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Evidence from 108 Countries**

# What are the Drivers of Tax Complexity for Multinational Corporations? Evidence from 108 Countries

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**Abstract:** All over the world, firms and governments are increasingly concerned about the rise in tax complexity. To manage it and develop effective simplification measures, detailed information on the current drivers of complexity is required. However, research on this topic is scarce. This is surprising as the latest developments—for example, triggered by the BEPS project—give rise to the conjecture that complexity drivers may have changed, thus questioning the findings of prior studies. In this paper, we shed light on this issue and provide a global picture of the current drivers of tax complexity that multinational corporations face based on a survey of 221 highly experienced tax practitioners from 108 countries. Our results show that prior complexity drivers of the tax code are still relevant, with details and changes of tax regulations being the two most influential complexity drivers. We also find evidence for new relevant complexity drivers emerging from different areas of the tax framework, such as inconsistent decisions among tax officers (tax audits) or retroactively applied tax law amendments (tax enactment). Based on the responses of the practitioners, we develop a concept of tax complexity that distinguishes two pillars, tax code and tax framework complexity, and illustrates the various aspects that should be considered when assessing the complexity of a country's tax system.

**Keywords:** Complexity Drivers, International Comparison, Survey, Tax Complexity, Tax Practitioners

**JEL Classification:** H20, H25, C83, O57

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# 1 Introduction

In the last decades, regulation has become one of the main and hotly debated topics on the agendas of firms and governments. Initiatives, like the OECD Base Erosion and Profit Shifting (BEPS) project, have been established, providing advice on various critical tax matters. Through the introduction of new regulations, the tightening of compliance requirements and adjustment of processes (e.g., electronic filing of tax returns), tax systems have undergone lots of changes. Companies around the world are, however, highly concerned about these developments and seek out for ways to handle the increasing amount of tax complexity.<sup>1</sup> In a recent report the IMF and the OECD also highlight that complexity and uncertainty need to be reduced to foster investments and economic growth (IMF and OECD 2017). Complex tax laws, regulatory uncertainty and the costs of complying with those laws place corporations in such environments at a competitive disadvantage and could force them to move to other countries with less complex tax laws in the future (Hoppe et al. 2017). To reduce compliance costs, governments have already introduced several simplification measures in the past, ranging from flat tax rates to simplified tax returns. However, instead of reducing tax complexity, these measures often led to even more complexity (Tran-Nam 2016; Vaillancourt and Bird 2016). Obviously, their focus has been too narrow with regard to tax complexity. Despite the high relevance of this topic, it is still understudied and there is no consensus on what generates tax complexity and where it is prevalent.

The aim of this paper is therefore to analyze tax complexity and its current drivers.<sup>2</sup> Our focus is on multinational corporations (MNCs, defined as entities owning and controlling operations in more than one country) and corporate income taxes, both being at the center of many recent tax reform discussions like the BEPS project.<sup>3</sup> In particular, we will address the following three questions:

- (1) Are the “known” complexity drivers of prior studies still relevant today?
- (2) Are there “new” complexity drivers that have evolved over the last years?
- (3) How can tax complexity be conceptualized in order to understand and manage it better?

An online survey approach was used to answer these questions. The link to the survey was distributed to approximately 550 highly experienced tax practitioners of two international tax consultancy firms, from which 221 people from 108 countries responded. In the main part of the survey, we posed two questions. In the first question, we requested participants to evaluate the importance of seven complexity drivers, which we identified from prior literature and talks to international tax professionals. The analysis of the responses indicates that, in more than half of the countries (72 countries), all seven complexity drivers are classified as important. In nearly

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<sup>1</sup> We are aware of the discussions that complexity is inevitable in tax systems to some extent and that it has positive and negative effects (Office of Tax Simplification 2017). However, in this paper, we refrain from looking at specific circumstances as we want to provide a broad picture of tax complexity. Thus, we neither distinguish between necessary and unnecessary tax complexity, nor do we separate complexity into positive and negative complexity.

<sup>2</sup> We define the term “complexity drivers” as underlying mechanisms that trigger the complexity of a tax system, like frequent changes of tax regulations. Specific tax regulations, for example transfer pricing regulations, are not covered by the term.

<sup>3</sup> Corporate income taxes also attract a lot of attention as they cause significant compliance costs (RWI 2003; Colmar Brunton 2005; DeLuca et al. 2005) and have a relatively unified structure across countries which makes them suitable for an identification of complexity drivers in an international setting.

all remaining countries, between four and six drivers are considered relevant. Of the seven drivers, “excessive details” and “frequent changes” in tax regulation appear to be the most relevant complexity drivers. We also find considerable differences in the relevance of the seven complexity drivers across various country classifications, for example, in country clusters of different development levels. In the second question, we asked for other important complexity drivers to obtain an accurate and complete list of all current drivers. A qualitative content analysis of the answers reveals a number of drivers prevalent in different areas of the tax framework. These drivers represent features of the tax system, like the retroactive application of tax laws fueling complexity in the enactment process. They also highlight characteristics of certain actors in the tax system leading to complexity, like tax inspectors being inconsistent in their decisions in tax audits. Based on the responses to the two questions, we develop a concept of tax complexity. This concept distinguishes two pillars: tax code and tax framework complexity. It accounts for the multidimensional nature of tax complexity as each pillar is decomposed into five aspects that serve as a reference point to assess the complexity of a country’s tax system.

Our contribution is twofold: we (1) extend prior research on the drivers of tax complexity and (2) provide a foundation for future research with our concept of tax complexity. With regard to the first contribution, previous studies have in common that they often take a very narrow perspective by focusing on a specific subject in a particular country. This makes it difficult to generalize their results to all firms in a country and even more difficult to apply them to a variety of countries. Therefore, the need for a broader study arises. With our study, we provide the first global study on corporate income tax complexity drivers from the perspective of MNCs. This study is important for several reasons.

To start with, many fundamental studies investigating tax complexity drivers are very old from today’s perspective. The first studies were published 30 years ago, with Long and Swingen (1987) defining a landmark study.<sup>4</sup> In a questionnaire, they asked tax experts in the United States to rank six complexity drivers (“ambiguity”, “computations”, “changes”, “detail”, “record keeping” and “forms”) in order of their importance for middle-income wage-earners. They find that “frequent changes” and “excessive details” are the main drivers of complexity. Some other studies deal with this topic on a theoretical ground. Based on the views of the different participants in a tax system (tax lawyer, tax authority and taxpayer), Slemrod (1989) derives four drivers: “predictability”, “enforceability”, “difficulty” and “manipulability”. Cooper (1993) tackles tax complexity by looking at the drivers that result in the opposite of complexity, namely tax simplicity. He identifies seven characteristics of simplicity: “predictability”, “proportionality”, “consistency”, “compliance”, “administration”, “coordination” and “expression”. Due to the developments in business structures, tax regulation and tax complexity (Devereux 2016; Hoppe et al. 2017) over the last years, it is doubtful whether all of the drivers mentioned above are still important.

Next, it is questionable to whom or to what countries they are applicable. The complexity drivers identified by Long and Swingen (1987) have been used in many subsequent studies. For

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<sup>4</sup> Prior studies usually use the term complexity “source” to describe a characteristic of the law triggering tax complexity. Because our analysis resulted in a broader concept of tax complexity, we now use the term complexity “driver” to better account for this view.

example, Carnes and Cuccia (1996) use “record keeping”, “forms and instructions”, “calculations”, “ambiguity” and “law changes” as their set of complexity drivers to investigate the relationship between US individual taxpayers’ perceptions of tax complexity and equity. In her study on the complexity of the Australian income tax system, McKerchar (2005) asks tax practitioners to identify complexity drivers. She finds that most drivers mentioned are comparable to those outlined by Long and Swingen (1987). Similarly, “detail”, “ambiguity” and “change” appear to be the most important ones. McKerchar (2005) identifies no other issues that form a fundamental new complexity driver. Recently, Borrego et al. (2016) used a survey to analyze the main drivers of complexity from the perspective of tax practitioners in Portugal. Drawing on Long and Swingen (1987), Green (1994) and McKerchar (2005), they derived 14 specific complexity drivers, which respondents had to evaluate according to their importance. Based on the responses, Borrego et al. (2016) show that these drivers are considered important, while the level of importance varies considerably. Overall, the question remains to what extent the results of single jurisdictions are applicable to a broader set of countries.<sup>5</sup> Even within one country, it appears doubtful whether the results can be generalized as many studies focus on individuals (Long and Swingen 1987; Carnes and Cuccia 1996) or firms of a specific size, like small and medium sized enterprises (Ingraham Karlinsky 2005; Tran-Nam and Karlinsky 2010; Gupta 2011). Furthermore, the focus is often on purely domestic firms, while MNCs, which are exposed to a very high level of tax complexity due to their international activities, have largely been neglected in prior literature.

