6: Comparative Analysis: Revenue Collection and Dispute Resolution Officers

Panel A: Tax Code Complexity

	Revenue Collection		Dispute Resolution			
Regulations	Obs.	Mean	Obs.	Mean	Difference	p-value
Transfer Pricing	157	0.783	52	0.826	(0.043)	0.107
Statutory Tax Rate	157	0.744	52	0.741	0.003	0.923
Dividends	157	0.732	52	0.760	(0.028)	0.346
Interest	157	0.728	52	0.756	(0.027)	0.355
Royalties	157	0.727	52	0.755	(0.028)	0.352
Capital Gains/Losses	157	0.722	52	0.764	(0.042)	0.147
Loss Offset	157	0.722	52	0.728	(0.006)	0.840
Depreciation & Amortization	157	0.721	52	0.739	(0.018)	0.534
Permanent Establishment	157	0.716*	52	0.779*	(0.063)	0.027
Investment Incentives	157	0.689	52	0.717	(0.028)	0.336
Corporate Reorganization	157	0.684	52	0.704	(0.020)	0.505
Mean	157	0.724	52	0.752	(0.027)	0.295

No	Revenue Collection		Dispute Resolution	
1	Transfer Pricing	0.783	Transfer Pricing	0.826
2	Statutory Tax Rate	0.744	Permanent Establishment	0.779*
3	Dividends	0.732	Capital Gains/Losses	0.764
4	Interest	0.728	Dividends	0.760
5	Royalties	0.727	Interest	0.756
6	Capital Gains/Losses	0.722	Royalties	0.755
7	Loss Offset	0.722	Statutory Tax Rate	0.741
8	Depreciation & Amortization	0.721	Depreciation & Amortization	0.739
9	Permanent Establishment	0.716*	Loss Offset	0.728
10	Investment Incentives	0.689	Investment Incentives	0.717
11	Corporate Reorganization	0.684	Corporate Reorganization	0.704
	Mean	0.724	Mean	0.752

Panel B: Tax Framework Complexity

	Revenue Collection		Dispute Resolution			
Procedures	Obs.	Mean	Obs.	Mean	Difference	p-value
Tax law enactment	157	0.373	52	0.381	(0.008)	0.846
Tax appeal	157	0.288	52	0.283	0.006	0.875
Tax guidance	157	0.286*	52	0.240*	0.046	0.037
Tax filing & payment	157	0.258	52	0.253	0.005	0.864
Tax audits	157	0.238	52	0.277	(0.039)	0.215
Mean	157	0.289	52	0.287	0.002	0.923

Panel C: Drivers of Tax Code Complexity

Transfer Pricing

No	Revenue Collection		Dispute Resolution	
1	Record keeping	0.806	Ambiguity & interpretation	0.856*
2	Detail	0.788	Record keeping	0.851
3	Ambiguity & interpretation	0.785*	Computation	0.832
4	Computation	0.785	Detail	0.817
5	Change	0.752	Change	0.774

Statutory Tax Rate

No	Revenue Collection		Dispute Resolution	
1	Computation	0.756	Detail	0.769
2	Detail	0.753	Ambiguity & interpretation	0.755
3	Ambiguity & interpretation	0.742	Computation	0.750
4	Record keeping	0.739	Record keeping	0.740
5	Change	0.731	Change	0.692

Permanent Establishment

No	Revenue Collection		Dispute Resolution	
1	Record keeping	0.742*	Ambiguity & interpretation	0.817*
2	Detail	0.736	Record keeping	0.798*
3	Computation	0.720	Detail	0.784
4	Ambiguity & interpretation	0.705*	Computation	0.755
5	Change	0.678*	Change	0.740*

Notes: The tables present a comparative analysis of the perceived levels of tax complexity between tax administration employees in the revenue collection and employees in the dispute resolution. Panels A and B respectively report the comparisons within the dimensions of tax regulation and tax procedure. Items are sorted by revenue collection value. Panel C presents the drivers of the most complex tax regulations: transfer pricing, statutory tax rates and permanent establishment. * indicates a statistically significant difference between the two groups at the 10% level.

Table 7: Comparative Analysis: The Size of the Administered Taxpayers

Panel A: Tax Code Complexity

	Large/Medium Taxpayer Officers		Small-Taxpayer Officers			
Regulations	Obs.	Mean	Obs.	Mean	Difference	p-value
Transfer pricing	58	0.809	175	0.780	0.028	0.235
Statutory tax rate	58	0.747	175	0.769	(0.021)	0.408
Dividends	58	0.741	175	0.744	(0.003)	0.920
Interest	58	0.731	175	0.742	(0.011)	0.662
Royalties	58	0.727	175	0.735	(0.009)	0.742
Capital gains/losses	58	0.714	175	0.740	(0.026)	0.305
Loss Offset	58	0.711	175	0.750	(0.039)	0.140
Depreciation & amortization	58	0.709	175	0.735	(0.025)	0.342
Permanent establishment	58	0.702	175	0.739	(0.038)	0.150
Investment incentives	58	0.691	175	0.723	(0.032)	0.198
Corporate reorganization	58	0.673	175	0.713	(0.040)	0.145
Mean	58	0.723	175	0.743	(0.020)	0.390

Panel B: Tax Framework Complexity

	Large/Medium Taxpayers Office		Small-Taxpayers Office			
Procedures	Obs.	Mean	Obs.	Mean	Difference	p-value
Tax law enactment	58	0.390	175	0.366	0.024	0.518
Tax appeals	58	0.313	175	0.274	0.039	0.272
Tax filings & payment	58	0.260	175	0.273	(0.013)	0.654
Tax guidance	58	0.257*	175	0.300*	(0.043)	0.056
Tax audits	58	0.238	175	0.251	(0.013)	0.693
Mean	58	0.292	175	0.293	0.001	0.946

Notes: The table presents a comparative analysis of the perceived levels of tax complexity between tax officers working in large/medium taxpayers offices and tax officers working in small-taxpayers tax offices. Panels A and B respectively report the comparisons within the dimensions of tax regulation and tax procedure. Items are sorted by Large-taxpayers officers' value. * indicates a statistically significant difference between the two groups at the 10% level.

