

Kumulative Dissertation zum Themengebiet:

**THE IMPACT OF TAX COMPLEXITY
ON MULTINATIONAL CORPORATIONS**

Der Fakultät für Wirtschaftswissenschaften
der Universität Paderborn

zur Erlangung des akademischen Grades
Doktor der Wirtschaftswissenschaften
– Doctor rerum politicarum –

vorgelegt von
Thomas Hoppe, M.Sc.
geboren am 31.12.1989 in Warburg

2020

*Thanks to all
who have accompanied me
on this journey*

CONTENTS

1 INTRODUCTION AND SYNOPSIS

2 STUDIES OF THE DISSERTATION

(A) Hoppe, Thomas, Schanz, Deborah, Sturm, Susann, Sureth-Sloane, Caren (2018): What are the Drivers of Tax Complexity for MNCs? Global Evidence, *Intertax*, 46 (8/9), 654-675 (ISSN: 0165-2826).

(B) Hoppe, Thomas, Schanz, Deborah, Sturm, Susann, Sureth-Sloane, Caren (2019): Measuring Tax Complexity Across Countries: A Survey Study on MNCs, available at: www.arqus.info/mobile/paper/arqus_245.pdf (ISSN: 1861-8944).

(C) Hoppe, Thomas, Schanz, Deborah, Sturm, Susann, Sureth-Sloane, Caren, Voget, Johannes (2019): The Relation between Tax Complexity and Foreign Direct Investments: Evidence across Countries, available at: www.arqus.info/mobile/paper/arqus_250.pdf (ISSN: 1861-8944).

(D) Hoppe, Thomas, Rechbauer, Martina, Sturm, Susann (2019): Steuerkomplexität im Vergleich zwischen Deutschland und Österreich – Eine Analyse des Status quo, *Steuer und Wirtschaft*, 96 (4), 397-412 (ISSN: 0341-2954).

(E) Hoppe, Thomas (2020): Tax Complexity in Australia – A Survey-Based Comparison to the OECD Average, available at: www.arqus.info/mobile/paper/arqus_251.pdf (ISSN: 1861-8944).

3 REFERENCES INTRODUCTION AND SYNOPSIS

1 INTRODUCTION AND SYNOPSIS

Tax complexity has long been an issue in many countries worldwide and is subject to intense debate in business, politics, and academia. There is recent evidence that tax complexity has increased considerably over the past few years on a global scale (Devereux 2016; Hoppe et al. 2017a; IMF and OECD 2017), suggesting that countries' past claims about their tax systems being too complex must be taken even more seriously (e.g., Australia: Tran-Nam and Karlinsky 2008; Germany: Spengel et al. 2012; United Kingdom: Whiting, Sherwood and Jones 2014; United States: Ingraham and Karlinsky 2005). Commonly expressed concerns relate to the potential negative consequences of tax complexity, such as threat to economic prosperity (Collier et al. 2018) or an increase in undesired tax planning and tax avoidance (Budak and James 2018). The absolute increase in tax complexity has been accompanied by changes in other tax system characteristics thus also increasing the importance of tax complexity in a relative way. For example, tax rates are known to have decreased and converged over the last years (Lee and Swenson 2012; Tax Foundation 2019).

Against the backdrop of the mentioned developments, it is surprising that tax complexity remains under-researched. At first glance, there may be a number of different reasons for this. At second glance, however, these reasons appear to form a "causal chain". To start with, prior literature defines tax complexity in different ways and hence there is no established uniform understanding of this term.¹ Consequently, a variety of approaches towards measuring tax complexity have emerged. Reviewing the existing literature on the measurement of tax complexity, it is striking that the vast majority of studies focus on one facet of tax complexity in one country. The more countries and the more facets of tax complexity are incorporated, the fewer studies are available. To date, there is no study measuring many facets of tax complexity for a large number of countries. Many researchers have called for considering tax complexity as a multi-dimensional construct (Tran-Nam and Evans 2014; Evans et al. 2017; OTS 2017). In addition, given that most studies focus on individual countries, it is not possible to conduct meaningful comparisons across countries as the studies tend not to be directly comparable (McKerchar, Ingraham and Karlinsky 2005; OTS 2017). The lack of uniformly gathered data may also explain that there are so few cross-country empirical studies on the effects of tax complexity.