Last, although tax complexity should be considered as a multidimensional feature of a tax system, many studies do not take this multidimensionality into account but rather focus on a single complexity driver. While Lassila and Smith (1997) use the complexity driver “calculation” in their survey, many others integrate “frequency of changes” (Ingraham and Karlinsky 2005; Tran-Nam and Karlinsky 2008; Tran-Nam and Karlinsky 2010; Gupta 2011; Karlinsky and Burton 2011) or “details of the tax law” (Clotfelter 1983; Slemrod 2005; Bacher and Brühlhart 2013; Weber 2015). There is also much literature on “readability” (James and Lewis 1977; Reckers and Stagliano 1980; James et al. 1981; Tan and Tower 1992; Richardson and Sawyer 1998; Smith and Richardson 1999; Pau et al. 2007; Saw and Sawyer 2010). Recently, studies started to account for the various facets of complexity in order to quantify tax complexity. However, they are often still limited with regard to the number of facets (PwC, The World Bank and International Finance Corporation 2016) or again focus on a specific country (Tran-Nam and Evans 2014; Office of Tax Simplification 2017). Often, they also fail to provide a sound theoretical or empirical foundation for the choice of the features they consider. Thus, a systematic approach that accounts for the multidimensional nature of tax complexity is still required.

Our study overcomes the weaknesses of prior studies and provides a broad set of important complexity drivers on a global level. These drivers can be used as criteria by policy-makers for comparing countries’ tax systems over time (e.g., in order to prove the effectiveness of reforms)

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<sup>5</sup> McKerchar, Ingraham and Karlinsky (2005) and Freudenberg et al. (2012) investigate a small number of different countries by comparing existing studies. However, the underlying studies mainly analyze the complexity of specific tax regulations. As these regulations differ from country to country, the results of the comparative analysis should be interpreted with caution.

or across countries (e.g., in order to determine global best practices). These comparisons may help to identify where and how improvements can be made.

With regard to our second contribution, we want to enhance the understanding of tax complexity. So far relatively few attempts have been made to define complexity. Often, researchers list some complexity drivers to describe what they understand by the term tax complexity (Budak and James 2016). These different “definitions” are also one reason why approaches to measure tax complexity or to simplify the tax law highly differ from each other. Our two-pillar concept of tax complexity as a feature of the tax system, which arises from the difficulties with the tax code as well as the inefficiencies in the tax framework, will help to establish a common basis for future research. Because of the difficulty of measuring tax complexity, empirical studies on the consequences of tax complexity are rare and rely on one or few selected aspects of complexity. Thus, a unique and comprehensive approach in measuring tax complexity serves as a useful tool to promote this stream of research, which appears highly relevant from today’s view (IMF and OECD 2017). Moreover, research on tax simplification may benefit from this concept as it provides a starting point to assess tax complexity on a global level. It helps to maintain a full picture without neglecting important country-specific aspects.

The remainder of the paper is as follows: In the next section, we describe our research design. We present the results of the quantitative and the qualitative analysis in Section 3 and 4 respectively. We summarize our findings in the form of our two-pillar concept of tax complexity in Section 5. The last section addresses the limitations of our study and concludes.

## **2 Research Design**

### **2.1 Survey**

To answer the research questions, we conducted an online survey.<sup>6</sup> We decided not to survey MNCs directly because we expected very firm-specific responses, depending, e.g., on the organizational structure, the size or the industry of firms. Instead, we distributed the questionnaire to local tax practitioners who are experienced with various MNCs, and are, thus, capable to respond to our questions on MNCs from a general perspective.<sup>7</sup> The questionnaire contains quantitative and qualitative questions. We placed all questions on one browser page in order to reduce the (perceived) length of the survey and, thus, to facilitate a high response rate.<sup>8</sup>

The project and its purpose were illustrated at the beginning of the questionnaire. In addition, we provided the subjects with some instructions. We included a question asking for the country with whose tax laws the respondent is most familiar with. The subjects were advised that the following questions have to be answered from the perspective of that country.

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<sup>6</sup> We exclusively used an online survey as this distribution channel seemed to be most suitable for our research project. It allowed us to collect responses from around the world at relatively low cost and within a short period of time.

<sup>7</sup> There are several other studies that survey tax professionals and ask them to take the perspective of certain taxpayers, like individuals (Long and Swingen 1987; Davies, Carpenter and Iverson 2001), small businesses (Ingraham and Karlinsky 2005; Gupta 2011) or large and mid-size businesses (Karlinsky and Burton 2011).

<sup>8</sup> McQuarrie (2015) highlights one page as a “wonderful target”. Furthermore, there are several studies that indicate a negative correlation between the survey length and the response rate. See Heberlein and Baumgartner (1978), Fan and Zan (2010), and Rolstad et al. (2011) for overviews.

In the first part, subjects were provided with a list of seven complexity drivers and their definitions. The list, which is presented in Table 1, was derived from literature reviews and talks to international tax professionals.

a	Change	Regulations are subject to frequent changes.
b	Computation	Many and/or sophisticated computations must be performed for tax purposes (e.g., to prove the applicability of a regulation).
c	Details	Regulations contain excessive details, such as numerous rules, exceptions to rules, and cross-references to other rules.
d	Documentation	Complete and accurate records must be prepared and kept for tax purposes.
e	Filing	The forms/appendices provided by the tax authority for filing purposes are very specific and lengthy and/or need to be handed in more than once a year.
f	Incomprehensibility	Regulations are formulated in an unclear, imprecise, or ambiguous manner.
g	Unpredictability	Despite an explicit regulation there is uncertainty over whether the tax authority will (fully) accept the application of that regulation.

Table 1: Definitions of Complexity Drivers

The first six drivers are closely related to those found by Long and Swingen (1987) and adapted in a similar way by many subsequent studies, such as Carnes and Cuccia (1996), McKerchar (2005) and Borrego et al. (2016). They also cover several characteristics outlined by other studies.<sup>9</sup> The last driver “unpredictability” has primarily been mentioned as another important complexity driver by the tax professionals we spoke to. While Slemrod (1989) and Cooper (1993) use the term “predictability” as a desirable feature of the tax system based on theoretical considerations, later (empirical) studies usually did not employ the reverse as a driver of complexity although “unpredictability” has received a lot of attention over the last years (Heimig 2014; Neuman 2016; Guenther, Matsunaga and Williams 2017; Feller, Huber and Schanz 2017; IMF and OECD 2017). Thus, it seems to be justified to include it as a complexity driver. Subjects were asked whether they believe that all seven drivers mentioned above are important drivers of tax complexity. If they answered no, they were asked to specify the driver(s) they consider unimportant.<sup>10</sup> Next, they were asked for any drivers of complexity that are not listed but considered important from their point of view, using a text field.

The second part of the questionnaire requested demographic information about the subjects.<sup>11</sup> We use this data to assess the quality of our dataset. Finally, another text field at the end of this part allowed subjects to add comments or suggestions.<sup>12</sup>

<sup>9</sup> For example, Cooper (1993) used “expression”. This complexity driver is captured in “incomprehensibility”.

<sup>10</sup> Our aim was to eliminate complexity drivers that are unimportant today and, thus, to obtain a list of (very important to slightly) important drivers. To accomplish this, we asked to select unimportant drivers. We refrained from asking respondents to select important drivers because non-selected drivers cannot necessarily be regarded as unimportant.

