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What are the Drivers of Tax Complexity for MNCs? Global Evidence

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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, those triggered by the BEPS project—have given rise to the conjecture that complexity drivers may have changed, thus questioning the findings of prior studies. In this article, 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 consultants from 108 countries. Our results show that prior complexity drivers of the tax code are still important, with details and changes of tax regulations being the two most important complexity drivers. We also find evidence for new important 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 tax consultants' responses, we develop a concept of tax complexity that is characterized by 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.

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I INTRODUCTION

In the last decades, taxes and related regulation have become one of the main and hotly debated topics on the agendas of firms and governments. Initiatives such as 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, tax systems have undergone lots of changes. Companies around the world are, however, highly concerned about these developments and are seeking out ways to handle the increasing tax complexity.¹ In a recent report, the IMF and the OECD, too, highlight that complexity and uncertainty need to be reduced to foster investment and economic growth.² Complex tax laws, regulatory uncertainty and the cost of compliance place corporations in these environments at a competitive disadvantage and could force them to move their business to other countries with less complex tax

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¹ We are aware that complexity is inevitable in tax systems to some extent and that it has positive and negative effects (see Office of Tax Simplification, *The OTS Complexity Index* (2017), https://gov.uk/government/uploads/system/uploads/attachment_data/file/603479/OTS_complexity_index_paper_2017.pdf (accessed 2 July 2018)). However, in this article we neither distinguish between necessary and unnecessary tax complexity, nor do we separate complexity into positive and negative complexity.

² See IMF & OECD, *Tax Certainty, IMF/OECD Report for the G20 Finance Ministers* (2017), <https://oecd.org/tax/tax-policy/tax-certainty-report-oecd-imf-report-g20-finance-ministers-march-2017.pdf> (accessed 2 July 2018).

laws.³ To reduce compliance costs, governments have already introduced several simplification measures, ranging from flat tax rates to simplified tax returns. However, instead of reducing tax complexity, these measures often lead to even more of it.⁴ Evidently, their focus is too narrow with regard to tax complexity. Despite the high relevance of this topic, it is still under-researched and there is no consensus on what generates tax complexity and where it is prevalent.

The aim of this article is therefore to analyse tax complexity and its current drivers.⁵ Our focus is on multi-national corporations (MNCs, defined as corporations owning and controlling operations in more than one country) and corporate income taxes, both being at the centre of many recent tax reform discussions such as the BEPS project.⁶ In particular, we address the following three questions for MNCs:

- Are the *known* complexity drivers of prior studies still important today?
- Are there *new* complexity drivers that have evolved in recent years?
- How can tax complexity be conceptualized in order to understand and manage it better?

We used an online survey approach to answer these questions. The link to the survey, which was intended to collect the views of tax experts who work with MNCs, was distributed to local tax consultants, with 221 people from 108 countries responding. The main part of the survey was divided into two sections. First, we requested participants to evaluate the importance of seven complexity drivers which we identified from prior literature and interviews with international tax professionals. The analysis of the responses indicates that in more than half of the countries (seventy-two), all seven complexity drivers are classified as important. In nearly all remaining countries (thirty-four), between four and six drivers are considered important. Of the seven drivers, *excessive details* and *frequent changes* in tax regulation appear to be the most important. We also find considerable differences in the importance of the seven complexity drivers across various country classifications, for

example, in country clusters of different development levels. Second, we asked the respondents to name other important complexity drivers to obtain an accurate and complete list. A qualitative content analysis of the answers reveals that a number of drivers are at work across the tax framework. These represent features of the tax system, such as the retroactive application of tax laws fuelling complexity in the enactment process. Respondents also highlight characteristics of certain actors in the tax system that lead to complexity, such as tax inspectors who take inconsistent decisions in tax audits. Based on the responses, we develop a concept of tax complexity that is characterized by 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 reference points 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 focus on a specific subject (e.g., small businesses) in a particular country. This makes it difficult to generalize their results to all taxpayers in a country and even more difficult to apply them to a variety of countries. Therefore, the need for a broader study arises. We fill this gap by providing the first global study on MNCs' income tax complexity drivers from the perspective of tax consultants, which is important for several reasons.

To start with, many fundamental studies investigating tax complexity drivers appear outdated. The first studies were published thirty years ago, with Long and Swingen defining a landmark study.⁷ 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

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³ See T. Hoppe et al., *2016 Global MNC Tax Complexity Survey, Executive Summary* (2017), <http://taxcomplexity.org> (accessed 2 July 2018).

⁴ See P. Pronk, *In Search of Simplicity: Tax Reform in The Netherlands*, 37(10) Intertax 545 (2009); B. Tran-Nam, *Tax Reform and Tax Simplification: Conceptual and Measurement Issues and Australian Experiences*, in *The Complexity of Tax Simplification*, 11–44 (1st ed., S. James, A. Sawyer & T. Budak eds, Palgrave Macmillan 2016); F. Vaillancourt & R. Bird, *Tax Simplification in Canada: A Journey Not Yet Mapped*, in *The Complexity of Tax Simplification*, 70–94 (1st ed., S. James, A. Sawyer & T. Budak eds, Palgrave Macmillan 2016).

⁵ We define the term *complexity drivers* as underlying mechanisms that trigger the complexity of a tax system, such as frequent changes of tax regulations. Specific tax regulations, e.g. transfer pricing regulations, are not covered by the term.

⁶ Corporate income taxes also attract a lot of attention as they cause significant compliance costs (see Rheinisch-Westfälisches Institut für Wirtschaftsforschung, *Ermittlung von Tax Compliance Cost*, Gutachten im Auftrag des Bundesministers der Finanzen (2003); Colmar Brunton, *Measuring the Tax Compliance Costs of Small and Medium-sized Businesses – A Benchmark Survey, Final Report* (2005), <https://taxpolicy.ird.govt.nz/sites/default/files/news/2005-07-19-report-sme-compliance-costs.pdf> (accessed 2 July 2018); D. DeLuca et al., *Measuring the Tax Compliance Burden of Small Businesses*, SOI Tax Stats – Papers – Proceedings of the IRS Research Conference 2005 75 (2005)) and have a relatively unified structure across countries which makes them suitable for an identification of complexity drivers in an international setting.

⁷ S. B. Long & J. A. Swingen, *An Approach to the Measurement of Tax Law Complexity*, 8(2) JATA 22 (1987). Prior studies usually use the term *complexity source* to describe a characteristic of the law triggering tax complexity. Thus, we apply this term in our questionnaire as well (see Appendix A for a paper version). Because our analysis results in a broader concept of tax complexity, we use the term *complexity driver* to better account for this view.

derives four drivers: *predictability, enforceability, difficulty* and *manipulability*.⁸ Cooper tackles tax complexity by looking at the drivers that result in the opposite of complexity, namely tax simplicity.⁹ He identifies seven characteristics of simplicity: *predictability, proportionality, consistency, compliance, administration, coordination* and *expression*. Due to the developments in business models, tax regulation and tax complexity¹⁰ over the last years, it can be questioned whether all aforementioned drivers are still considered important.