Appendix

Appendix 1: Survey Results Measurement Strategy

Panel A Tax Code Complexity Drivers

No	Complexity driver	Survey Question Definition provided in the survey (in italics)	Measurement 0 = least complex, 1 = most complex
1	Ambiguity & interpretation	To what extent do you think "ambiguity & interpretation" contribute to the complexity of the regulations listed below? *"Ambiguity & interpretation" means a regulation is phrased in an unclear, imprecise and/or ambiguous manner so that different interpretations are possible.*	0 = no extent 0.25 = little extent 0.5 = some extent 0.75 = great extent 1 = very great extent
2	Change	To what extent do you think "change" contributes to the complexity of the regulations listed below? *"Change" means a regulation is frequently changed and the changes are extensive in terms of quantity and/or scope*	0 = no extent 0.25 = little extent 0.5 = some extent 0.75 = great extent 1 = very great extent
3	Computation	To what extent do you think "computation" contributes to the complexity of the regulations listed below? *"Computation" means calculations necessary to prove a regulation's (non-)applicability and/or to determine the specific tax treatment.*	0 = no extent 0.25 = little extent 0.5 = some extent 0.75 = great extent 1 = very great extent
4	Detail	To what extent do you think "detail" contributes to the complexity of the regulations listed below? *"Detail" means numerous rules, exceptions to rules and/or cross-references to other rules.*	0 = no extent 0.25 = little extent 0.5 = some extent 0.75 = great extent 1 = very great extent
5	Record keeping	To what extent do you think "record keeping" contributes to the complexity of the regulations listed below? "*Record keeping" means records and documents must be kept to substantiate all claims under a regulation and/or to complete the tax return.*	0 = no extent 0.25 = little extent 0.5 = some extent 0.75 = great extent 1 = very great extent

Panel B Tax Framework Complexity Drivers

No	Complexity driver	Survey Question Definition provided in the survey (in italics)	Measurement 0 = least complex, 1 = most complex
Dimension 1: Tax guidance			
1	Public rulings	Does the tax authority provide sufficient documents in order to resolve uncertainties? *Public rulings are published statements describing how a tax authority will apply the tax code in particular situations*	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never
2	Private rulings	Does the tax authority provide sufficient documents in order to resolve uncertainties? *Private rulings are unpublished statements by the tax authority in response to specific requests from taxpayers seeking clarification of how tax law would apply in relation to a proposed or completed transaction.*	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never
3	Oral or written advice	Does the tax authority provide sufficient documents in order to resolve uncertainties? *Oral or written advice in this context is an informal opinion on tax matters that taxpayers can request by contacting the tax authority (e.g., by telephone or email).*	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never
4	Substantial business issues	Are there various substantial business issues and/or transactions whose tax treatment is not codified in tax law?	0 = no 1 = yes
5	Soft law	To what extent does the existence of international soft law offer support by providing additional information in dealing with tax law? *International soft law is defined as rules that are neither strictly binding in nature nor completely lacking legal significance, e.g., the OECD guidelines.*	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never

Dimension 2: Tax law enactment			
1	Access to enacted tax legislation	Regarding the tax legislative process, which of the following aspects regularly cause problems? (a) Access to enacted tax legislation	0 = not selected 1 = selected
2	Influence of third parties	Regarding the tax legislative process, which of the following aspects regularly cause problems? (b) Influence of third parties	0 = not selected 1 = selected
3	Quality of drafting	Regarding the tax legislative process, which of the following aspects regularly cause problems? (c) Quality of tax legislation drafting	0 = not selected 1 = selected
4	Time at which legislation becomes effective	Regarding the tax legislative process, which of the following aspects regularly cause problems? (d) Time at which tax legislation becomes effective	0 = not selected 1 = selected
5	Time between the announcement and enactment of tax changes	Regarding the tax legislative process, which of the following aspects regularly cause problems? (e) Time between the announcement of tax changes and their enactment	0 = not selected 1 = selected

6	Participation in legislative process	Do you actively participate in legislative processes in tax law, or have you already participated in the legislative process, e.g., by preparing drafts or giving opinions?	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never