<sup>11</sup> We are aware of the discussion on the placement of demographic questions either at the beginning or at the end of the survey. Following prior literature, we decided to place them at the end of our questionnaire. See Dillman (1987), Marlow (1993), and Goodwin and Goodwin (2014) for justifications.

<sup>12</sup> In a further part, we provided subjects with a second list, containing corporate income tax regulations, which should also be evaluated in terms of importance for MNCs. In this paper, we will not analyze this part of the questionnaire as it does not deal with complexity drivers.

To pretest the questionnaire, we sent the survey to two different groups. A paper-based version of the survey was distributed first by email to nine tax research assistants from three different universities in Austria and Germany. We asked the assistants to evaluate whether the questionnaire can be easily understood and whether the wording is appropriate. Based on their comments, we made minor modifications, such as adjustments to the definitions of the complexity drivers. Then, we administered a link to the online version of the revised survey to a wider sample of 17 tax practitioners from Germany, mainly consisting of managers and partners who advise MNCs. Our pretest included four open-ended questions asking about the understanding of the project description, the wording of the questions, the clarity of the technical terms and other inconsistencies or problems they experienced with the survey. The feedback of this group helped us to fine-tune the questionnaire for the subsequent distribution.

We emailed a survey invitation to two international tax consultancy firms on March 30, 2016 which distributed the survey to the country representatives of the member firms in their networks. The invitation contained a short description of the project and the link to the survey. It was signed by the contact person of the respective firm.<sup>13</sup> At the end of the invitation, subjects were advised that their responses will remain confidential and anonymous. The invitation was then distributed by the contact persons to the participants. On April 18, 2016 we sent the first email reminder to the contact persons. The second reminder was sent on April 26, 2016. We closed the online survey on April 30, 2016.

## **2.2 Respondents**

We agreed with our two partner firms in advance to survey two tax experts per firm and country as we had to acknowledge the costs of working time that would be dedicated to our project instead to clients. Although the number of potential responses was rather limited by this approach, we accepted it as it offered the opportunity to collect field data that never have been available before and enabled us to study tax complexity in a unique way. The partner firms were asked to randomly select tax practitioners in each country where the firms have an office or are represented. If possible, the practitioners were supposed to be partners or managers who have experience with MNCs. Against this background, we were able to have respondents with sufficient experience and knowledge and a good overview of the tax system in their country of expertise. Thus, we expect their judgements to provide a valid indication of important complexity drivers even if not reliable in terms of statistical generalization.

The two firms were responsible for distributing the invitation with the survey link to the practitioners. We were not allowed and able to observe who exactly received the invitation email. Approximately 550<sup>14</sup> tax practitioners obtained the invitation link, out of which 223 persons completed the survey. However, due to missing data and a response error, we had to delete two

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<sup>13</sup> We provided the firms with a text for the invitation. Except of the firm name and the name of the contact person of the respective firm, the invitations were identical for the two firms. Therefore, no differences in the responses between the participants of the two firms can be expected.

<sup>14</sup> The number covers experienced practitioners of more than 160 countries. However, it was not possible to distribute the survey to two persons of each firm in every country because the two firms did not always have offices in the same countries. There were countries where only one of the two firms was represented. Moreover, due to the low demand for tax services, some countries only had one leading local tax representative.



surveys resulting in 221 usable responses and a response rate of 40.2%. These responses provide insights for 108 countries. The distribution of responses is displayed in Table 2.

<b>Responses per country</b>	<b>Countries</b>	<b>Responses</b>
1	49	49
2	25	50
3	19	57
4	12	48
5	2	10
6	0	0
7	1	7
<b>Total</b>	<b>108</b>	<b>221</b>

Table 2: Distribution of Responses

We obtained our desired number of two responses per firm and country (i.e., four responses) in 12 countries. For nearly half of the 108 countries we only received one completed survey. However, there are also three countries from which we received more than four answers. We can think of two possible explanations for this unexpected high number. First, tax practitioners who were invited to participate could have forwarded the email to colleagues who have been interested in the project. Second, as we were informed that some potential respondents are responsible for more than one country, we enabled all respondents to retake the survey if they had detailed knowledge of more than one country's tax system. However, this possibility might have also been used by respondents who were officially assigned to one country only but had experience or knowledge of another country's tax system.<sup>15</sup> We are unable to disentangle these cases from each other.

Table 3 provides information on the demographic characteristics of our 221 participants. The great majority of the sample consists of partners, directors and principals (62.9%), followed by managers (19.9%) and assistants (16.3%). The respondents generally have significant tax experience, with 71.0% reporting more than 10 years of tax experience. Those who responded to the questions on working time spend 68.0% of their working time on MNCs' tax issues and 55.0% of this time on international tax issues on average. In terms of their highest level of education, almost 61% of the sample has a master degree, followed by 27.6% having a bachelor degree and 8.6% having a doctoral degree. Ages range over the whole spectrum, from under 30 to over 59 years. The largest group (37.1%) is between 40 and 49 years old. With regard to the gender, nearly three-quarters of the respondents (72.9%) are males. Given these demographic characteristics, the sample seems to be of high quality and very suitable for the purposes of our study. The large number of respondents with powerful positions and significant tax experience let us expect representative responses at a high level of expertise. Moreover, the substantial amount of working time they spend on MNCs and international tax issues indicates that the

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<sup>15</sup> To check whether the results might be biased by respondents retaking the survey, we grouped the responses based on the demographic variables and identified twelve similar pairs. An in-depth analysis showed that the responses within each pair varied, giving rise to the assumption that, even if the same person retook the survey, the response behavior for one country was not adopted for the other. However, as the survey was anonymous, we are not able to determine whether one of the twelve response pairs was indeed provided by the same tax practitioner.

respondents have the necessary experience to answer the questions of the survey from the perspective of those clients.

<b>Job position</b>	Number	Percentage
Partner/Director/Principal	139	62.9%
Manager	44	19.9%
Senior Assistant	23	10.4%
Junior Assistant	13	5.9%
<b>Tax experience</b>	Number	Percentage
>15 years	122	55.2%
>10 but ≤15 years	35	15.8%
>5 but ≤10 years	34	15.4%
≤5 years	30	13.6%
<b>Working time</b>	On MNCs	On Int. Tax
Median	75.0%	50.0%
Mean	68.0%	55.0%
Standard deviation	25.9%	29.0%
<b>Education</b>	Number	Percentage
Doctoral or equivalent	19	8.6%
Master or equivalent	134	60.6%
Bachelor or equivalent	61	27.6%
Secondary education	2	0.9%
<b>Age</b>	Number	Percentage
Over 59 years	4	1.8%
50 – 59 years	44	19.9%
40 – 49 years	82	37.1%
30 – 39 years	61	27.6%
Under 30 years	30	13.6%
<b>Gender</b>	Number	Percentage
Male	161	72.9%
Female	59	26.7%

Table 3: Demographic Characteristics of the Sample<sup>16</sup>

### 2.3 Data Analysis

To determine which of the complexity drivers that we identified are not perceived as important for MNCs by practitioners, we first took a country-based view and constructed an “average opinion” for each of the 108 countries by calculating mean values per country for each variable.<sup>17</sup> Analogous to this procedure we also aggregated the country values of our variables to country cluster variables for further analyses.<sup>18</sup> The resulting values can be understood as “average opinions” of country clusters. We provide illustrating examples of these approaches in Appendix A.

<sup>16</sup> For some characteristics, percentages do not add up to 100 percent because of missing responses or the category “other”, which we included for the job position and the education degree.

<sup>17</sup> We refrain from analyzing on the respondent-level as the number of observations varies from country to country (see Table 2). Using respondent-level data would result in overestimating the feedback of countries with multiple responses.

<sup>18</sup> If we would construct the country cluster opinion directly from the participants’ answers, it would be possible, at least theoretically, that the cluster opinion is completely represented by only a few countries from which many answers have been received.