Next, it is questionable to whom or to what countries they are applicable. The complexity drivers identified by Long and Swingen¹¹ were used in many subsequent US and non-US studies. For example, Carnes and Cuccia use *record keeping, forms and instructions, calculations, ambiguity* and *law changes* to explore the relationship between US individual taxpayers' perceptions of tax complexity and equity.¹² In her study on the complexity of the Australian income tax system, McKerchar asked tax agents to identify complexity drivers.¹³ She finds that most drivers mentioned are comparable to those outlined by Long and Swingen.¹⁴ Similarly, *detail, ambiguity* and *change* appear to be the most important ones. McKerchar identifies no other issues that form a fundamental new complexity driver.¹⁵ Recently, Borrego, Lopes and Ferreira used a survey to analyse the main drivers of complexity from the

perspective of tax professionals in Portugal.¹⁶ Drawing on Long and Swingen, Green and McKerchar,¹⁷ they derive fourteen specific complexity drivers which respondents had to evaluate according to their importance. Based on the responses, Borrego, Lopes and Ferreira show that these drivers are considered important, while the level of importance varies considerably.¹⁸ Overall, the question remains to what extent the results of single jurisdictions are applicable to a broader set of countries.¹⁹ Even within one country, it is unclear whether the results can be generalized as many studies focus on individuals²⁰ or firms of a specific size, such as small and medium-sized enterprises.²¹ Furthermore, the focus of prior studies is often on purely domestic firms, while MNCs, which are exposed to a very high level of tax complexity as well, 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 use the complexity driver *calculation*²² in their survey, many others integrate *frequency of changes*²³ or *details of the tax law*.²⁴ There is also much literature on *readability*.²⁵ Recently, studies have started to account for the various facets of complexity in order to quantify tax complexity. However, they are usually still limited with

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- ⁸ J. Slemrod, *Complexity, Compliance Costs, and Tax Evasion*, in *Taxpayer Compliance, Social Science Perspectives*, 156–181 (1st ed., J. A. Roth & J. T. Scholz eds, University of Pennsylvania Press 1989).
- ⁹ G. S. Cooper, *Themes and Issues in Tax Simplification*, 10(4) Austl. Tax F. 417 (1993).
- ¹⁰ See Hoppe et al., *supra* n. 3; M. Devereux, *Measuring Corporation Tax Uncertainty Across Countries: Evidence from a Cross-Country Survey*, Oxford University Centre for Business Taxation Working Paper Series WP 16/13 (2016), <http://eureka.sbs.ox.ac.uk/6292/1/WP1613.pdf> (accessed 2 July 2018).
- ¹¹ Long & Swingen, *supra* n. 7.
- ¹² G. A. Carnes & A. D. Cuccia, *An Analysis of the Effect of Tax Complexity and Its Perceived Justification on Equity Judgments*, 18(2) JATA 40 (1996).
- ¹³ M. McKerchar, *The Impact of Income Tax Complexity on Practitioners in Australia*, 20(4) Austl. Tax F. 529 (2005).
- ¹⁴ Long & Swingen, *supra* n. 7.
- ¹⁵ McKerchar, *supra* n. 13.
- ¹⁶ A. C. Borrego, C. M. M. Lopes & C. M. S. Ferreira, *Tax Complexity Indices and Their Relation with Tax Noncompliance: Empirical Evidence from the Portuguese Tax Professionals*, 14 (1) Tékhne – Rev. Appl. Mgmt. Stud. 20 (2016).
- ¹⁷ Long & Swingen, *supra* n. 7; S. Green, *Compliance Costs and Direct Taxation* (1st ed., Institute for Chartered Accountants in England and Wales 1994); McKerchar, *supra* n. 13.
- ¹⁸ Borrego, Lopes & Ferreira, *supra* n. 16.
- ¹⁹ McKerchar, Ingraham and Karlinsky and Freudenberg et al. examine a small number of different countries by comparing existing studies (M. McKerchar, L. R. Ingraham & S. Karlinsky, *Tax Complexity and Small Business: A Comparison of the Perceptions of Tax Agents in the United States and Australia*, 8(2) J. Austl. Tax'n. 289 (2005); B. Freudenberg et al., *A Comparative Analysis of Tax Advisers' Perception of Small Business Tax Law Complexity: United States, Australia and New Zealand*, 27(4) Austl. Tax F. 677 (2012)). However, the underlying studies mainly analyse 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.
- ²⁰ See Long & Swingen, *supra* n. 7; Carnes & Cuccia, *supra* n. 12.
- ²¹ See L. R. Ingraham & S. Karlinsky, *Tax Professionals' Perception of Small Business Tax Law Complexity*, 107(1) Tax Notes 79 (2005); B. Tran-Nam & S. Karlinsky, *Small Business Tax Law Complexity in Australia: A Further Study*, 16(2) NZ J. Tax L. Pol'y 153 (2010); R. Gupta, *Simplify Tax Maze to Grow Small Business: New Zealand Study*, 26(2) Austl. Tax F. 173 (2011).
- ²² D. R. Lassila & L. M. Smith, *Tax Complexity and Compliance Costs of U.S. Multinational Corporations*, 10(1) Adv. Int. Account 207 (1997).
- ²³ See J. B. Slemrod & M. Blumenthal, *The Income Tax Compliance Cost of Big Business*, 24(4) Pub. Fin. Q. 411 (1996); Ingraham & Karlinsky, *supra* n. 21; B. Tran-Nam & S. Karlinsky, *Small Business Tax Law Complexity in Australia*, in *Tax Administration: Safe Harbours and New Horizons*, 321–348 (8th ed., M. Walpole & C. Evans eds, Fiscal Publications 2008); Tran-Nam & Karlinsky, *supra* n. 21; Gupta, *supra* n. 21; S. Karlinsky & H. A. Burton, *Tax Professionals' Perception of Large and Mid-size Business Tax Law Complexity* (2011), <https://ssrn.com/abstract=1759567> (accessed 2 July 2018).
- ²⁴ See C. T. Clotfelter, *Tax Evasion and Tax Rates: An Analysis of Individual Returns*, 65(3) Rev. Econ. Stat. 363 (1983); J. Slemrod, *The Etiology of Tax Complexity: Evidence from U. S. State Income Tax Systems*, 33(3) Pub. Fin. Rev. 279 (2005); H. U. Bacher & M. Brülhart, *Progressive Taxes and Firm Births*, 20(1) Int'l Tax Pub. Fin. 129 (2013); R. Weber, *The Effect of Tax Code Complexity on Entrepreneurship*, 30(2) J. Priv. Enter. 83 (2015).
- ²⁵ See S. James & A. Lewis, *Fiscal Fog*, 22(6) Brit. Tax Rev. 371 (1977); P. M. J. Reckers & A. J. Stagliano, *State Income Tax Forms: A Test of Readability*, 11(2) Akron Bus. Econ. Rev. 42 (1980); S. James, A. Lewis & I. Wallschutzky, *Fiscal Fog: A Comparison of the Comprehensibility of the Tax Literature in Australia and the United Kingdom*, 10(1) Austl.

regard to the number of facets²⁶ or again, they focus on a specific country.²⁷ Often, they also fail to provide a sound theoretical or empirical foundation for the choice of features they consider. Thus, there is still the need for a systematic approach that accounts for the multidimensional nature of tax complexity.

Our study on MNCs' tax complexity overcomes several weaknesses of prior studies and provides a broad set of globally important complexity drivers. These drivers can be used as criteria by policy-makers for comparing countries' tax systems over time (e.g., to examine the effectiveness of reforms) or across countries (e.g., to identify 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 a number of complexity drivers to describe what they understand by the term *tax complexity*.²⁸ These varying definitions are also one reason why approaches towards measuring tax complexity or simplifying tax law differ greatly. Our two-pillar concept of tax complexity, as a feature of the tax system that arises from the difficulties with the tax code as well as the inefficiencies in the tax framework, helps to establish a common basis for future research.

Due to a lack of such a common basis, empirical studies on the consequences of tax complexity are rare and often rely on one or few selected aspects of complexity.²⁹ Thus, our study can be useful to develop a unique and comprehensive measure of tax complexity and to promote this stream of research, which appears highly relevant from today's point of view.³⁰ Moreover, research on tax simplification may benefit from our study as it also provides a starting point for assessing tax complexity at a global level. It helps to

maintain a full picture without neglecting important country-specific aspects.