Dimension 3: Tax filings and payments			
1	Computing tax payments	Regarding the payment of corporate income taxes, which of the following aspects regularly cause problems? (a) Computing tax payments	0 = not selected 1 = selected
2	Determining due dates for tax payments	Regarding the payment of corporate income taxes, which of the following aspects regularly cause problems? (b) Determining due dates for tax payments	0 = not selected 1 = selected
3	Refunding overpaid corporate income taxes	Regarding the payment of corporate income taxes, which of the following aspects regularly cause problems? (c) Refunding overpaid corporate income taxes	0 = not selected 1 = selected
4	(Electronic remittance of tax payments	Regarding the payment of corporate income taxes, which of the following aspects regularly cause problems? (d) (Electronic) remittance of tax payments	0 = not selected 1 = selected
5	Determining due dates for filing tax returns	Regarding the filing of corporate income tax returns, which of the following aspects regularly cause problems? (a) Determining due dates for filing tax returns	0 = not selected 1 = selected
6	Managing the number of tax returns during a year	Regarding the filing of corporate income tax returns, which of the following aspects regularly cause problems? (b) Managing the number of tax returns during a year	0 = not selected 1 = selected
7	Preparing tax returns	Regarding the filing of corporate income tax returns, which of the following aspects regularly cause problems? (c) Preparing tax returns	0 = not selected 1 = selected
8	(Electronic) transmission of tax returns	Regarding the filing of corporate income tax returns, which of the following aspects regularly cause problems? (d) (Electronic) transmission of tax returns	0 = not selected 1 = selected
9	Instructions for filing tax returns	To what extent does the tax authority provide helpful written instructions on how to file tax returns?	0 = Very Great Extent 0.25 = Great Extent 0.5 = Some Extent 0.75 = Little Extent 1 = No Extent

Dimension 4: Tax audits			
1	Outline of tax audit process	Does the tax authority provide sufficient additional documents or guidance that clearly outline the tax audit process?	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never
2	Tax audit cycle	Regarding the anticipation of tax audits, which of the following do you consider a serious problem?	0 = not selected 1 = selected

		(a) Absence of a regular tax audit cycle	
3	Notification of the upcoming tax audit	Regarding the anticipation of tax audits, which of the following do you consider a serious problem? (b) Late or no notification of the upcoming tax audit	0 = not selected 1 = selected
4	Disclosure of selection criteria for tax audit target	Regarding the anticipation of tax audits, which of the following do you consider a serious problem? (c) Little or no disclosure of selection criteria for tax audit targets	0 = not selected 1 = selected
5	Communication of topics to be covered by the tax audit	Regarding the anticipation of tax audits, which of the following do you consider a serious problem? (d) Poor or no communication of topics to be covered by the tax audit	0 = not selected 1 = selected
6	Decisions by tax officers	Regarding the tax audit process, which of the following do you consider a serious problem? (a) Inconsistent decisions by tax officers	0 = not selected 1 = selected
7	Sanctions imposed in case of violations	Regarding the tax audit process, which of the following do you consider a serious problem? (b) Ineffectiveness of sanctions imposed in case of violations	0 = not selected 1 = selected
8	Experience or technical skill of tax officers	Regarding the tax audit process, which of the following do you consider a serious problem? (c) Lack of experience or technical skill of tax officers	0 = not selected 1 = selected
9	Behavior by tax officers	Regarding the tax audit process, which of the following do you consider a serious problem? (d) Offensive or unethical behavior by tax officers	0 = not selected 1 = selected

Dimension 5: Tax appeals			
1	Outline of tax objection process	Does the tax authority provide sufficient additional documents or guidance that clearly outline the tax objection/appeal process? Objection.	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never
2	Outline of tax appeal process	Does the tax authority provide sufficient additional documents or guidance that clearly outline the tax objection/appeal process? Appeal	0 = always 0.25 = often 0.5 = sometimes 0.75 = rarely 1 = never
3	Decisions by tax officers in tax objections	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Objection: (a) Inconsistent decisions	0 = not selected 1 = selected
4	Influence of third parties in tax objections	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Objection:(b) Influence of third parties	0 = not selected 1 = selected
5	Agents/staff in tax objections	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Objection:(c) Lack of (specialized) agents/staff	0 = not selected 1 = selected
6	Completion time in tax objections	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Objection:(d) Unpredictable completion time	0 = not selected 1 = selected
7	Decisions by tax officers in tax appeals	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Appeal: (a) Inconsistent decisions	0 = not selected 1 = selected

8	Influence of third parties in tax appeals	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Appeal:(b) Influence of third parties	0 = not selected 1 = selected
9	Agents/staff in tax objections	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Appeal:(c) Lack of (specialized) agents/staff	0 = not selected 1 = selected
10	Completion time in tax objections	Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? Appeal:(d) Unpredictable completion time	0 = not selected 1 = selected

Appendix 2: Survey Instrument

Indonesian Tax Complexity Survey

Start of Block: Introduction

Q1.1
Welcome to the Indonesian Tax Complexity Survey!
Dear Indonesian tax officers and taxpayers,
Thank you for participating in our survey study! We would like your help and ask you to answer a few questions about tax complexity. This survey is completely anonymous and confidential. It is not possible to identify you or your answers. Data will be analyzed in the aggregate. The survey should take about 20 minutes.

We have set up this research project to gain systematic insights into the development and state of tax complexity to which tax administrations and taxpayers are exposed in Indonesia.

Prior studies document that tax complexity has become an important feature of a tax system in recent years, inducing compliance costs, tax planning opportunities and being likely to influence the decisions of tax administrations and taxpayers in different ways. We want to identify areas of the tax code and framework that particularly drive tax complexity. For this purpose, we need your view on tax complexity and your professional experience with tax complexity.

Thank you for helping us to contribute to improving the tax system.

Best regards,

Fernando Siahaan, MSc. (fernando.siahaan@wu.ac.at)
Vienna University of Economics and Business
Prof. Dr. Caren Sureth-Sloane
Vienna University of Economics and Business & Paderborn University
Adrian Schipp, MSc.
Paderborn University

Q1.2
By participating in the survey you confirm the Information on data processing.