To come up with a complete set of current complexity drivers, we conducted a qualitative content analysis based on the responses to the question about other important drivers that have not been listed. Because of the exploratory nature of this investigation, we employed an inductive instead of a deductive coding approach.<sup>19</sup> This data-grounded approach allows us to extract those complexity drivers that are mentioned by the respondents. The initial coding process was conducted by one of the researchers (referred to as coder 1) in two rounds. In the first round, the comments of the respondents were assigned to codes that were directly derived from the vocabulary of the respondents. This particular form, known as *in vivo* coding, allowed us to ensure enough proximity to the data.<sup>20</sup> In the second round, coder 1 went through the codes, revised them, grouped them and broke them down into subcodes. Afterwards, the coding was repeated based on the revised coding scheme. Throughout this process, some adjustments were made. The coding continued until all comments could be easily classified by coder 1. Afterwards, all researchers evaluated the codes. Based on the analysis, a modified coding scheme consisting of main codes and subcodes was set up. The main codes covered subordinate features or processes within the tax system that contribute to the complexity of the tax system through several drivers. Moreover, they captured aspects extending the complexity drivers we already identified before. Subcodes refined the main codes by allocating specific complexity drivers to each main code. For each code, definitions and coding notes have been developed to ensure consistency. In the next step, coder 1 and one of the other researchers (referred to as coder 2) coded the data independently from each other using the given coding scheme. The percentage of inter-coder agreement was 98.6%. All remaining disagreements were resolved by discussion.

### **3 Evaluating the Importance of “Known” Complexity Drivers**

#### **3.1 Global Analysis**

To evaluate the importance of the identified tax complexity drivers for MNCs, we first examine how many of the drivers are not considered unimportant by the respondents. We refer to them in a broader sense as relevant or important drivers of complexity.<sup>21</sup> Table 4 displays the number of relevant complexity drivers for a subsample of countries that found not all drivers to be important (36 countries) and for the full sample (108 countries).<sup>22</sup> In 72 countries and thus more than half of the countries (66.7%), participants unanimously state that all of the mentioned drivers of tax complexity are important. In the subsample, most countries (61.6%) classify six of seven drivers as relevant. Moreover, there is no single country in which less than two complexity drivers are perceived as important.

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<sup>19</sup> See Mayring (2010).

<sup>20</sup> See Miles et al. (2014).

<sup>21</sup> We are aware of the fact that, if a complexity driver is not perceived as unimportant, it does not necessarily mean that it is important. It could also indicate that this driver is slightly important, moderately important, or very important. However, instead of simply analyzing the number of unimportant drivers, we believe that it is more intuitive to subsume drivers not perceived as unimportant under “relevant” or “important” drivers.

<sup>22</sup> As we calculate mean values per country that do not necessarily result in whole numbers, we use intervals that span the range of possible values.

Relevant complexity drivers	Subsample:		Full sample	
	Not all drivers important			
	Number of countries	Percentage	Number of countries	Percentage
All 7	–	–	72	66.7%
≥6 and <7	22	61.6%	22	20.4%
≥5 and <6	9	25.0%	9	8.3%
≥4 and <5	3	8.3%	3	2.8%
≥3 and <4	1	2.8%	1	0.9%
≥2 and <3	1	2.8%	1	0.9%
≥1 and <2	0	0.0%	0	0.0%
≥0 and <1	0	0.0%	0	0.0%

Table 4: Number of Relevant Complexity Drivers

Table 5 shows the complexity drivers and their relevance expressed as a score with maximum possible values of 36 (subsample) and 108 (full sample).<sup>23</sup> Again, this score is based on mean values for each country. A higher score indicates a more relevant complexity driver.

Complexity driver	Subsample:		Full sample	
	Not all drivers important			
	Score (max. 36)	Percentage max. score	Score (max. 108)	Percentage max. score
Details	32.1	89.0%	104.1	96.3%
Change	30.4	84.5%	102.4	94.8%
Unpredictability	30.3	84.1%	102.3	94.7%
Incomprehensibility	29.8	82.6%	101.8	94.2%
Computation	29.7	82.5%	101.7	94.2%
Documentation	29.5	81.9%	101.5	94.0%
Filing	25.5	71.0%	97.5	90.3%

Table 5: Relevance of Complexity Drivers in Detail

As can be seen from Table 5, “details” of tax regulation is the most relevant driver of complexity. This finding is in line with McKerchar (2005) who depicts “detail” as the relatively most important cause of complexity. Long and Swingen (1987) and Borrego et al. (2016) identify “detail” as the second most important driver of complexity in their surveys.

According to Long and Swingen (1987) and Borrego et al. (2016), “change” seems to be the most relevant complexity driver. An important role of “change” is also identified by Ingraham and Karlinsky (2005), McKerchar (2005), Tran-Nam and Karlinsky (2008), Tran-Nam and Karlinsky (2010), and Gupta (2011). Our findings lead to a similar result, indicating that “change” is regarded as the second most relevant driver of tax complexity. Although “change” could have been expected to be the most relevant complexity driver (e.g., due to the developments through BEPS), we explain its reduced role as follows. First, we have to keep in mind that all of the studies mentioned before merely focus on single countries (Australia, New Zealand, Portugal or United States).<sup>24</sup> Second, while we investigate the perspective of MNCs, nearly all other

<sup>23</sup> A score of 36 (108) would indicate that every country in the subsample (full sample) unanimously considers the respective complexity driver as relevant.

<sup>24</sup> In our study, all participants from Australia, New Zealand, Portugal and the United States consider all complexity drivers as relevant.

studies focus on other taxpayers, like small businesses. In contrast to them, MNCs usually represent larger organizations which have more resources to stay up-to-date on the latest changes in the tax system. Third, the influence of “change” could have decreased in general as it has become easier to obtain information and to trace new developments. Our argumentation is strengthened by the study of Burton and Karlinsky (2016) on large and midsize businesses in the United States, which indicates that change is not one of the most important drivers in the overall ranking.

The third relevant driver is “unpredictability” which has usually not been mentioned in prior surveys. However, its high relevance gives rise to the assumption that complexity is not only driven by the complexity inherent in the regulations themselves, but also increasingly by the decision power of the tax authorities. This finding corresponds to the growing body of literature on tax risk (Neuman et al. 2016; Drake et al. 2017; Guenther et al. 2017; Nesbitt et al. 2017) which examines the deviation of the final tax burden from the estimated tax burden. Such deviations can be caused, for example, by adjustments resulting from arbitrary decisions of tax officers in tax audits.

Similar to Long and Swingen (1987), McKerchar (2005) and Borrego et al. (2016), we identify “filing” as the least relevant driver of tax complexity. The low relevance, compared to all other drivers, might be explained by the fact that several countries have simplified their filing procedure in the last decades by introducing electronic filing systems, simplifying the forms and extending instructions. The ranking of the remaining drivers (“computation”, “documentation” and “incomprehensibility”) is in line with previous literature. Long and Swingen (1987), McKerchar (2005) and Borrego et al. (2016) also find evidence for mid-level rankings of these drivers.<sup>25</sup> In conclusion, the quantitative analysis shows that all complexity drivers are relevant for MNCs. Even “filing” which has the last rank still adds to the complexity of tax systems to a large extent and, thus, should not be neglected when assessing tax complexity.

### 3.2 Cluster Analyses

In this section, we investigate whether there are systematic differences in the responses between different country clusters. We use three country categorizations. First, we create a clustering based on the geographical location of each country because there might be a regional dissemination of certain complexity drivers. The classification used consists of five clusters: Africa, Americas, Asia Pacific, Europe and Middle East.<sup>26</sup> Second, because the level of development may also affect local tax system characteristics, we use the Human Development Index (HDI) to construct clusters that are linked to the level of development of a country.<sup>27</sup> We use four clusters based on the categories suggested by the United Nations Development Programme: very high ( $HDI \geq 0.8$ ), high ( $0.8 > HDI \geq 0.7$ ), medium ( $0.7 > HDI \geq 0.55$ ), and low ( $HDI <$

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<sup>25</sup> However, while most of our findings are similar to previous studies, it should be taken into account that our study differs in the sense that we asked for drivers that are perceived as unimportant. This question form was necessary as our goal was to identify drivers that are nowadays perceived as least important and, thus, not suitable to analyze tax complexity.