The remainder of this article is as follows. In the next section, we describe our research design. We present the results of the quantitative and the qualitative analysis in sections 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.³¹ We followed prior literature and distributed the questionnaire to local tax consultants.³² In contrast to questioning MNCs directly, this approach enabled us to benefit from tax consultants' broad experience with various MNCs, thus avoiding very firm-specific responses (e.g., depending on the firms' organizational structure, size or industry). Given the dominant role of tax consultancy firms in MNCs' tax matters, we are confident that this approach helps to obtain a reliable view on tax complexity. The questionnaire contained quantitative and qualitative questions. We placed all questions on one browser page to reduce the perceived length of the survey and thus to elicit a high response rate.³³

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

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²⁶ Tax Rev. 26 (1981); L.-M. Tan & G. Tower, *The Readability of Tax Laws: An Empirical Study in New Zealand*, 9(3) Austl. Tax F. 355 (1992); M. Richardson & A. Sawyer, *Complexity in the Expression of New Zealand's Tax Laws: An Empirical Analysis*, 14(3) Austl. Tax F. 325 (1998); D. Smith & G. Richardson, *The Readability of Australia's Taxation Laws and Supplementary Materials: An Empirical Investigation*, 20(3) Fisc. Stud. 321 (1999); C. Pau, A. Sawyer & A. J. Maples, *Complexity of New Zealand's Tax Laws: An Empirical Study*, 22(1) Austl. Tax F. 59 (2007); K. Saw & A. Sawyer, *Complexity of New Zealand's Income Tax Legislation: The Final Installment*, 25(2) Austl. Tax F. 213 (2010).

²⁷ See PricewaterhouseCoopers, The World Bank & International Finance Corporation, *Paying Taxes 2018* (2017), <http://doingbusiness.org/~media/WBG/DoingBusiness/Documents/Special-Reports/Paying-Taxes-2018.pdf> (accessed 2 July 2018).

²⁸ See B. Tran-Nam & C. Evans, *Towards the Development of a Tax System Complexity Index*, 35(3) Fisc. Stud. 341 (2014); Office of Tax Simplification, *supra* n. 1.

²⁹ See T. Budak & S. James, *The Applicability of the OTS Complexity Index to Comparative Analysis Between Countries: Australia, New Zealand, Turkey, and the UK*, 14(2) eJournal Tax Res. 426 (2016).

³⁰ See G. Richardson, *Determinants of Tax Evasion: A Cross-Country Investigation*, 15(2) J. Int. Account Audit. Tax'n 150 (2006) and M. Lawless, *Do Complicated Tax Systems Prevent Foreign Direct Investment?*, 80(317) Economica 1 (2013) e.g.

³¹ See IMF & OECD, *supra* n. 2.

³² See Appendix A for a paper version of the questionnaire. 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.

³³ There are several studies that survey tax professionals and ask them to take the perspective of certain taxpayers, like individuals (see Long & Swingen, *supra* n. 7; T. Davies, J. Carpenter & G. Iverson, *Issues in Federal Income Tax Complexity*, 59(3) S.D. Bus. Rev. 1 (2001)), small businesses (see Ingraham & Karlinsky, *supra* n. 21; Gupta, *supra* n. 21) or large and mid-size businesses (see Karlinsky & Burton, *supra* n. 23).

³⁴ McQuarrie considers one page to be a 'wonderful target' (E. F. McQuarrie, *The Market Research Toolbox: A Concise Guide for Beginners* (4th ed., Sage Publications 2015)). Furthermore, there are several studies that indicate a negative correlation between survey length and response rate. See Heberlein and Baumgartner, Fan and Yan and Rolstad, Adler & Rydén for overviews (T. A. Heberlein & R. Baumgartner, *Factors Affecting Response Rates to Mailed Questionnaires: A Quantitative Analysis of the Published Literature*, 43 (4) Am. Soc. Rev. 447 (1978); W. Fan & Z. Yan, *Factors Affecting Response Rates of the Web Survey: A Systematic Review*, 26(2) Comp. Hum. Behav. 132 (2010); S. Rolstad, J. Adler & A. Rydén, *Response Burden and Questionnaire Length: Is Shorter Better? A Review and Meta-Analysis*, 14(8) Value Health 1101 (2011)).

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

The first six drivers are closely related to those found by Long and Swingen³⁴ and have been adapted by many subsequent studies, such as Carnes and Cuccia, McKerchar and Borrego, Lopes and Ferreira.³⁵ They also cover several characteristics outlined by other studies.³⁶ The last driver, *unpredictability*, was mentioned most frequently as an important complexity driver by the tax professionals we spoke to before conducting the survey. While Slemrod and Cooper use the term *predictability* as a desirable feature of the tax system based on theoretical considerations,³⁷ later (empirical) studies tend not to employ the reverse as a driver of complexity although *unpredictability* has

received a lot of attention over the last years.³⁸ Thus, it seems justified to include it as a complexity driver. Since most drivers come from prior studies not covering MNCs, subjects were asked whether they believe that all seven drivers mentioned above are important drivers of tax complexity for MNCs.³⁹ If they answered no, they were asked to specify the driver(s) they consider unimportant.⁴⁰ Next, they were asked to list any drivers of complexity that are not listed but which they consider important in a text field.

The second part of the questionnaire requested subjects to provide demographic information,⁴¹ which we used to assess the quality of our dataset. Finally, another text field at the end of this part allowed subjects to add comments or suggestions.⁴²

To pretest the questionnaire, we sent the survey to two different groups. An electronic file version of the

Table 1 Definitions of Complexity Drivers

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.

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³⁴ Long & Swingen, *supra* n. 7.

³⁵ Carnes & Cuccia, *supra* n. 12; McKerchar, *supra* n. 13; Borrego, Lopes & Ferreira, *supra* n. 16.

³⁶ E.g. Cooper uses *expression* (Cooper, *supra* n. 9). This complexity driver is captured in *incomprehensibility*.

³⁷ See Slemrod, *supra* n. 8; Cooper, *supra* n. 9.

³⁸ See e.g. M. Heimig, *Tax Risk Management im Konzern* (1st ed., Kölner Wissenschaftsverlag 2014); S. S. Neuman, *Tax Strategies: It's Not Just About Minimization* (2016), <https://ssrn.com/abstract=2735107> (accessed 2 July 2018); D. Guenther, S. Matsunaga & B. Williams, *Is Tax Avoidance Related to Firm Risk?*, 92(1) Account Rev. 115 (2017); A. Feller, S. Huber & D. Schanz, *Aufbau und Arbeitsweisen der Steuerabteilungen großer deutscher Kapitalgesellschaften (Teil I)*, 55(29) DStR 1617 (2017); IMF & OECD, *supra* n. 2.

³⁹ Most studies focus on other types of taxpayers such as small and medium-sized companies being different in several aspects (e.g. size and organizational structure). Hence, the results obtained may not be simply transferred one-by-one to MNCs.

⁴⁰ 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 respondents to select unimportant drivers. We refrained from asking respondents to select important drivers because non-selected drivers cannot necessarily be regarded as unimportant.

⁴¹ We are aware of the debate on the placement of demographic questions either at the beginning or at the end of a survey. Following prior literature, we decided to place them at the end of our questionnaire. See D. A. Dillman, *Mail and Telephone Surveys. The Total Design Method* (1st ed., John Wiley & Sons 1978); C. R. Marlow, *Research Methods. For Generalist Social Work* (5th ed., Brooks/Cole Publishing Company 1993); C. J. Goodwin & K. A. Goodwin, *Research in Psychology. Methods and Design* (7th ed., John Wiley & Sons 2014) for justifications.