This dissertation addresses the full scope of this "causal chain" and comprises five studies that all focus on corporate income tax complexity as faced by multinational corporations (MNCs). Study (A) develops a concept of tax complexity. Study (B) builds on the results of study (A) and develops the Tax Complexity Index (TCI), a composite measure that accounts for the multidimensional nature of tax complexity, for 100 countries worldwide. The TCI and its components are then applied in a multivariate empirical setting to analyze the relationship between tax complexity and foreign direct investments (study C). As the collected data contains granular tax complexity information on each sample country, the last two studies comprise analyses of specific countries. While study (D) conducts a detailed comparison of Austria and Germany, study (E) comprehensively analyzes tax complexity in Australia and benchmarks these specific results against the average of the remaining OECD countries. In the following, I will summarize

¹ See, e.g., Slemrod (1989), McCaffery (1990), Cooper (1993), Evans and Tran-Nam (2010), Tran-Nam and Evans (2014) or Diller, Grottko and Schneider (2013). A short discussion is provided by Helbig (2018).

each of the studies in this dissertation and will further elaborate on the respective research gaps, the contributions made to the literature, and potential future research opportunities.

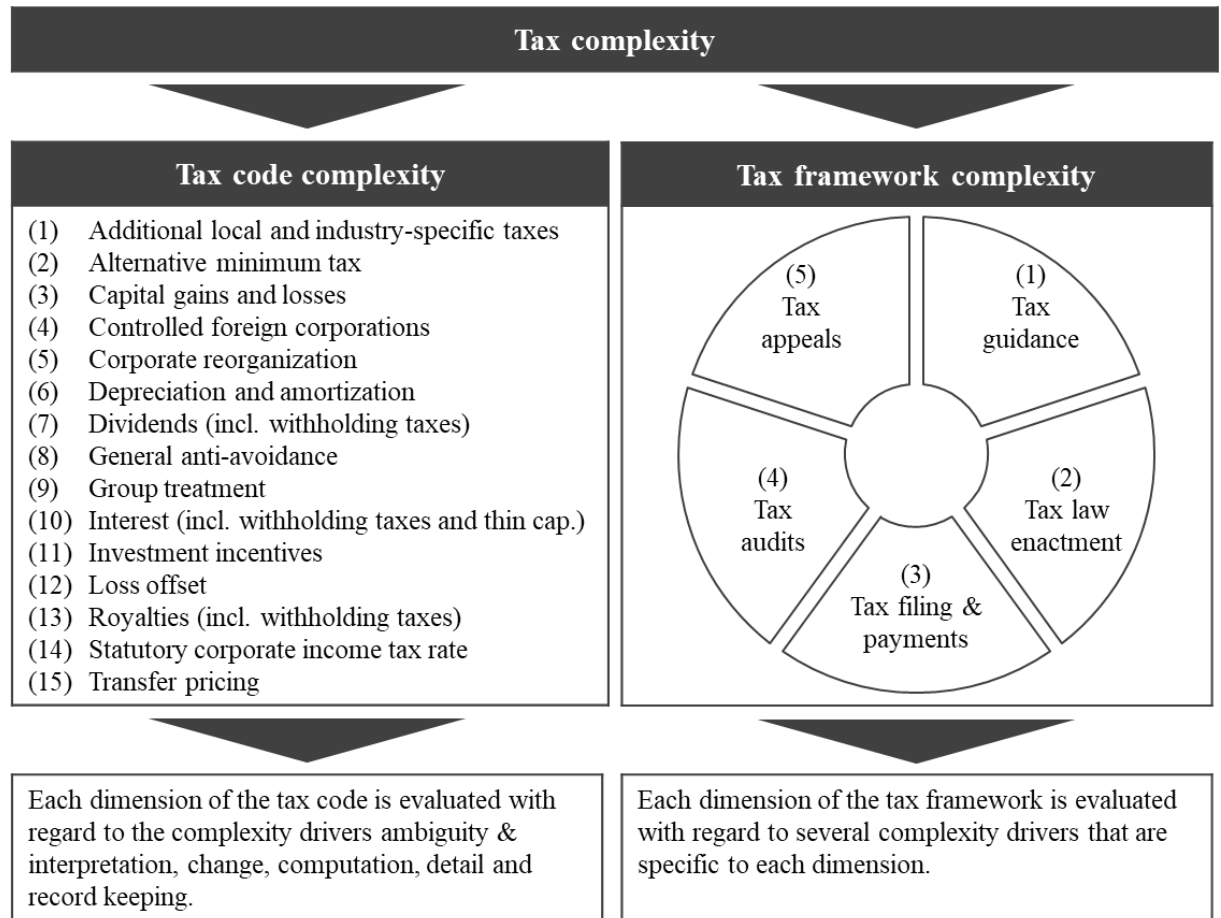
Study (A) by Hoppe et al. (2018) is the starting point of this dissertation. Although the academic literature has dealt with tax complexity and its drivers² for more than three decades, no commonly accepted concept of tax complexity has emerged so far. This may be because most previous studies have focused on a specific subject (e.g., small businesses) in a particular country. Therefore, the overarching aim of study (A) is to develop a concept of tax complexity that is applicable to a large set of countries worldwide, thereby providing a foundation not only for the subsequent studies of this dissertation but also for future research.