<sup>26</sup> Similar classifications are used by all the Big Four professional services firms.

<sup>27</sup> We use data for the year 2014 which is available online at <http://hdr.undp.org/en/data>. As some countries in our sample are not covered by the United Nations Development Programme, we added data for these countries from Avakov (2016). For the recent data on the year 2015, such additional data is not available. As the existing index values for 2015 only changed very slightly, we stick with the values for 2014.

0.55). Third, we focus on the legal origin of a country as prior literature suggests that countries' characteristics might differ due to their legal background.<sup>28</sup> Data on the legal origin of countries is provided by Siems (2007) and Djankov et al. (2007). Following these authors, we distinguish between English common law, French commercial code, socialist law, German commercial law and Scandinavian commercial code. The country categorizations are displayed in Appendix B. Table 6 provides an overview of the number of countries and responses in each cluster.

	Cluster	Countries	% Countries	Responses	% Responses
<b>Panel A:</b> <b>Geographical</b> <b>Location</b>	Africa	20	18.5%	31	14.0%
	Americas	19	17.6%	38	17.2%
	Asia Pacific	20	18.5%	48	21.7%
	Europe	42	38.9%	94	42.5%
	Middle East	7	6.5%	10	4.5%
<b>Panel B:</b> <b>Human</b> <b>Development</b>	Very high	44	40.7%	102	46.2%
	High	31	28.7%	65	29.4%
	Medium	16	14.8%	29	13.1%
	Low	17	15.7%	25	11.3%
<b>Panel C:</b> <b>Legal</b> <b>Origin</b>	English Common Law	30	27.8%	64	29.0%
	French Commercial Code	47	43.5%	96	43.4%
	Socialist Law	9	8.3%	15	6.8%
	German Commercial Law	17	15.7%	36	16.3%
	Scandinavian Commercial Code	5	4.6%	10	4.5%

Table 6: Distribution of Countries and Responses across Different Country Clusters

As absolute numbers are not directly comparable due to different cluster sizes, we focus on relative numbers in the following. We display the relevance percentages of the complexity drivers across the different clusters in Table 7. The percentages are calculated by dividing the relevance scores of each cluster by the number of countries per cluster. Hence, a higher value indicates a higher relevance of the respective complexity driver.

As can be seen from Table 7, there is some variation with regard to the relevance of the single complexity drivers across the clusters. In the geographical categorization (Table 7, Panel A), “documentation” appears to be of minor relevance for the African cluster (88.3%), while it is highly relevant in all other clusters. Especially in the American cluster (98.7%), this driver seems to have a very high impact. We observe similar results for “incomprehensibility” and “unpredictability”. In contrast, “filing” is relatively important in the American, the European and the African cluster while it is less relevant in the Asia Pacific (85.0%) and Middle East (85.7%) cluster. At the same time, we find “filing” being one of the most unimportant complexity drivers within four out of five clusters which underlines a relatively low overall relevance of “filing”.

Regarding the developmental classification (Table 7, Panel B), we can observe relatively large differences across the clusters for “filing”, “incomprehensibility”, and “unpredictability”. The percentage spread varies from 12.4 percentage points (unpredictability) to 8.8 percentage points (filing). With regard to the other four complexity drivers, the percentage spread is smaller, i.e., only about 5 percentage points. Correlations between the perceived relevance of a driver and

<sup>28</sup> See La Porta et al. (1997); Djankov et al. (2008); Djankov et al. (2010).

the level of development of a country can be assumed for “filing” as its relevance decreases with the level of development. This could indicate that (very) high developed countries have a better filing process in place, leading to a lower relevance of “filing”. Typical simplification measures that have been introduced in several developed countries in the last years are e-filing or automatic data transmission. In contrast, “incomprehensibility” seems to be a major concern in these countries, whereas it is less important in medium or low developed countries.

The categorization by legal origin (Table 7, Panel C) shows large differences across the clusters for “computation” and “documentation”. “Computation” is highly relevant in four out of five clusters and seems to be of minor importance in the Scandinavian commercial code cluster. However, due to the few observations in the Scandinavian cluster, this finding should be considered with caution. We observe a high relevance percentage for “documentation” under the French commercial code and the German commercial law clusters. As the law of these clusters is organized by codes and not by precedents, “documentation” might play a large role in proving the applicability of a certain regulation. This idea is also underlined by the relatively high relevance of “unpredictability” as prior decisions made by courts are not binding. As another interesting aspect, we can observe very similar values for “incomprehensibility” and “unpredictability” for most clusters in the categorization by legal origin, while these values highly differ in the geographic and developmental clustering.

<b>Panel A: Geographical Location</b>	<b>Complexity driver</b>	<b>Africa</b>	<b>Americas</b>	<b>Asia Pac.</b>	<b>Europe</b>	<b>Mid. East</b>
	Change	90.8%	98.7%	93.8%	97.0%	85.7%
	Computation	95.0%	98.2%	92.1%	94.3%	85.7%
	Details	92.5%	98.2%	95.0%	98.1%	95.2%
	Documentation	88.3%	98.7%	93.8%	94.4%	95.2%
	Filing	90.8%	94.1%	85.0%	91.7%	85.7%
	Incomprehensibility	87.5%	100.0%	93.8%	94.8%	95.2%
	Unpredictability	89.6%	98.2%	94.3%	95.6%	95.2%
<b>Panel B: Human Development</b>	<b>Complexity driver</b>	<b>Very high</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>	
	Change	94.9%	95.2%	96.9%	92.2%	
	Computation	93.8%	91.7%	96.9%	97.1%	
	Details	95.6%	98.3%	93.8%	97.1%	
	Documentation	92.2%	94.4%	96.9%	95.1%	
	Filing	89.2%	88.3%	90.1%	97.1%	
	Incomprehensibility	93.7%	100.0%	90.6%	88.2%	
	Unpredictability	94.3%	100.0%	87.6%	92.6%	
<b>Panel C: Legal Origin</b>	<b>Complexity driver</b>	<b>English</b>	<b>French</b>	<b>Socialist</b>	<b>German</b>	<b>Scandin.</b>
	Change	91.4%	95.7%	100.0%	94.1%	100.0%
	Computation	94.2%	94.2%	94.4%	98.0%	80.0%
	Details	93.9%	96.0%	100.0%	98.5%	100.0%
	Documentation	89.4%	95.6%	94.4%	95.6%	100.0%
	Filing	88.6%	88.6%	90.7%	97.1%	93.3%
	Incomprehensibility	92.2%	94.3%	100.0%	92.6%	100.0%
	Unpredictability	92.0%	94.0%	100.0%	97.1%	100.0%

Table 7: Relevance of Complexity Drivers by Country Classifications

We conclude that all of the complexity drivers appear to be highly important in each cluster with an approval rate of at least 80 percent. In general, our findings support the results of

McKerchar (2005) and Borrego et al. (2016), showing that the drivers identified by Long and Swingen (1987) are also applicable to other countries. Despite the general importance of the drivers, our results also confirm varying levels of importance across country clusters.<sup>29</sup> With regard to the identified differences, such as the higher relevance of the filing procedure in low developed countries, it would be worthwhile to assess the underlying reasons for these results in more depth in future research.

#### **4 Extracting “New” Important Complexity Drivers**

Among all respondents, 136 respondents (61.5%) from 84 countries (77.8%) provided comments on other important complexity drivers. Out of those respondents, 56 respondents provided answers like “none” or “all are listed” and, thus, used the text field to further strengthen the completeness of our list of complexity drivers. The comments of the remaining 80 respondents from 58 countries form the basis for the qualitative content analysis. Following the procedure described in Section 2.3, we differentiate between comments which indicate “new” complexity drivers with varying (i.e., positive or negative) implications and a small share of comments which provide suggestions for refining the “known” drivers. Based on the comments on the “new” drivers, we identified five areas where complexity is prevalent. In the following, the complexity drivers within these areas will be highlighted. Moreover, selected comments will be used as examples to illustrate them.