- o I am a Tax Officer
- o I am working for/own a corporate taxpayer
- o I do not want to participate

End of Block: Introduction

Start of Block: Tax Code Complexity

Q2.1

Tax code complexity

"Tax code complexity" describes the difficulty of reading, understanding and complying with tax regulations that are affected by five complexity drivers: ambiguity & interpretation, change, computation, detail, and recordkeeping. Therefore, we identified 11 internationally comparable tax regulations serving as dimensions for the tax code complexity.

How important do you consider the following regulations to be?

"Important" means that this regulation has a significant impact (i.e., expressed as time spent in your daily work).

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Capital Gains/Losses	o	o	o	o	o
Corporate Reorganization	o	o	o	o	o
Depreciation & Amortization	o	o	o	o	o
Investment Incentives	o	o	o	o	o
Statutory Tax Rate	o	o	o	o	o
Loss Offset	o	o	o	o	o
Royalties	o	o	o	o	o
Dividends	o	o	o	o	o
Interest	o	o	o	o	o
Transfer Pricing	o	o	o	o	o
Permanent Establishment	o	o	o	o	o

Q2.2
To what extent do you think “ambiguity & interpretation” contribute to the complexity of the regulations listed below?
“Ambiguity & interpretation” means a regulation is phrased in an unclear, imprecise and/or ambiguous manner so that different interpretations are possible.

	No Extent	Little Extent	Some Extent	Great Extent	Very Great Extent
Capital Gains/Losses	o	o	o	o	o
Corporate Reorganization	o	o	o	o	o
Depreciation & Amortization	o	o	o	o	o
Investment Incentives	o	o	o	o	o
Statutory Tax Rate	o	o	o	o	o
Loss Offset	o	o	o	o	o
Royalties	o	o	o	o	o
Dividends	o	o	o	o	o
Interest	o	o	o	o	o
Transfer Pricing	o	o	o	o	o
Permanent Establishment	o	o	o	o	o

Q2.3
To what extent do you think “change” contributes to the complexity of the regulations listed below?
“Change” means a regulation is frequently changed and the changes are extensive in terms of quantity and/or scope.

	No Extent	Little Extent	Some Extent	Great Extent	Very Great Extent
Capital Gains/Losses	o	o	o	o	o
Corporate Reorganization	o	o	o	o	o
Depreciation & Amortization	o	o	o	o	o
Investment Incentives	o	o	o	o	o
Statutory Tax Rate	o	o	o	o	o
Loss Offset	o	o	o	o	o
Royalties	o	o	o	o	o
Dividends	o	o	o	o	o
Interest	o	o	o	o	o
Transfer Pricing	o	o	o	o	o
Permanent Establishment	o	o	o	o	o

Q2.4
To what extent do you think “computation” contributes to the complexity of the regulations listed below?
"Computation" means calculations necessary to prove a regulation's (non-)applicability and/or to determine the specific tax treatment.

	No Extent	Little Extent	Some Extent	Great Extent	Very Great Extent
Capital Gains/Losses	o	o	o	o	o
Corporate Reorganization	o	o	o	o	o
Depreciation & Amortization	o	o	o	o	o
Investment Incentives	o	o	o	o	o
Statutory Tax Rate	o	o	o	o	o
Loss Offset	o	o	o	o	o
Royalties	o	o	o	o	o
Dividends	o	o	o	o	o
Interest	o	o	o	o	o
Transfer Pricing	o	o	o	o	o
Permanent Establishment	o	o	o	o	o

Q2.5
To what extent do you think “detail” contributes to the complexity of the regulations listed below?
"Detail" means numerous rules, exceptions to rules and/or cross-references to other rules.

	No Extent	Little Extent	Some Extent	Great Extent	Very Great Extent
Capital Gains/Losses	o	o	o	o	o
Corporate Reorganization	o	o	o	o	o
Depreciation & Amortization	o	o	o	o	o
Investment Incentives	o	o	o	o	o
Statutory Tax Rate	o	o	o	o	o
Loss Offset	o	o	o	o	o
Royalties	o	o	o	o	o
Dividends	o	o	o	o	o
Interest	o	o	o	o	o
Transfer Pricing	o	o	o	o	o
Permanent Establishment	o	o	o	o	o

Q2.6
To what extent do you think “record keeping” contributes to the complexity of the regulations listed below?
“Record keeping” means records and documents must be kept to substantiate all claims under a regulation and/or to complete the tax return.

	No Extent	Little Extent	Some Extent	Great Extent	Very Great Extent
Capital Gains/Losses	o	o	o	o	o
Corporate Reorganization	o	o	o	o	o
Depreciation & Amortization	o	o	o	o	o
Investment Incentives	o	o	o	o	o
Statutory Tax Rate	o	o	o	o	o
Loss Offset	o	o	o	o	o
Royalties	o	o	o	o	o
Dividends	o	o	o	o	o
Interest	o	o	o	o	o
Transfer Pricing	o	o	o	o	o
Permanent Establishment	o	o	o	o	o

Q2.7
To what extent do you think do the drivers listed below on average contribute to the complexity of income tax rules?

	No Extent	Little Extent	Some Extent	Great Extent	Very Great Extent
Ambiguity & Interpretation	o	o	o	o	o
Change	o	o	o	o	o
Computation	o	o	o	o	o
Detail	o	o	o	o	o
Record Keeping	o	o	o	o	o

End of Block: Tax Code Complexity

Start of Block: Tax Framework Complexity

Q3.1

Tax framework complexity

"Tax framework complexity" describes the complexity that arises from the legislative and administrative processes and features within a tax system and is measured in five dimensions: guidance, enactment, payment and filing, audits, and objection and appeals.