To reach this goal, we devised an online survey. In the main section, subjects were provided with a list of seven complexity drivers, namely change, computation, details, documentation, filing, incomprehensibility, and unpredictability, and asked to evaluate them in terms of their importance for MNCs. The first six drivers are based on those in the fundamental study of Long and Swingen (1987), which were adapted in many subsequent studies such as Carnes and Cuccia (1996), McKerchar (2005) or Borrego, Lopes and Ferreira (2016). The seventh complexity driver, unpredictability, was raised several times in talks with tax professionals. Its reverse, predictability, is also mentioned as a desirable feature of a tax system by Slemrod (1989) and Cooper (1993). Subjects were also provided with a text field in which they were asked to list any additional complexity drivers they considered important. The link to the survey was distributed via two international tax services firms to their highly experienced tax consultants in April 2016, yielding 221 responses from 108 countries.

Based on these responses, we find that the complexity drivers identified in prior literature are still considered important. A qualitative content analysis of the comments provided in the text field delivers evidence for new important complexity drivers. We derive a two-pillar concept of tax complexity, which is summarized in Figure 1. The first pillar, tax code complexity, covers complexity drivers that can be linked to 15 specific tax regulations such as regulations on transfer pricing. These are ambiguity & interpretation, change, computation, detail, and record keeping. The second pillar, tax framework complexity, describes five administrative and legislative features and procedures that do not relate to single regulations but to the entire corporate income tax system. These are tax law enactment, tax guidance, tax filing & payments, tax audits, and tax appeals. Each of these covers several different complexity drivers, such as inconsistent decisions by tax officers in the tax audit process. Under the two-pillar concept, tax complexity is defined as a characteristic of the tax system that arises from the difficulty of reading, understanding, and complying with the tax code as well as from various issues within the administrative and legislative processes and features of a tax system.

² Prior literature has also often used the term “complexity source” instead of “complexity driver.” We define the term “complexity drivers” as underlying mechanisms that trigger complexity in a tax system, such as frequent changes to the tax code. Specific tax regulations, such as transfer pricing regulations, are not covered by the term.

Figure 1: Two-pillar concept of tax complexity (source: Hoppe et al. 2019)



Study (B) by Hoppe et al. (2019) is dedicated to the measurement of tax complexity. In this study, we take the two-pillar concept of Hoppe et al. (2018) as a point of departure, gather country-specific tax complexity data, and develop the TCI. Based on the data collected, we aim to provide a better and more detailed understanding of tax complexity by analyzing its variation across countries, identifying its main drivers, and shedding light on the association with other country characteristics.