The first area, tax law enactment, can be defined as the process of writing and enacting tax legislation. The comments of the respondents suggest that complexity within this process is driven by the time at which tax law becomes effective. One main problem arises from the fact that “certain changes may apply retrospectively to ongoing or closed transactions” (respondent, partner/director/principal). Similarly, it may happen that tax laws “are implemented from the date they are published, instead of the following fiscal year” (respondent, manager). Another complexity driver concerns the quality of tax law drafting. Respondents criticize that tax regulators, on the one hand, deliberately draft tax laws in a way that requires intervention by the tax court. On the other hand, regulators are accused for not having enough skills and tax knowledge to draft tax laws. This may explain why “there are instances where there are two or more pieces of legislation that contain provisions that contradict each other” (respondent, partner/director/principal) or that overlap so that there is uncertainty about “how these interact with specific tax legislative provisions and reliefs” (respondent, partner/director/principal). However, problems can also result from tax rules not recognizing current developments. For example, a high inflation rate, if not being adjusted for in the tax law, generates “taxable income that has nothing to do with the reality” (respondent, partner/director/principal). Moreover, we find that a considerable influence on tax complexity within the enactment process is attributed to third parties. Here, the focus is on politicians who “keep things complex in order to achieve vested interests” (respondent, partner/director/principal). Additionally, complexity can originate from elections or policies of powerful countries which may promise change in national tax law.

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<sup>29</sup> When we test for significant differences between the clusters using Kruskal-Wallis rank tests with adjusted Chi<sup>2</sup> values, we only find a statistically significant difference for the complexity driver “unpredictability” between the clusters of the HDI specification. This suggests all the complexity drivers are highly relevant in all cluster specifications. Moreover, we provide evidence that the relevance of the complexity drivers is not only triggered by the investigated country features, such as the legal origin.



The second area of the tax framework is tax guidance, which describes instances in which no (sufficient) guidance exists to facilitate the application of a regulation. One form of guidance are guidelines issued by the tax authority for the interpretation of the law, for example, in the form of practice manuals or rulings. Complexity arises when such guidelines are not issued, not made publicly available or when they are not helpful. With regard to the latter aspect, complexity can be caused “in situations where the legislation and the language of the law say one thing, but tax authority guidance notes or practice manuals adopt another approach or include exceptions by way of common practice” (respondent, partner/director/principal). In this case, a guideline can be considered as misleading. Respondents further notice that guidelines are often unclear as they do not provide sufficient information on how to correctly apply the tax law. In addition, conflicts can arise as a result of various releases of guidelines or decisions of various appeal courts with different outcomes. Another driver of complexity can be found in the process of providing guidance. On the one hand, there can be a lack of clarity on the “administrative process of addressing a tax matter” (respondent, manager). On the other hand, problems arise when the tax authority is not able “to provide prompt clarifications to queries on grey areas” (respondent, partner/director/principal). Other norms, such as local accounting standards, constitute a second channel of guidance. However, instead of providing assistance in applying the tax law, they can also fuel complexity. For example, complexity in the computation of the taxable income increases if there is “a lack of alignment between tax laws and accounting standards” (respondent, manager). This book-tax gap becomes even more relevant if accounting standards change and adapt to the current environment, while the tax law does not, thus creating “uncertainty and multi-interpretation in the correct treatment of these changes under existing rules” (respondent, partner/director/principal). However, the lack of alignment to other norms is not the only driver. Respondents mention the lack of alignment between national tax laws or between national and foreign tax laws as another one. This lack is characterized by different tax laws having different meanings for the same word or different tax treatments for the same transaction. The comments of the respondents also highlight the role of soft laws. Although they are not legally binding, they provide MNCs with a source of information. Nonetheless, they trigger problems when they make “things more complex than what they should be and countries use these as reference [...] against their own law or well established practice” (respondent, partner/director/principal). Thus, instead of providing helpful guidance, they might also bring more complexity to national tax laws.

Tax audits are the third area of the tax framework. They can be described as a formal examination of the tax return by the tax authority to ensure that income and deductions have been reported correctly. According to the respondents, the complexity of audits is strongly driven by the tax inspectors. Respondents criticize that decisions vary among different tax inspectors implying an inconsistent application of the law and, thus, leading to uncertainty. This observation can be explained by tax inspectors or (provincial) tax authorities taking “different position(s) of interpreting the tax law” (respondent, junior assistant) or pursuing an “erratic inspection methodology” (respondent, manager). As another driver of complexity, respondents highlight the lack of skills and experience of tax inspectors for conducting audits. Because of this shortcoming, they “may unfairly assess tax (or) confuse the taxpayers how to comply with the tax law” (respondent, partner/director/principal). Moreover, tax inspectors are often considered as

not competent enough to understand business transactions or to know what the legislation intends to say or it actually says. As a result, they “often apply ad hoc or ‘gut feel’ approaches rather than applying the law as written” (respondent, partner/director/principal) and thus trigger contradictions between law and practice. Tax officers often also behave aggressively and negotiate deals that are “not coherent as regards approach and outcome” (respondent, manager) because of the fiscal approach of governments to collect as much revenue as possible. Similar to the tax law enactment, the influence of third parties may also play a role in the audit process and induces additional complexity. With regard to the audit process itself, respondents mainly consider the frequency of audits and negotiations with the tax authority as complexity drivers.

If taxpayers disagree with the outcome of a tax audit, they can usually file an appeal at the administrative or judicial level. Then, their issue will be reviewed and finally resolved. This process, tax appeals, is the fourth area of the tax framework. Similar to the complexity of tax audits, the complexity of tax appeals is driven by the “inconsistent application of the law”, in particular by the courts, to a large extent. Moreover, the responses suggest that complexity arises when the appellate body is not perceived as sufficiently competent to hear tax cases. This applies if there is a “lack of specialized tax courts” (respondent, partner/director/principal). However, even if the appellate body is specialized in taxes, it may be strongly influenced by the tax authority or another party. As a result, dispute resolution cannot be considered as independent, which is another driver of complexity. With regard to the appeal process itself, a main problem is the length of time the process takes, both at the administrative and the judicial level. On the one hand, it can be time-consuming for the taxpayer to navigate through all instances in a country. On the other hand, it can take a huge amount of time until a dispute is resolved by the respective body, for example, due to a “lack of resources” (respondent, partner/director/principal). From the perspective of an MNC, this, however, leads to a less stable and certain environment. Another problem of the process are the requirements to qualify for an appeal. In particular, respondents criticize the “easiness to apply” (respondent, partner/director/principal).

The fifth area of the tax framework is about the administrative procedure of paying taxes. One aspect that leads to complexity is the transmission of tax payments. For example, due dates may not be met when taxes are paid via bank transfer and there is a “delay from banks to issue bank checks” (respondent, manager). To facilitate the payment of taxes, several countries have introduced e-payment systems. However, depending on the technical advance, they can also lead to new problems, for example, if there is a “lack of common technology between companies and authorities” (respondent, partner/director/principal). Moreover, complexity is created by the number of tax payments. The number can be very large in countries with a withholding regime according to which companies are required to withhold certain amounts of their payments and remit them to the authorities. This process is “a nightmare and represent(s) a significant cost for MNCs” (respondent, partner/director/principal).

From the analysis of the “new” drivers we conclude that it is not sufficient to follow prior studies and concentrate on the complexity of the tax code. The analysis reveals that complexity is also caused by several characteristics and processes of the tax framework. Despite our small sample, many complexity drivers, like the retrospective application of regulations or the ag-

gressive/inconsistent behavior of tax officers, are mentioned by respondents of several countries. Thus, we can rule out the possibility that the “new” complexity drivers are restricted to a single country.

**5 Two-Pillar Concept of Tax Complexity**

Based on the findings from our survey, we derive a “two-pillar concept of tax complexity” that accounts for the multidimensional nature of tax complexity and can be applied to the corporate income tax system. This concept is illustrated in Figure 1. According to this concept, tax complexity covers two pillars: tax code and tax framework complexity. The left pillar captures the complexity of the tax code and covers complexity drivers which can be linked to specific tax regulations, such as regulations on transfer pricing. We call these drivers tax code complexity drivers. The right pillar describes features and procedures which relate to the whole corporate income tax system. Although they can be linked to specific regulations as well, it appears more plausible to consider these areas on a superior level covering tax framework complexity drivers, like the retrospective application of legislation (enactment) or the aggressiveness of tax inspectors (audits).