Does the tax authority provide sufficient documents in order to resolve uncertainties?

Public rulings are published statements describing how a tax authority will apply the tax code in particular situations.

Private rulings are unpublished statements by the tax authority in response to specific requests from taxpayers seeking clarification of how tax law would apply in relation to a proposed or completed transaction.

Oral or written advice in this context is an informal opinion on tax matters that taxpayers can request by contacting the tax authority (e.g., by telephone or email).

	Never	Rarely	Sometimes	Often	Always
Public rulings	o	o	o	o	o
Private rulings	o	o	o	o	o
Oral or written advice	o	o	o	o	o

Q3.2

Are there various substantial business issues and/or transactions whose tax treatment is not codified in tax law?

o No

o Yes (please mention) ____

Q3.3

To what extent does the existence of international soft law offer support by providing additional information in dealing with tax law?

International soft law is defined as rules that are neither strictly binding in nature nor completely lacking legal significance, e.g., the OECD guidelines.

o Never

o Rarely

o Sometimes

o Often

o Always

Q3.4

Regarding the tax legislative process, which of the following aspects regularly cause problems?
(Check all answers that apply)

☐ Access to enacted tax legislation

☐ Influence of third parties

☐ Quality of tax legislation drafting

☐ Time at which tax legislation becomes effective

☐ Time between the announcement of tax changes and their enactment

☐ ⊗None of the above

Q3.5
Do you actively participate in legislative processes in tax law or have you already participated in the legislative process, e.g., by preparing drafts or giving opinions?

- o Never
- o Rarely
- o Sometimes
- o Often
- o Always

Q3.6
Regarding the payment of corporate income taxes, which of the following aspects regularly cause problems? (Check all answers that apply)

- ▢ Computing tax payments
- ▢ Determining due dates for tax payments
- ▢ Refunding overpaid corporate income taxes
- ▢ (Electronic) remittance of tax payments
- ▢ ⊗None of the above

Q3.7
Regarding the filing of corporate income tax returns, which of the following aspects regularly cause problems? (Check all answers that apply)

- ▢ Determining due dates for filing tax returns
- ▢ Managing the number of tax returns during a year
- ▢ Preparing tax returns
- ▢ (Electronic) transmission of tax returns
- ▢ ⊗None of the above

Q3.8
To what extent does the tax authority provide helpful written instructions on how to file tax returns?

- o No Extent
- o Little Extent
- o Some Extent
- o Great Extent
- o Very Great Extent

Q3.9
Does the tax authority provide sufficient additional documents or guidance that clearly outline the tax audit process?

- o Never
- o Rarely
- o Sometimes
- o Often
- o Always

Q3.10
Regarding the anticipation of tax audits, which of the following do you consider a serious problem? (Check all answers that apply)

- ☐ Absence of a regular tax audit cycle
- ☐ Late or no notification of the upcoming tax audit
- ☐ Little or no disclosure of selection criteria for tax audit targets
- ☐ Poor or no communication of topics to be covered by the tax audit
- ☐ ⊗None of the above

Q3.11
Regarding the tax audit process, which of the following do you consider a serious problem? (Check all answers that apply)

- ☐ Inconsistent decisions by tax officers
- ☐ Ineffectiveness of sanctions imposed in case of violations
- ☐ Lack of experience or technical skill of tax officers
- ☐ Offensive or unethical behavior by tax officers
- ☐ ⊗None of the above

Q3.12
Does the tax authority provide sufficient additional documents or guidance that clearly outline the tax objection/appeal process?

	Never	Rarely	Sometimes	Often	Always
Objection	o	o	o	o	o
Appeal	o	o	o	o	o

Q3.13
Regarding the treatment of tax objection/appeals, which of the following do you consider a serious problem? (Check all answers that apply)

	Objection	Appeal
Inconsistent decisions	▢	▢
Influence of third parties	▢	▢
Lack of (specialized) agents/staff	▢	▢
Unpredictable completion time	▢	▢
⊗None of the above	▢	▢

End of Block: Tax Framework Complexity

Start of Block: General Perception and Perspective on Tax Complexity

Q4.1

General Perception and Perspective on Tax Complexity

How complex do you perceive and expect the "Tax Code" in general:

"Tax code complexity" describes the difficulty of reading, understanding and complying with tax regulations that are affected by five complexity drivers: ambiguity & interpretation, change, computation, detail, and record keeping.

Perception means how you perceive tax complexity in reality.

Expectation means how you want the tax complexity to be in the future.

	less complex more complex 0 10 20 30 40 50 60 70 80 90 100
Perception	
Expectation	

Q4.2

How complex do you perceive and expect the "Tax Framework" in general:

"Tax framework complexity" describes the complexity that arises from the legislative and administrative processes and features within a tax system and is measured in five dimensions: guidance, enactment, payment and filing, audits, and objection and appeals.

Perception means how you perceive tax complexity in reality.

Expectation means how you want the tax complexity to be in the future.

	less complex more complex 0 10 20 30 40 50 60 70 80 90 100
Perception	
Expectation	

Q4.3
How strongly do you agree with the following statements about tax complexity?