⁴² In a further section, we provided subjects with a second list containing corporate income tax regulations, which they were asked to evaluate in terms of their importance for MNCs. We do not analyse this part of the questionnaire in this article as it does not deal with complexity drivers.

survey was distributed first by email to nine tax research assistants at three different universities in Austria and Germany. We asked the assistants to evaluate whether the questionnaire could be easily understood and whether the wording was appropriate. Based on their comments, we made minor modifications, such as adjustments to the definitions of the complexity drivers. Then, we sent a link to the online version of the revised survey to a wider sample of seventeen tax professionals in Germany, mainly managers and partners who advise MNCs. Our pretest included four open-ended questions on the intelligibility 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 big international tax consultancy firms on 30 March 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 a link to the survey. It was signed by a representative of the respective firm.⁴³ At the end of the invitation, subjects were advised that their responses would remain confidential and anonymous. The invitation was then distributed by the firms to the participants. On 18 April 2016 we sent a first email reminder to the firms. The second reminder was sent on 26 April 2016. We closed the online survey on 30 April 2016.

2.2 Respondents

We had agreed in advance with our two tax consultancy firms that we would question two tax experts per firm and country as we had to acknowledge the amount of time that respondents would have to dedicate to our project instead to their clients. Although this limited the number of potential responses, we accepted it to obtain the opportunity to collect field data that has not been available before and to study tax complexity in a unique way. The partner firms were asked to randomly select tax consultants in each country where the firms have an office or are represented. If possible, the consultants ought to be partners or managers with experience with MNCs. Against this background, we were able to attract respondents with sufficient experience and knowledge and a good overview of the tax system in their country of expertise. Thus, we expect their responses to provide a valid indication of important complexity drivers even if they are not reliable in terms of statistical generalization.

The two firms were responsible for distributing the invitation with the survey link to the tax consultants. We were not permitted to observe who exactly received the invitation email. Approximately 550⁴⁴ consultants were sent the invitation link, of which 223 completed the survey. However, due to missing data and a response error, we had to delete two surveys, resulting in a sample of 221 usable surveys from 108 countries and a response rate of 40.2%. The survey sample composition is displayed in Table 2.

Table 2 Surveys Included in the Sample

Surveys per Country	Number of Countries	Total Number of Surveys
1	49	49
2	25	50
3	19	57
4	12	48
5	2	10
6	0	0
7	1	7
Total	108	221

As can be inferred from the table, we obtained our desired number of two completed surveys per firm and country (i.e., four responses) in twelve countries. For nearly half of the 108 countries (forty-nine countries), we received only one completed survey. There are three countries for which we received more than four surveys. We can think of two possible explanations for this unexpected high number. First, tax consultants who were invited to participate could have forwarded the email to colleagues who were interested in the project. Second, as we were informed in advance 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 option may have also been exercised by respondents who were officially assigned to one country only but had experience or knowledge of the tax system in another one.⁴⁵

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⁴³ We provided the firms with a text for the invitation. Except for the names of the firm and the representative, the invitations were identical.

⁴⁴ The number covers experienced tax consultants with knowledge of more than 160 countries. However, it was not possible to distribute the survey to two persons in each firm in every country because the two firms did not have offices in precisely 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.

⁴⁵ To verify whether the results were 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, their response

Table 3 Demographic Characteristics of the Sample

Job Position	Number	%
Partner/Director/ Principal	139	62.9%
Manager	44	19.9%
Senior assistant	23	10.4%
Junior assistant	13	5.9%
<hr/>		
Years Tax Experience	Number	%
>15	122	55.2%
>10 but ≤15	35	15.8%
>5 but ≤10	34	15.4%
≤5	30	13.6%
<hr/>		
Working Time	% on MNCs	% on Int. Tax
Median	75.0%	50.0%
Mean	68.0%	55.0%
Std. dev.	25.9%	29.0%
<hr/>		
Education	Number	%
Doctoral	19	8.6%
Master	134	60.6%
Bachelor	61	27.6%
Sec. education	2	0.9%
<hr/>		
Age	Number	%
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%
<hr/>		
Gender	Number	%
Male	161	72.9%
Female	59	26.7%

For some characteristics, percentages do not add up to 100% because of missing responses or the category *other*, which we included for job position and level of education.

Table 3 provides information on the demographic characteristics of our 221 participants.

The vast majority of the sample consists of partners, directors and principals (62.9%), followed by managers (19.9%) and assistants (10.4%). The respondents generally have significant tax experience, with 71.0% reporting more than ten 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 educational qualification, almost 61% of the sample has a master's degree, followed by 27.6% with a bachelor's degree and 8.6% with a doctoral degree. Ages range over the whole spectrum, from under thirty to over fifty-nine years. The largest group (37.1%) is between forty and forty-nine years old. With regard to gender, nearly three quarters of respondents (72.9%) are male. 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 in powerful positions and significant tax experience led us to expect representative responses reflecting a high level of expertise. Moreover, the substantial amount of working time they spend on MNCs and international tax issues indicates that the respondents have the necessary experience to answer the questions in the survey from the perspective of this client type.

2.3 Data Analysis

To identify a complete list of current complexity drivers, we applied a two-step approach. First, we performed a quantitative analysis to determine which of the complexity drivers that we identified are not perceived as important for MNCs. This step was intended to separate important drivers from unimportant ones. Due to the varying number of respondents per country, we aggregated the responses by calculating mean values per country for each complexity driver, thus constructing an *average opinion* for each of the 108 countries. Correspondingly, we also looked at country clusters, such as geographical clusters, by aggregating the country values of our variables to country cluster variables. The resulting values can be understood as *average opinions* of country clusters. Even though aggregation by nature implies a specific loss of information, it allows us to treat each country equally, irrespective of the number of respondents per country.⁴⁶ We provide fictional examples of the aggregation approach in Appendix B.

Second, we conducted a qualitative content analysis based on the responses to the open-ended question about other

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behaviour for one country was not replicated 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 consultant.

⁴⁶ Using respondent-level data would result in overestimating (underestimating) the feedback of countries with a large (small) number of respondents. See Table 2.

important drivers that were not listed.⁴⁷ This approach was used to systemize the content of the responses and to discover new complexity drivers by coding⁴⁸ and identifying common topics. The initial coding process was conducted by one of the researchers (referred to as coder 1) in two rounds. In the first round, respondents' comments 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 sufficient proximity to the data.⁴⁹ After coding several responses, topics recurred and no new codes emerged. In the second round, coder 1 went through the codes, revised them, grouped them and broke them down into sub-codes. Afterwards, the coding was repeated using 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 sub-codes was set up. The main codes cover subordinate features or processes within the tax system that contribute to the complexity of the tax system through several drivers. Moreover, they capture aspects extending the complexity drivers we already identified before. Sub-codes refine the main codes by allocating specific complexity drivers to each main code. For each code, definitions and coding notes were 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 from the view of tax consultants, we first examine how many of the drivers are not considered unimportant by the respondents. We refer to them in a

broader sense as *important* drivers of complexity.⁵⁰ Table 4 displays the number of important complexity drivers for a subsample of countries that regarded not all drivers important (thirty-six countries) and for the full sample (108 countries).⁵¹ In seventy-two countries and thus more than half (66.7%), participants unanimously stated that all of the mentioned drivers of tax complexity are important. In the subsample, most countries (61.1%) classify six of seven drivers as important. Moreover, there is no single country in which fewer than two complexity drivers are perceived as important.