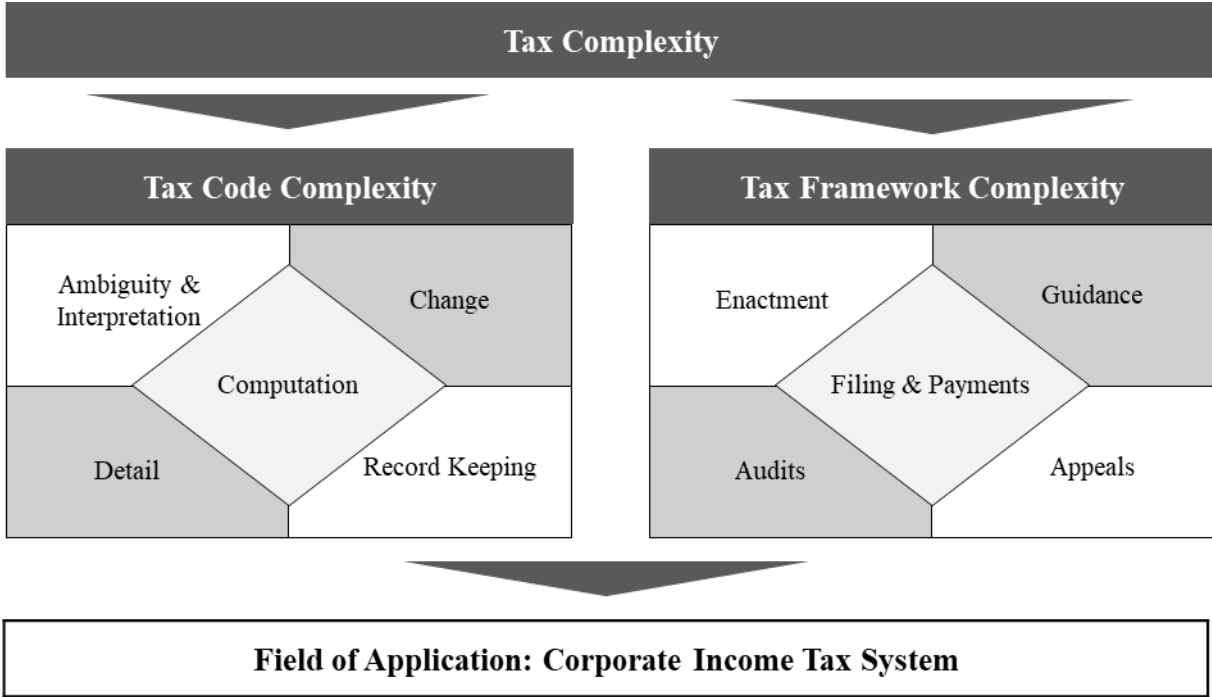


Figure 1: Two-Pillar Concept of Tax Complexity

Compared to the set of seven complexity drivers in Table 1, we excluded “filing” and “unpredictability” from the tax code complexity drivers in Figure 1. Both seem better suited to describe the complexity of the tax framework. Shifting “filing” to the tax framework pillar is very intuitive as firms declare their corporate income taxes in total and do not file separate returns for each regulation of the tax code. Furthermore, as suggested by the qualitative analysis, “filing” also comprises other topics than captured by our initial definition. Due to the close relationship of the filing and payment procedure, we summarized them into one component and renamed this tax framework area to “filing & payments”. “Unpredictability” which was intended to cover the uncertainty that emerges from the tax authority is not explicitly mentioned in our two-pillar

concept. When scrutinizing the responses, we found that uncertainty not only arises from the tax authority in the examination of the tax return, but also from administrative or judicial bodies in the appeal process. Moreover, unpredictability can have multiple reasons. For example, it arises through inconsistent decisions of tax officers or the influence of third parties. Hence, we consider “unpredictability” in the form of its various manifestations under “audits” and “appeals”. The remaining five complexity drivers (“ambiguity & interpretation”, “change”, “computation”, “detail”, and “record keeping”) can easily be linked to specific tax regulations and, thus, remain in the tax code pillar. We renamed some of the tax code complexity drivers and slightly adjusted their definitions in order to incorporate the respondents’ comments. For example, the definition of “change” was broadened in a way that it not only accounts for frequent but also for extensive changes. The definitions of the revised tax code complexity drivers are listed in Table 8.

a	Ambiguity & Interpretation	When a regulation is phrased in an unclear, imprecise, and/or ambiguous manner so that different interpretations are possible.
b	Change	When a regulation is frequently changed and the changes are extensive in terms of quantity and/or scope.
c	Computation	When many and/or sophisticated calculations are necessary to prove the (non-)applicability of a regulation and/or to determine the specific tax treatment.
d	Detail	When a regulation contains excessive details, such as numerous rules, exceptions to rules, and/or cross-references to other rules.
e	Record Keeping	When many records and documents must be kept to substantiate all claims under a regulation and/or to complete the tax return.

Table 8: Revised Tax Code Complexity Drivers

As outlined in Section 4, we describe the tax framework complexity by five areas: tax enactment, tax guidance, tax filing and payments, tax audits and tax appeals. Each area covers several different complexity drivers. Except of “filing”, all of them have been identified by the qualitative content analysis. Until now, most studies have concentrated on the complexity of the tax code. Only a few studies also consider the complexity of selected aspects of the tax framework (e.g., Borrego et al. 2016; Office of Tax Simplification 2017). However, our study provides evidence that tax complexity is present in several different areas of the tax framework. Within these areas, we reveal many new aspects, such as the retroactive application of tax laws (tax enactment), which have not been addressed so far.

**6 Conclusion and Limitations**

Conducting a worldwide survey with tax practitioners from two international tax consultancy firms, we evaluate whether the drivers of tax complexity which have been found in prior studies are still relevant today. Furthermore, we ask whether there are new relevant complexity drivers which could have been evolved through the dynamics of the last decades. In the survey, we take the perspective of MNCs with regard to the corporate income tax system. Based on 221 responses from 108 countries, we find that the complexity drivers which have been identified from prior literature and talks to international tax practitioners are all perceived as important with “detail” and “change” being the most important ones. While “change” has sometimes been highlighted as the most important complexity driver in the past, our results indicate that it is not

as important as “detail”. The country cluster analyses reveal that there are considerable differences in the relevance of the complexity drivers across various country categorizations. Nevertheless, all of them appear to be relatively important in each cluster with an approval rate of at least 80 percent. Finally, we conceptualize tax complexity via a two-pillar concept comprising tax code and tax framework complexity. It shows the tax code characteristics (“ambiguity & interpretation”, “change”, “computation”, “detail” and “record keeping”) and tax framework areas (“enactment”, “guidance”, “filing & payments”, “audits” and “appeals”) that are important in terms of complexity.

Our study is characterized by some limitations, particularly arising from our database. First, there are several countries from which we received only one answer giving rise to concerns about the potential generalizability of our results. We address this issue by conducting our analyses on a global and a country cluster level and abstain from deriving implications for single countries. However, while several country clusters, like the Asia Pacific or the Europe cluster, include a convincing number of observations, some other country clusters, e.g. the Middle East, do not. Thus, we focus our interpretations on those regions with sufficient observations. Nonetheless, studies with more data would be desirable to substantiate our findings. Second, we have to acknowledge that we are not able to (fully) ensure that all participants have read the instructions at the beginning of the questionnaire carefully which characterizes survey studies in general. We conducted a battery of pretests and upfront talks with tax experts to avoid misunderstandings and balance the amount of information we think we needed to provide against information overload concerns. Third, it might be possible that some respondents did not answer the questions for their respective country but rather took a global perspective. While this would have no negative impact on the global importance of the complexity drivers, the country cluster analyses would be affected.