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Tax complexity has increased over the last 5 years.	o	o	o	o	o
Tax complexity will lead to additional efforts in tax administration in the upcoming years.	o	o	o	o	o
Tax complexity will lead to additional efforts in tax compliance in the upcoming years.	o	o	o	o	o
Tax complexity is increased by growing cross-border economic activities.	o	o	o	o	o
Tax complexity is increased by growing digital business models.	o	o	o	o	o

Q4.4
Does tax complexity harm your institution?

- o Never
- o Rarely
- o Sometimes
- o Often
- o Always

Display This Question:
If By participating in the survey you confirm the Information on data processing. = I am a Tax Officer
And Does tax complexity harm your institution? != Never

Q4.5
How does tax complexity harm your institution?
(Check all answers that apply)

- ▢ Decline in payment compliance
- ▢ Decline in administrative compliance
- ▢ Increase in tax administration cost
- ▢ More tax risk
- ▢ More disputes
- ▢ Other (please mention) ____

Display This Question:
If By participating in the survey you confirm the Information on data processing. = I am working for/own a corporate taxpayer
And Does tax complexity harm your institution? != Never

Q4.6
How does tax complexity harm your company?
(Check all answers that apply)

- ▢ Increase in tax expense
- ▢ Increase in tax compliance cost
- ▢ More tax risk
- ▢ More disputes
- ▢ Other (please mention) ____

Q4.7
Does your institution also benefit from tax complexity?

- o Never
- o Rarely
- o Sometimes
- o Often
- o Always

Display This Question:
If By participating in the survey you confirm the Information on data processing. = I am a Tax Officer
And Does your institution also benefit from tax complexity? != Never

Q4.8
How does your institution benefit from tax complexity?
(Check all answers that apply)

- ▢ Enhanced payment compliance
- ▢ Enhanced administrative compliance
- ▢ Less tax risk
- ▢ Fewer disputes
- ▢ Other (please mention) ____

Display This Question:
If By participating in the survey you confirm the Information on data processing. = I am working for/own a corporate taxpayer
And Does your institution also benefit from tax complexity? != Never

Q4.9
How does your company benefit from tax complexity?
(Check all answers that apply)

- ▢ Enhanced payment compliance
- ▢ Enhanced administrative compliance
- ▢ More/better tax planning opportunities
- ▢ Less tax risk
- ▢ Fewer disputes
- ▢ Other (please mention) ____

Q4.10
What should the government do to fight tax complexity?
(Check all answers that apply)

- ▢ enacting principle-based instead of rule-based regulations
- ▢ enhancing cooperation between the tax authority and taxpayers
- ▢ optimization of the use of information technology
- ▢ other (please mention) ____

End of Block: General Perception and Perspective on Tax Complexity

Start of Block: Demography of the Tax Officer

Q5.1

What is your current position?

- o Echelon Officer/Management
- o Account Representative
- o Tax Objection/Appeal Reviewer
- o Tax Auditor
- o Other Administrative Staff
- o Other (please mention) ____

Q5.2

What is the main focus of your work?

- o Tax revenue collection
- o Taxpayers service
- o Tax disputes
- o Tax regulation
- o Information infrastructure
- o Public relations
- o General management
- o Other (please mention) ____

Q5.3

In which type of office do you work?

- o Head Office
- o Regional Office
- o Large/Special Taxpayers Office
- o Medium Taxpayers Tax Office
- o Small Taxpayers Tax Office
- o Other (please mention) ____

End of Block: Demography of the Tax Officer

Start of Block: Demography of Taxpayers

Q6.1
What is your current position in your company?

o Director/Partner/Principal

o Manager/Senior Staff

o Junior Assistant/Staff

o Other (please mention) ____

Q6.2
By which type of Tax Office is your company administered?

o Large/Special Taxpayers Tax Office

o Medium Taxpayers Tax Office

o Small Taxpayers Tax Office

End of Block: Demography of Taxpayers

Start of Block: General Demography

Q7.1

How long have you been working in taxation?

- 15 years or more
- 10 years or more but fewer than 15 years
- 5 years or more but fewer than 10 years
- Fewer than 5 years

Q7.2

What is your highest educational qualification?

- Doctoral or equivalent level
- Master or equivalent level
- Bachelor or equivalent level
- Diploma III
- Diploma I or II
- Other (please mention) ____

Q7.3

What was your field of education?

- Business and administration
- Law
- Fiscal Policy
- Other (please mention) ____

Q7.4

Please specify your gender.

- Male
- Female
- Prefer not to answer

End of Block: General Demography

Appendix 3: Survey Distribution Channels

No	Type	Unit Echelon II (Directorate/ Regional Offices)
1	Head Office	Directorate of Tax Regulation I
2	Head Office	Directorate of Tax Regulation II
3	Head Office	Directorate of Objection and Appeal
4	Head Office	Directorate of Audit and Collection
5	Head Office	Directorate of Public Relations
6	Head Office	Directorate of Potential, Compliance, and Revenue
7	Regional Office	Large Taxpayers
8	Regional Office	Special Taxpayers
9	Regional Office	Central Jakarta
10	Regional Office	South Jakarta I
11	Regional Office	East Jakarta
12	Regional Office	North Jakarta
13	Regional Office	Aceh
14	Regional Office	North Sumatra I
15	Regional Office	North Sumatra II
16	Regional Office	Riau
17	Regional Office	West Sumatra and Jambi
18	Regional Office	South Sumatra and Bangka Belitung Islands
19	Regional Office	Bengkulu and Lampung
20	Regional Office	Banten
21	Regional Office	West Java I
22	Regional Office	Central Java I
23	Regional Office	Yogyakarta Special Region
24	Regional Office	East Java I
25	Regional Office	Bali
26	Regional Office	Nusa Tenggara
27	Regional Office	North Sulawesi, Central Sulawesi, Gorontalo, and North Maluku
28	Tax Application Service Provider	PT Mitra Pajakku

Notes: The table enumerates the survey distribution channels. The channels are 27 Echelon II units of the DGT and 1 tax application service provider. Within the DGT, there are 6 directorates located at the DGT head office, 2 large and special regional offices which administer the large and special (e.g., foreign direct investment, permanent establishment, oil, and gas companies) taxpayers, and 21 geographical type regional offices which administer medium and small taxpayers.