Table 5 shows the complexity drivers and their levels of importance expressed as scores. The scores are obtained by adding up the country means of the importance rating of each complexity driver. They can range between zero and thirty-six for the subsample and between zero and 108 for the full sample, where higher scores indicate a higher importance.⁵²

As can be seen from Table 5, *details* of tax regulation is the most important driver of complexity. This finding is in line with McKerchar who depicts *details* as the relatively most crucial cause of complexity.⁵³ Long and Swingen and Borrego, Lopes and Ferreira identify *detail* as the second most important driver of complexity.⁵⁴

According to Long and Swingen and Borrego, Lopes and Ferreira, *change* seems to be the most crucial complexity driver.⁵⁵ An important role of *change* is also identified by Slemrod and Blumenthal, Ingraham and Karlinsky, McKerchar, Tran-Nam and Karlinsky, Tran-Nam and Karlinsky and Gupta.⁵⁶ Our findings lead to a similar result, indicating that *change* is regarded as the second most important driver of tax complexity. Although *change* could have been expected to be the most important complexity driver (e.g., due to the developments induced by BEPS), we explain its reduced role as follows. First, all of the mentioned studies cover, in total, only four countries (Australia, New Zealand, Portugal or the United States).⁵⁷ Second, while we explore the tax complexity faced by MNCs, nearly all other studies focus on other types of taxpayers, such as small businesses. By contrast, MNCs

Notes

⁴⁷ See A. L. Strauss, *Qualitative Analysis for Social Scientists* (1st ed., Cambridge University Press 1987); U. Kuckartz, *Qualitative Text Analysis: A Guide to Methods, Practice and Using Software* (1st ed., Sage 2014); P. Mayring, *Qualitative Content Analysis: Theoretical Foundation, Basic Procedures and Software Solution* (1st ed., Beltz 2014).

⁴⁸ Coding is the process of breaking text down into sub-parts and assigning codes to them.

⁴⁹ See M. B. Miles, A. M. Huberman & J. Saldana, *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed., SAGE Publications 2014).

⁵⁰ We are aware 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 analysing the number of unimportant drivers, we believe that it is more intuitive to refer to drivers that are not perceived as unimportant as *important* drivers.

⁵¹ 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.

⁵² A score of thirty-six (108) would indicate that every respondent in every country in the subsample (full sample) considers the respective complexity driver as important.

⁵³ McKerchar, *supra* n. 13.

⁵⁴ Long & Swingen, *supra* n. 7; Borrego, Lopes & Ferreira, *supra* n. 16.

⁵⁵ *Ibid.*

⁵⁶ Slemrod & Blumenthal, *supra* n. 23; Ingraham & Karlinsky, *supra* n. 21; McKerchar, *supra* n. 13; Tran-Nam & Karlinsky, *supra* n. 23; Tran-Nam & Karlinsky, *supra* n. 21; Gupta, *supra* n. 21.

⁵⁷ In our study, all participants from Australia, New Zealand, Portugal and the United States consider all complexity drivers as important.

Table 4 Number of Important Complexity Drivers

Important Complexity Drivers	Subsample: Not all Drivers Important		Full Sample	
	Number of Countries	%	Number of Countries	%
All 7	—	—	72	66.7%
≥6 and <7	22	61.1%	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 5 Importance of Complexity Drivers in Detail

Complexity Driver	Subsample: Not all Drivers Important		Full Sample	
	Score (Max. 36)	% Max. Score	Score (Max. 108)	% Max. Score
Details	32.1	89.2%	104.1	96.4%
Change	30.4	84.4%	102.4	94.8%
Unpredictability	30.3	84.2%	102.3	94.7%
Incomprehensibility	29.8	82.8%	101.8	94.3%
Computation	29.7	82.5%	101.7	94.2%
Documentation	29.5	81.9%	101.5	94.0%
Filing	25.5	70.8%	97.5	90.3%

The Friedman's test for dependent samples does not indicate significant differences between the complexity drivers. For the purpose of completeness, we also perform Wilcoxon matched-pairs signed ranks tests and sign tests of matched pairs, each with Bonferroni adjustments, as post-hoc tests ($\alpha = 0.1$). The only significant difference we observe in importance levels is between *details* and *filing*.

are usually larger organizations which have more resources to stay up to date on the latest changes in the tax system. Third, the influence of *change* may have decreased in general as it has become easier to obtain information and to keep an eye on new developments. Our line of argumentation is strengthened by the study of Burton and Karlinsky 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.⁵⁸

The third important driver is *unpredictability* which tends not to be mentioned in prior surveys. However, its high importance gives rise to the assumption that complexity is not only driven by the complexity inherent

Notes

⁵⁸ H. A. Burton & S. Karlinsky, *Tax Professionals' Perception of Large and Mid-Size Business US Tax Law Complexity*, 14(1) eJournal Tax Res. 61 (2016).

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 risk⁵⁹ 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, McKerchar and Borrego, Lopes and Ferreira, we identify *filing* as the least important driver of tax complexity.⁶⁰ Its relatively low importance may 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, McKerchar and Borrego, Lopes and Ferreira also find evidence for mid-level rankings of these drivers.⁶¹

Our quantitative analysis shows that all complexity drivers are important for MNCs. Except for *details* and *filing*, we do not find statistically significant differences between the importance of any two complexity drivers. This means that even *filing*, which ranks last, should not be neglected when assessing tax complexity. Furthermore, we conclude that the complexity drivers for MNCs are similar to those identified by prior studies on other types of taxpayers.

3.2 Cluster Analyses

In this section, we examine 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 certain complexity drivers may be regionally distributed. The classification used consists of five clusters: Africa, Americas, Asia Pacific, Europe and Middle East.⁶² 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.⁶³ We use four clusters based on the categories suggested by the United Nations Development Programme: very high (HDI ≥ 0.8), high ($0.8 > \text{HDI} \geq 0.7$), medium ($0.7 > \text{HDI} \geq 0.55$) and low ($\text{HDI} < 0.55$). Third, we focus on the legal origin of a country as prior literature suggests that countries' characteristics can differ due to their legal background.⁶⁴ Data on the legal origin of countries is provided by Siems and Djankov, McLiesh and Shleifer.⁶⁵ Following these studies, 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 C (Figure 2 - Figure 4). Table 6 provides an overview of the number of countries and responses in each cluster.

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

As can be seen from Table 7, there is some variation with regard to the importance of the single complexity drivers across the clusters. However, nearly all differences are not statistically significant. In the geographical categorization (Table 7, Panel A), *documentation* appears to be of minor importance for the African cluster (88.3%), while it is highly important 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 important in the Asia Pacific (85.0%) and Middle East (85.7%) cluster. At the same time, we find *filing* to be one of the most unimportant complexity drivers in four out

Notes

⁵⁹ See J. Alm, *Uncertain Tax Policies, Individual Behavior, and Welfare*, 78(1) Am. Econ. Rev. 237 (1988); S. S. Neuman, T. C. Omer & A. P. Schmidt, *Assessing Tax Risk: Practitioner Perspectives* (2016), <https://ssrn.com/abstract=2579354> (accessed 2 July 2018); R. Niemann & C. Sureth-Sloane, *Does Capital Tax Uncertainty Delay Irreversible Risky Investment?* (2016), <https://ssrn.com/abstract=2826022> (accessed 2 July 2018); M. Diller et al., *Boon or Bane? Advance Tax Rulings as a Measure to Mitigate Tax Uncertainty and Foster Investment*, 26(3) Eur. Account Rev. 441 (2017); K. D. Drake, S. J. Lusch & J. Stekelberg, *Does Tax Risk Affect Investor Valuation of Tax Avoidance?*, J. Account Audit Fin. 1 (2017); Guenther, Matsunaga & Williams, *supra* n. 38; W. L. Nesbitt, E. Outsley & A. Persson, *The Relation Between Tax Risk and Firm Value: Evidence from the Luxembourg Tax Leaks* (2017), <https://ssrn.com/abstract=2901143> (accessed 2 July 2018).