We are the first to study tax complexity and its drivers on a global level drawing on unique data. With our set of relevant complexity drivers and the newly developed concept of tax complexity, we provide a starting point for future research on tax complexity. Our findings build a uniform understanding of tax complexity and, thus, help to better evaluate and compare tax complexity over time and across countries. They are also particularly interesting for policymakers as they highlight the role of the tax framework, which has been rarely addressed by tax reforms aiming to reduce tax complexity. To reach future simplification objectives, politicians should not neglect the complexity of the tax framework.

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## **Appendix**

### **A: Construction of average opinions**

#### Panel A – Country opinion

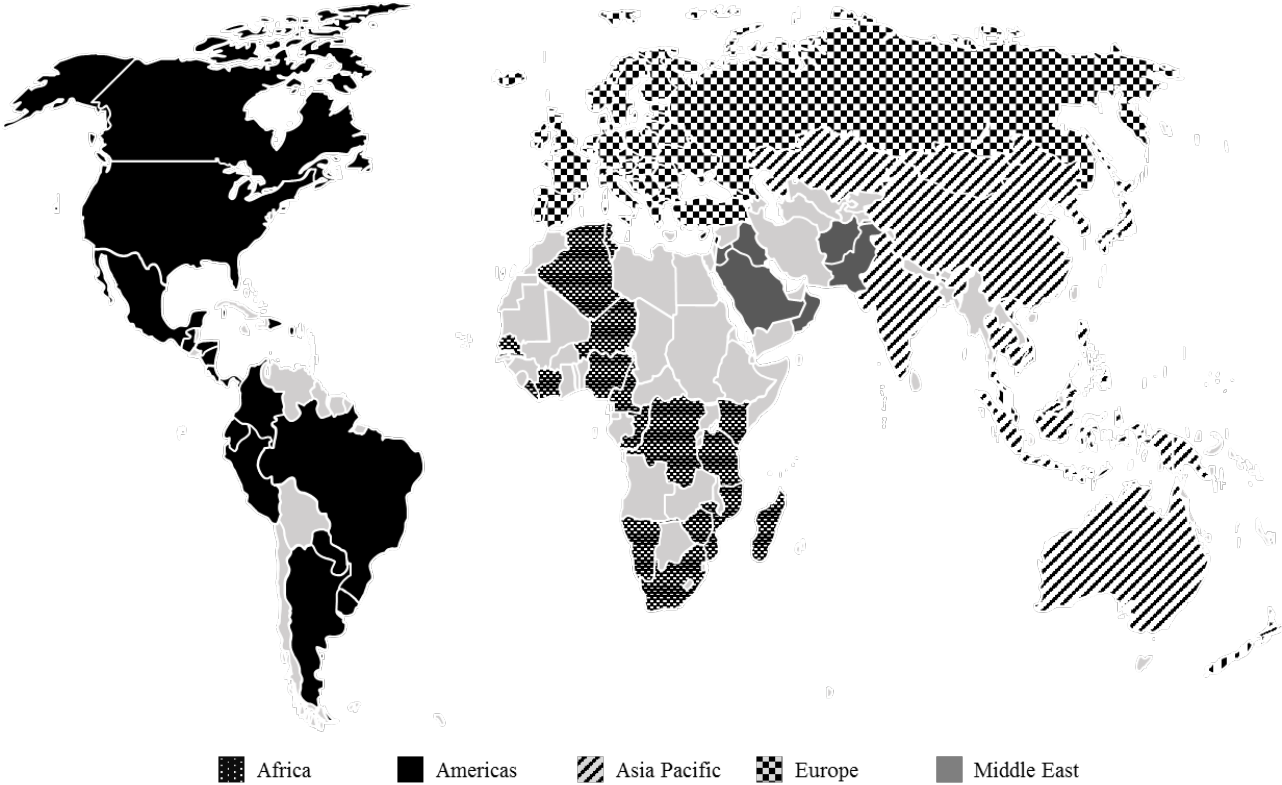
Consider six fictional respondents who provide answers for two different countries, country A (two respondents) and country B (four respondents), to the binary question of whether they believe that all complexity drivers mentioned are important. If we get the answers {yes, no} from the respondents of country A and {yes, yes, yes, no} from the respondents of country B, we would come up with values of 0.5 for country A and 0.75 for country B. These values can be interpreted as rates of approval, indicating the extent to which a country believes that all drivers are of importance for MNCs.

#### Panel B – Cluster opinion

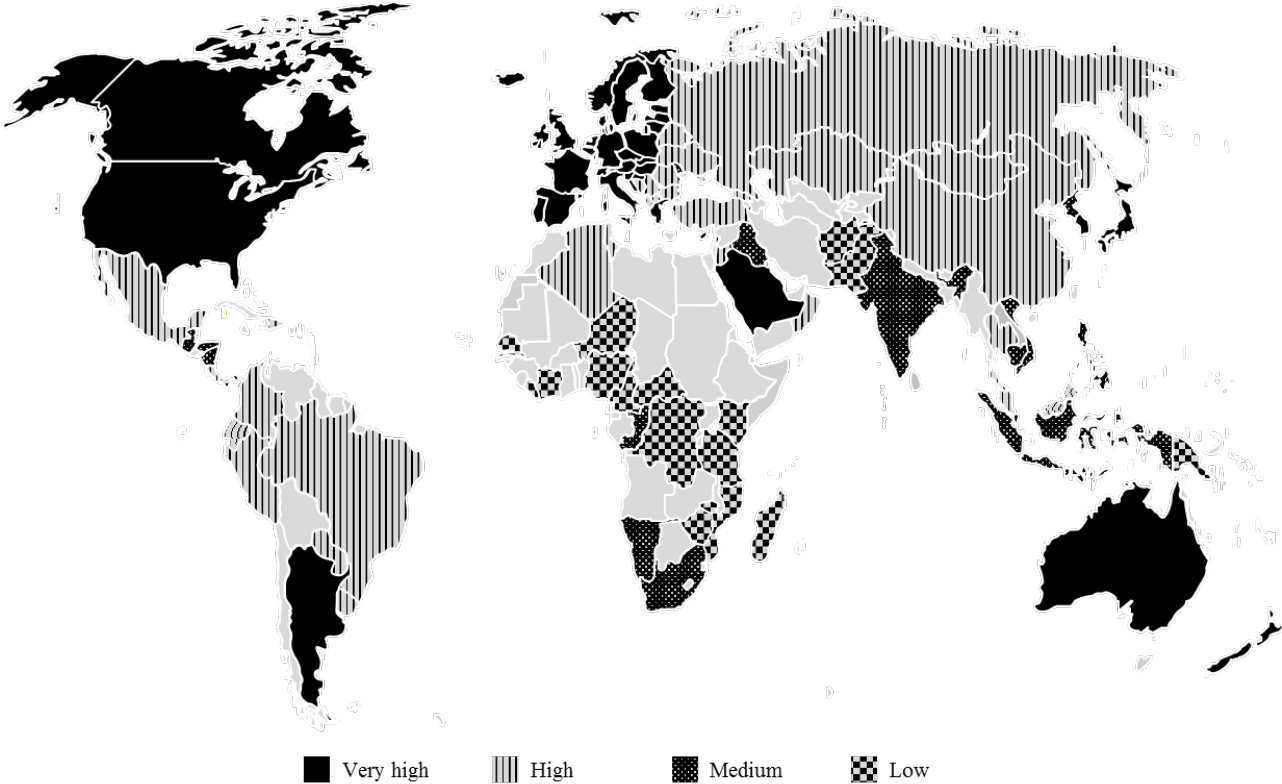
Reconsider the example provided above. With regard to the question of whether respondents believe that all drivers mentioned are important drivers of tax complexity for MNCs, we obtained approval rates of 0.5 (country A) and 0.75 (country B). If country A and country B constitute one country cluster, we would determine a mean value of 0.625 ( $= [0.5 + 0.75] / 2$ ).

**B: Visualization of country categorizations**

Panel A – Clusters according to the geographic location



Panel B – Clusters according to the Human Development Index (HDI)



Panel C – Clusters according to the legal origin of countries