Appendix 4: The Survey Coverage Area

Notes: The figure illustrates the coverage area of our survey, involving a network of 27 Echelon II units of the DGT. Our survey covers all geographical areas of Indonesia. Within this network, there are 6 directorates located at the DGT head office, 2 large and special regional offices serving the national level largest and special taxpayers, and 21 geographical type regional offices administering medium and small-scale taxpayers in specific-colored areas. Additionally, we collaborate with a tax application service provider to facilitate outreach to taxpayers.

Appendix 5: Drivers of Tax Complexity

Panel A: Drivers of Tax Code Complexity

No	Regulations	#	Complexity driver	N	Mean	s.d.	Min	Max
(1)	Capital Gains/Losses	(1)	Ambiguity & Interpretation	391	0.730	0.213	0	1
		(2)	Change	391	0.704	0.220	0	1
		(3)	Computation	391	0.745	0.211	0	1
		(4)	Detail	391	0.730	0.218	0	1
		(5)	Record Keeping	391	0.760	0.208	0	1
(2)	Corporate Reorganization	(1)	Ambiguity & Interpretation	391	0.700	0.227	0	1
		(2)	Change	391	0.678	0.230	0	1
		(3)	Computation	391	0.684	0.239	0	1
		(4)	Detail	391	0.693	0.232	0	1
		(5)	Record Keeping	391	0.719	0.234	0	1
(3)	Depreciation & Amortization	(1)	Ambiguity & Interpretation	391	0.721	0.217	0	1
		(2)	Change	391	0.696	0.227	0	1
		(3)	Computation	391	0.728	0.214	0	1
		(4)	Detail	391	0.719	0.216	0	1
		(5)	Record Keeping	391	0.735	0.222	0	1
(4)	Investment Incentives	(1)	Ambiguity & Interpretation	391	0.702	0.223	0	1
		(2)	Change	391	0.697	0.219	0	1
		(3)	Computation	391	0.715	0.219	0	1
		(4)	Detail	391	0.709	0.211	0	1
		(5)	Record Keeping	391	0.724	0.221	0	1
(5)	Statutory Tax Rate	(1)	Ambiguity & Interpretation	391	0.756	0.232	0	1
		(2)	Change	391	0.745	0.217	0	1
		(3)	Computation	391	0.769	0.215	0	1
		(4)	Detail	391	0.760	0.207	0	1
		(5)	Record Keeping	391	0.738	0.237	0	1
(6)	Loss Offset	(1)	Ambiguity & Interpretation	391	0.732	0.231	0	1
		(2)	Change	391	0.699	0.223	0	1
		(3)	Computation	391	0.740	0.216	0	1
		(4)	Detail	391	0.728	0.214	0	1
		(5)	Record Keeping	391	0.747	0.217	0	1
(7)	Royalties	(1)	Ambiguity & Interpretation	391	0.741	0.216	0	1
		(2)	Change	391	0.715	0.214	0	1
		(3)	Computation	391	0.731	0.215	0	1
		(4)	Detail	391	0.730	0.213	0	1
		(5)	Record Keeping	391	0.741	0.218	0	1
(8)	Dividends	(1)	Ambiguity & Interpretation	391	0.752	0.217	0	1
		(2)	Change	391	0.723	0.207	0	1
		(3)	Computation	391	0.740	0.211	0	1
		(4)	Detail	391	0.735	0.213	0	1
		(5)	Record Keeping	391	0.743	0.217	0	1
(9)	Interest	(1)	Ambiguity & Interpretation	391	0.745	0.213	0	1
		(2)	Change	391	0.711	0.213	0	1
		(3)	Computation	391	0.735	0.210	0	1
		(4)	Detail	391	0.736	0.208	0	1
		(5)	Record Keeping	391	0.737	0.224	0	1
(10)	Transfer Pricing	(1)	Ambiguity & Interpretation	391	0.801	0.204	0	1
		(2)	Change	391	0.763	0.200	0	1
		(3)	Computation	391	0.783	0.194	0	1
		(4)	Detail	391	0.782	0.189	0	1
		(5)	Record Keeping	391	0.808	0.189	0	1
(11)	Permanent Establishment	(1)	Ambiguity & Interpretation	391	0.743	0.216	0	1
		(2)	Change	391	0.707	0.221	0	1
		(3)	Computation	391	0.726	0.211	0	1
		(4)	Detail	391	0.742	0.207	0	1
		(5)	Record Keeping	391	0.747	0.212	0	1