⁶⁰ Long & Swingen, *supra* n. 7; McKerchar, *supra* n. 13; Borrego, Lopes & Ferreira, *supra* n. 16.

⁶¹ *Ibid.*

⁶² Similar classifications are used by all the Big Four professional services firms.

⁶³ We use data for the year 2014 which is available online at <http://hdr.undp.org/en/data> (accessed 2 July 2018). As some countries in our sample are not covered by the United Nations Development Programme, we added data for these countries from Avakov (A. V. Avakov, *Quality of Life, Balance of Power and Nuclear Weapons. A Statistical Yearbook for Statesmen and Citizens* (9th ed., Algora Publishing 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.

⁶⁴ See R. La Porta et al., *Legal Determinants of External Finance*, 52(3) J. Fin. 1131 (1997); S. Djankov et al., *The Law and Economics of Self-Dealing*, 88(3) J. Fin. Econ. 430 (2008); S. Djankov et al., *The Effect of Corporate Taxes on Investment and Entrepreneurship*, 2(3) Am. Econ. J. Macroecon. 31 (2010).

⁶⁵ M. M. Siems, *Legal Origins: Reconciling Law & Finance and Comparative Law*, 52(1) McGill L. J. 55 (2007); S. Djankov, C. McLiesh & A. Shleifer, *Private Credit in 129 Countries*, 84(2) J. Fin. Econ. 299 (2007).

Table 6 Distribution of Countries and Responses Across Different Country Clusters

	Cluster	Countries	%	Responses	%
<i>Panel A: Geographical Location</i>	Africa	20	18.5%	31	14.1%
	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%
<i>Panel B: Human Development</i>	Very high	44	40.7%	102	46.2%
	High	31	28.7%	65	29.4%
	Medium	16	14.8%	29	13.1%
	Low	17	15.8%	25	11.3%
<i>Panel C: Legal Origin</i>	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	15.8%	36	16.3%
	Scandinavian Commercial Code	5	4.6%	10	4.5%

of five clusters, suggesting a relatively low overall importance of *filing*.

Regarding the developmental classification (Table 7, Panel B), we observe relatively large differences across clusters for *filing*, *incomprehensibility* and *unpredictability*. The percentage spread varies from 12.4% points (unpredictability) to 8.8% points (filing). With regard to the other four complexity drivers, the percentage spread is smaller, i.e. only about 5% points. Correlations between the perceived importance of a driver and the level of development of a country can be assumed for *filing* as its importance 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 importance of *filing*. Typical simplification measures that have been introduced in several developed countries in the last years are e-filing or automatic data transmission. By 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 important in four

out of five clusters but 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 interpreted with caution. We observe a high importance percentage for *documentation* in the French commercial code and the German commercial law clusters. As the law in these clusters is organized by codes and not by precedents, *documentation* may play a large role in proving the applicability of a certain regulation. This idea is also underlined by the relatively high importance of *unpredictability*, as prior court decisions are not binding. As another interesting aspect, we 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 clusters.

In an untabulated analysis, we also considered other categorizations. For example, we compared EU to non-EU countries, OECD to non-OECD countries and clustered our sample based on the quality of governance.⁶⁶ When conducting statistical tests for differences between the clusters, we do not find any significant results.

Notes

⁶⁶ The governance indicators are available online at <http://govindicators.org> (accessed 2 July 2018).

What are the Drivers of Tax Complexity for MNCs? Global Evidence

Table 7 Importance of Complexity Drivers by Country Classifications

<i>Panel A: Geographical Location</i>	<i>Complexity Driver</i>	<i>Africa</i>	<i>Americas</i>	<i>Asia Pac.</i>	<i>Europe</i>	<i>Mid. East</i>
	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%
<i>Panel B: Human Development</i>	<i>Complexity Driver</i>	<i>Very High</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>	
	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%	
<i>Panel C: Legal Origin</i>	<i>Complexity Driver</i>	<i>English</i>	<i>French</i>	<i>Socialist</i>	<i>German</i>	<i>Scandin.</i>
	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%

The Kruskal-Wallis rank tests with adjusted Chi² values do not indicate significant differences of the complexity drivers within any of the three categorizations. For the purpose of completeness, we also perform Dunn's pairwise comparisons with Bonferroni and Benjamini-Hochberg adjustments as post-hoc tests ($\alpha = 0.1$). We find no significant differences, except for unpredictability in the classification on human development (high vs. medium), when applying the Benjamini-Hochberg adjustment.

We conclude that all of the complexity drivers appear to be highly important in each cluster with an approval rate of at least 80%. In general, our findings support the results of McKerchar and Borrego, Lopes and Ferreira, showing that the drivers identified by Long and Swingen are also applicable to other countries.⁶⁷ Despite the general importance of the drivers, our results also reflect varying levels of importance across country clusters, although they do not appear to be significantly different in a statistical sense. Thus, the importance of the tax complexity drivers seems to be rather independent of single country characteristics, such as the legal origin.

4 EXTRACTING NEW IMPORTANT COMPLEXITY DRIVERS

One hundred and thirty six respondents (61.5%) from eighty-four countries (77.8%) provided comments on other important complexity drivers. Of these respondents, fifty-six provided answers such as 'none' or 'all are listed' and thus used the text field to further confirm the completeness of our list of complexity drivers. The comments by the remaining eighty respondents from fifty-eight 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 number of comments which provide suggestions for refining the *known* drivers.⁶⁸ 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 are highlighted. Moreover, selected comments are 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 respondents' comments suggest that complexity in this area 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 criticized, on the one hand, that tax regulators deliberately draft tax laws in a way that requires intervention by the tax courts. On the other hand,

regulators were accused of 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 that do not recognize current developments. For example, a high inflation rate that is not accounted for in 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 in elections or policies of powerful countries which may promise amendments to national tax law.

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 to aid 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 misleading. Respondents further noted that guidelines are often unclear as they do not provide sufficient information on how to apply tax law correctly. In addition, conflicts can arise as a result of various versions 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, while they can provide assistance in applying tax law, they can also fuel complexity. For example, complexity in the computation of taxable income increases if there is 'a lack of alignment

Notes

⁶⁷ Long & Swingen, *supra* n. 7; McKerchar, *supra* n. 13; Borrego, Lopes & Ferreira, *supra* n. 16.

⁶⁸ Seventy respondents provided comments on *new* complexity drivers, one respondent suggested refinements for the *known* complexity drivers and nine respondents provided comments on both.

between tax laws and accounting standards' (respondent, manager). This book-tax gap is exacerbated if accounting standards change and adapt to the current environment while 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 with 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 yet another. This is due to 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 may actually inject more complexity into national tax laws.

Tax audits are the third area of the tax framework. They can be described as a formal examination of a tax return by the tax authority to ensure that income and deductions have been reported correctly. According to respondents, the complexity of audits is strongly driven by tax inspectors. Respondents criticize that decisions vary among tax inspectors, implying an inconsistent application of the law which thus creates 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 tax inspectors' lack of skill and experience in conducting audits. Because of this, 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 not competent enough to understand business transactions or to know what the legislation intends to say or what 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 process, 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 major 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 very long 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, creates a less stable and certain environment. Another problem with the process is eligibility for an appeal. In particular, respondents criticize the 'easiness to apply' (respondent, partner/director/principal).

The fifth area of the tax framework represents the administrative procedure of *paying taxes*. One aspect that creates complexity is the way taxes are paid. 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 how technically advanced these are, they can also create 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 taxes and remit them to the authorities. This process is 'a nightmare and represent[s] a significant cost for MNCs' (respondent, partner/director/principal).

From our 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. It reveals that complexity is also caused by several characteristics and processes inherent in the tax framework. Despite our small sample, many complexity drivers, such as the retrospective application of regulations or the aggressive/inconsistent behaviour of tax officers, are mentioned by respondents in 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

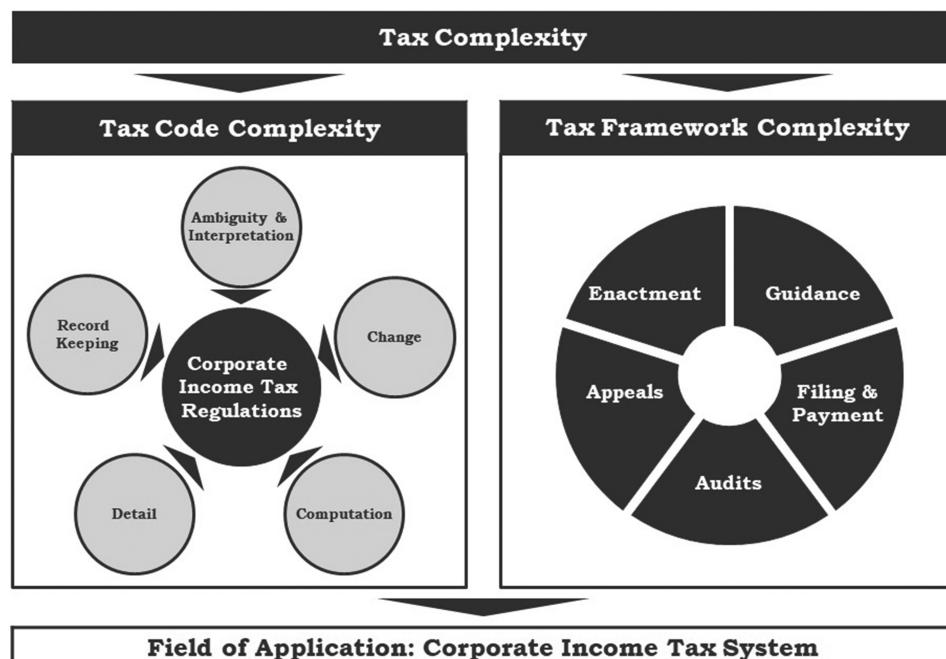
multidimensional nature of tax complexity and which can be applied to the corporate income tax system. This concept is illustrated in Figure 1. According to this concept, tax complexity covers two distinct pillars: tax code and tax framework complexity. The left pillar captures the complexity of the 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 that do not relate to single regulations but to the entire corporate income tax system. For example, audits are carried out on a firm-level basis and do not focus on single regulations. To provide another example, tax framework complexity drivers, like the retrospective application of legislation (enactment), usually represent tax system characteristics and not regulation specific characteristics.

Of the set of seven complexity drivers in Table 1, we exclude *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 on aggregate 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 are captured by our initial definition. Due to the close relationship between the filing and payment procedures, we combine them into one component and rename this tax framework area *filing & payment*. *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 the administrative or judicial bodies involved 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 rename some of the tax code complexity drivers and slightly adjust their definitions to incorporate the respondents' comments. For example, the definition of *change* is broadened so it accounts not only for frequent but also for extensive changes. The definitions of the revised tax code complexity drivers are listed in Table 8.

As outlined in section 4, we divide the tax framework complexity into five areas: tax enactment, tax guidance, tax filing and payment, tax audits and tax appeals. Each area covers several different complexity drivers. Except for *filing*, all of them are identified in the qualitative content analysis. Most prior studies have concentrated on the complexity of the tax code. Only a few also consider the complexity of selected aspects of the tax framework.⁶⁹

Figure 1: Two-Pillar Concept of Tax Complexity



Notes

⁶⁹ See e.g. Borrego, Lopes & Ferreira, *supra* n. 16; Office of Tax Simplification, *supra* n. 1.

Table 8 Revised Tax Code Complexity Drivers

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.

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 global survey with tax consultants, we evaluate whether the drivers of tax complexity which have been found in prior studies are still important today. Furthermore, we analyse whether there are new important complexity drivers which could have been evolved through the dynamics of the last decades. In the survey, we ask tax consultants to 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 consultants are all perceived as important with *detail* and *change* being the most important ones. While *change* has sometimes been highlighted as the most crucial complexity driver in the past, our results indicate that it is not as important as *detail*. The country cluster analysis reveals that there are considerable differences in the importance 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%. 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 & payment, 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, some results may still be sensitive to the number of responses. While several country clusters, like the Asia Pacific or the Europe cluster, include a sound 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 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 comprehensive pretest and numerous upfront talks with tax professionals 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 cross-country data. With our set of complexity drivers and the concept of tax

complexity, we provide a starting point for future research on tax complexity. Our findings can help to establish a uniform understanding of tax complexity and thus to better evaluate and compare tax complexity over time and across countries. They are also particularly interesting

for policy-makers 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.

APPENDIX

A: PAPER VERSION OF THE ONLINE QUESTIONNAIRE

» DEAR TAX EXPERT,

We are two German tax professors from the University of Munich and the University of Paderborn, respectively. Today, we kindly ask for your assistance in answering *a few questions about tax complexity* – an issue you probably face every day. In light of the growing relevance of tax risk in multinational corporations (MNCs, defined as entities owning and controlling operations in more than one country) and increasingly complex regulations, we have launched a research project in cooperation with your company that aims to shed light on the *complexity that arises for MNCs because of tax regulations*.

There's no doubt that tax complexity has become a crucial characteristic of a country's tax system in the last few years and that it shapes decisions in various ways. But to what extent? Current approaches that attempt to quantify tax complexity are highly restricted to specific dimensions. Hence, practitioners, policy-makers and researchers are looking for a more comprehensive tool. With our research project, we want to fill this gap by developing such a tool.

OBJECTIVES OF OUR TOOL

- ✓ Assess the level of tax complexity across countries (by means of a score ranging from not complex to extremely complex)
- ✓ Deliver a deeper understanding of the various sources of tax complexity

To enable comparability and to keep the project manageable, we have decided to focus on *corporate income tax regulations*. Not only do they attract a lot of attention in current political debates and tax audits, they also lead to relatively high compliance costs. We measure complexity by identifying the sources of complexity and aggregating them into a score. For objectivity purposes, we solely rely on tax laws (taking neither guidelines to the tax code nor common practices into account). Neither do we consider taxes other than corporate income taxes (e.g., indirect taxes such as sales tax or VAT).

As our tool aims to capture more than 100 countries, we need to gather information on the *specific drivers of complexity in each country*. However, this information can only be assessed by national tax experts so we heavily rely on your expertise regarding your country's tax law.

YOUR PARTICIPATION

Through your participation you will contribute to a successful implementation of the project and the development of a useful tool, which will not least benefit your company in advising clients.

Thank you in advance for your time and consideration. Please be assured that your *answers will remain confidential*. They will be collected and analyzed anonymously.

Your country

First, please **specify the country** (in the following described as "your country") **with whose tax laws you are most familiar**. The next four questions refer to the complexity of this country's tax system. Please evaluate the complexity arising from the interaction with other countries' tax systems from a general perspective, not with regard to a specific country.