Panel B: Drivers of Tax Framework Complexity

No	Procedures	#	Complexity driver	N	Mean	Std. Dev.	Min	Max
(1)	Tax Guidance	(1)	Public rulings	391	0.221	0.201	0	1
		(2)	Private rulings	391	0.311	0.232	0	1
		(3)	Oral or written advice	391	0.313	0.231	0	1
		(4)	Substantial business issues	391	0.107	0.310	0	1
		(5)	Soft law	391	0.410	0.227	0	1
(2)	Tax Law Enactment	(1)	Access to enacted tax legislation	391	0.223	0.416	0	1
		(2)	Influence of third parties	391	0.570	0.496	0	1
		(3)	Quality of drafting	391	0.340	0.474	0	1
		(4)	Time at which legislation becomes effective	391	0.358	0.480	0	1
		(5)	Time between the announcement and enactment of tax changes	391	0.368	0.483	0	1
		(6)	Participation in legislative process	391	0.799	0.269	0	1
(3)	Tax Filing & Payment	(1)	Computing tax payments	391	0.583	0.494	0	1
		(2)	Determining due dates for tax payments	391	0.100	0.300	0	1
		(3)	Refunding overpaid corporate income taxes	391	0.335	0.473	0	1
		(4)	(Electronic remittance of tax payments	391	0.113	0.316	0	1
		(5)	Determining due dates for filing tax returns	391	0.074	0.262	0	1
		(6)	Managing the number of tax returns during a year	391	0.225	0.418	0	1
		(7)	Preparing tax returns	391	0.425	0.495	0	1
		(8)	(Electronic) transmission of tax returns	391	0.343	0.475	0	1
		(9)	Instructions for filing tax returns	389	0.141	0.202	0	1
(4)	Tax Audits	(1)	Outline of tax audit process	391	0.228	0.228	0	1
		(2)	Tax audit cycle	391	0.274	0.446	0	1
		(3)	Notification of the upcoming tax audit	391	0.097	0.297	0	1
		(4)	Disclosure of selection criteria for tax audit target	391	0.309	0.463	0	1
		(5)	Communication of topics to be covered by the tax audit	391	0.253	0.435	0	1
		(6)	Decisions by tax officers	391	0.381	0.486	0	1
		(7)	Sanctions imposed in case of violations	391	0.217	0.413	0	1
		(8)	Experience or technical skill of tax officers	391	0.345	0.476	0	1
		(9)	Behavior by tax officers	391	0.156	0.363	0	1
(5)	Tax Appeals	(1)	Outline of tax objection process	391	0.213	0.223	0	1
		(2)	Outline of tax appeal process	391	0.226	0.228	0	1
		(3)	Decisions by tax officers in tax objections	391	0.325	0.469	0	1
		(4)	Influence of third parties in tax objections	391	0.202	0.402	0	1
		(5)	Agents/staff in tax objections	391	0.258	0.438	0	1
		(6)	Completion time in tax objections	391	0.169	0.375	0	1
		(7)	Decisions by tax officers in tax appeals	391	0.427	0.495	0	1
		(8)	Influence of third parties in tax appeals	391	0.348	0.477	0	1
		(9)	Agents/staff in tax appeals	391	0.233	0.423	0	1
		(10)	Completion time in tax appeals	391	0.332	0.472	0	1

Notes: The table presents the descriptive statistics of the drivers of tax complexity based on tax officers' assessment. Panels A and B report the statistics of the tax regulation and procedure drivers, respectively.

Appendix 6: Pairwise Correlations

Panel A: Correlations among the dimensions of tax code complexity

Regulations	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Capital gains/losses	1.000										
(2) Corporate reorganization	0.739*	1.000									
(3) Depreciation	0.863*	0.710*	1.000								
(4) Investment incentives	0.753*	0.743*	0.797*	1.000							
(5) Statutory tax rate	0.766*	0.575*	0.802*	0.730*	1.000						
(6) Loss offset	0.847*	0.628*	0.884*	0.794*	0.860*	1.000					
(7) Royalties	0.825*	0.668*	0.831*	0.760*	0.757*	0.839*	1.000				
(8) Dividends	0.819*	0.675*	0.842*	0.754*	0.776*	0.835*	0.959*	1.000			
(9) Interest	0.830*	0.682*	0.843*	0.751*	0.769*	0.833*	0.955*	0.965*	1.000		
(10) Transfer pricing	0.763*	0.606*	0.740*	0.688*	0.675*	0.719*	0.777*	0.794*	0.779*	1.000	
(11) Permanent establishment	0.789*	0.701*	0.736*	0.705*	0.677*	0.758*	0.835*	0.824*	0.825*	0.777*	1.000

* $p<0.05$

Panel B: Correlations among Tax Complexity Drivers of Regulations

Drivers	(1)	(2)	(3)	(4)	(5)
(1) Ambiguity & interpretation	1.000				
(2) Change	0.740*	1.000			
(3) Computation	0.677*	0.745*	1.000		
(4) Detail	0.719*	0.729*	0.794*	1.000	
(5) Record keeping	0.654*	0.677*	0.698*	0.770*	1.000

* $p<0.05$

Panel C: Correlations among the Dimensions of Tax Framework Complexity

Procedures	(1)	(2)	(3)	(4)	(5)
(1) Tax guidance	1.000				
(2) Tax law enactment	0.098	1.000			
(3) Tax filing & payment	0.085	0.494*	1.000		
(4) Tax audits	0.172*	0.430*	0.520*	1.000	
(5) Tax appeals	0.176*	0.269*	0.329*	0.512*	1.000
* $p<0.05$					

Notes: Panel A reports the correlation matrix of the dimensions in the tax regulation complexity. Panel B shows the correlation coefficients of the complexity drivers of tax regulations Panel C shows the correlations among the dimensions of tax procedure complexity.