[Please choose]

Part I: Sources of tax complexity in your country

For the purpose of this project, “tax complexity” refers to the complexity of the tax regulations (clarity, frequent changes, etc.) and their implications for compliance (keeping records, filling out forms, etc.). A regulation itself can be considered very complex if it is subject to the following *complexity sources*:

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.

In your day-to-day business there may be even more sources of tax complexity. Therefore we highly appreciate your input on the following points:

1. Do you believe that ALL sources mentioned above (a-g) are important sources of tax complexity? If not, please specify the source(s) you consider unimportant.

- Yes
- No
 - Change
 - Computation
 - Details
 - Documentation
 - Filing
 - Incomprehensibility
 - Unpredictability

2. To your knowledge, are there any sources of tax complexity that are important and not listed above? If so, please specify.

Please enter an appropriate keyword and a short description of each source.

[Text entry]

Part II: Income tax regulations faced by MNCs in your country

NOT COVERED BY THIS PAPER

Part III: Demographics

Before you finish the survey, we kindly ask you to provide some *demographic information*.

3. What is your current position?

- Partner/Director/Principal
- Manager
- Senior Assistant
- Junior Assistant
- Intern
- Other

4. How long have you been working in the tax field in your country?

- More than 15 years
- More than 10 but less than 15 years
- More than 5 but less than 10 years
- Less than 5 years

5. How much of your working time do you spend on MNC clients' tax issues (in percent)?

[Number entry] %

6. How much of your MNC related work time do you spend on these clients' international tax issues (in percent)?

[Number entry] %

7. What is your highest educational qualification?

- Doctoral or equivalent level
- Master or equivalent level
- Bachelor or equivalent level
- Secondary education (e.g., highschool)
- Other

8. Please specify your age group.

- Over 59 years
- 50–59 years
- 40–49 years
- 30–39 years
- Under 30 years

9. Please specify your gender.

- Male
- Female

If there are any **additional comments or suggestions you would like to provide**, please do so below.

[Text entry]

Once again, we kindly *thank you for your invaluable and much appreciated responses* to our questions. If you have any questions or would like to contact us, please use the contact details provided below.

Yours sincerely

Prof. Dr. Deborah Schanz and Prof. Dr. Caren Sureth-Sloane

B: CONSTRUCTION OF AVERAGE OPINIONS

In the following, we provide a simple fictional example to illustrate the aggregation approach at the country level (Panel A) and the country cluster level (Panel B).

Panel A—Country Opinion

Consider six 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). Please note that, in our analysis, the number of countries per cluster is always greater than two. Hence, the impact of a single respondent on the cluster opinion is much lower than illustrated in this example.

C: VISUALIZATION OF COUNTRY CATEGORIZATIONS

Figure 2: Clusters According to the Geographic Location

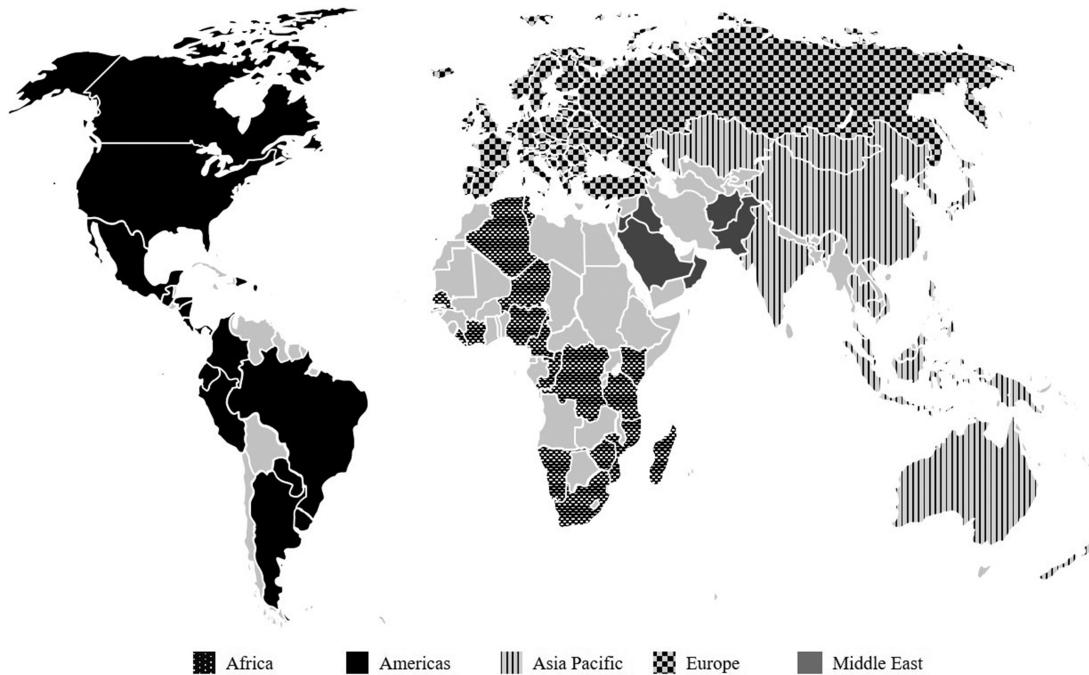


Figure 3: Clusters According to the Human Development Index (HDI)

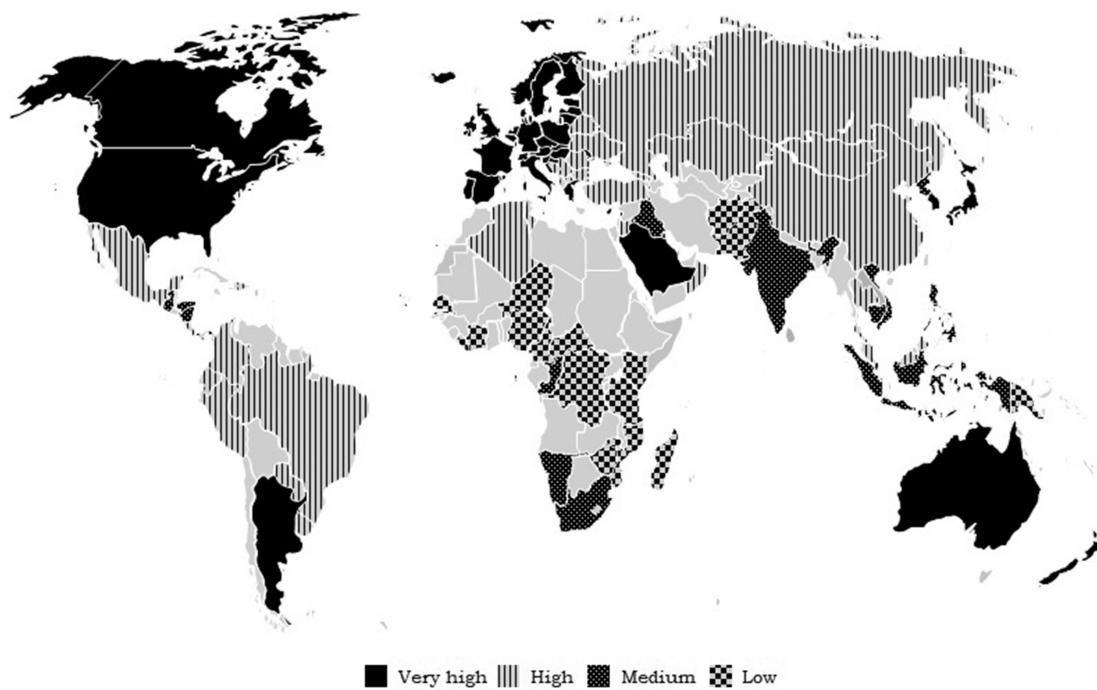


Figure 4: Clusters According to the Legal Origin of Countries