In developing the TCI, we follow the formative measurement approach according to Diamantopoulos and Winklhofer (2001). Hence, we assume tax complexity to be a latent construct composed of several components. Tax code and tax framework complexity represent two sub-constructs (subindices), each of which consists of several dimensions, i.e., regulations or processes and features, respectively. These are characterized by the complexity drivers identified in prior literature and study (A). To gather country-specific data on tax complexity, we drew up a second online survey which was distributed between October and December 2016 via 19 international tax services firms and networks to their highly experienced tax consultants. We obtained a total of 933 responses that enable us to measure and assess tax complexity for 100 countries worldwide.

We find that the overall level of tax complexity varies considerably across countries. While some countries present both a highly (less) complex tax code and tax framework, there are also countries whose tax code and tax framework complexity differ considerably. From a global

perspective, tax complexity is strongly influenced by the complexity of transfer pricing regulations in the tax code and by the complexity of tax audits in the tax framework. The main complexity drivers in regard to transfer pricing regulations are documentation requirements (record keeping) and the ambiguity (ambiguity & interpretation) of these regulations. Tax audit complexity is strongly driven by long statutes of limitation and inconsistent decisions by tax officers. Analyzing the associations between our tax complexity measures and economic, political/legal, and tax country characteristics, we find different correlation patterns. For example, strongly governed countries tend to have less complex frameworks while high-tax countries tend to have more complex tax codes.

With this study, we contribute to prior literature by examining corporate income tax complexity worldwide, thereby providing a deeper understanding of this important tax system characteristic. We further respond to the calls of prior literature and introduce the first comprehensive cross-country tax complexity measures that are based on a uniform and well-grounded approach (McKerchar, Ingraham and Karlinsky 2005; Tran-Nam and Evans 2014; Evans et al. 2017; OTS 2017). Introducing these measures paves the way for future research on the effects of tax complexity on corporate decisions, such as investment activity or profit shifting.

In **Study (C) by Hoppe et al. (2020)** we implement one of these research ideas and use our measures to empirically analyze the association between tax complexity and foreign direct investments (FDI). While prior literature provides strong evidence that the corporate tax rate is an important determinant in MNCs' location decisions, relatively little attention has been paid to tax complexity.³ The four existing studies that deal with tax complexity and FDI decisions, namely Edmiston, Mudd and Valev (2003), Djankov et al. (2010), Lawless (2013) and Müller and Voget (2014), have found that tax complexity has negative implications. They all have in common that tax complexity is measured very narrowly by applying relatively simple count-based, or rather cost-oriented, measures. Furthermore, these measures were not intended to be applied in an FDI setting.⁴ Using the measures developed in Hoppe et al. (2019), we address these limitations and apply comprehensive measures that were specifically designed to reflect corporate income tax complexity as faced by MNCs. From a theoretical perspective, we argue that tax complexity not only imposes costs on firms but also provides them with benefits such as tax planning opportunities (Krause 2000; Laplante et al. 2019) or increased tax fairness, e.g., through tailored tax regulations (Cuccia and Carnes 2001; Galli and Profeta 2009; Barton 2011; Blesse, Buhlmann and Doerrenberg 2019). This cost-benefit tradeoff does not appear to be adequately reflected in prior studies.

The empirical analysis is based on a sample of 15,607 newly founded foreign subsidiaries obtained from the Orbis database as a proxy for FDI. These subsidiaries are located in 39 host countries and are owned by 10,749 parent firms from 69 home countries. We find no association between the probability of a subsidiary being located in a specific country and the total tax

³ For overviews on the impact of the tax rate on FDI decisions, see Hines (1999), De Mooij and Ederveen (2003), Devereux and Maffini (2007) and Voget (2015).

⁴ Three of the four studies mentioned use the time to comply indicator of the Paying Taxes study of PwC and the World Bank Group, which represents a firm's tax compliance costs in hours. The calculation of the indicator is based on strict assumptions. For example, it assumes a company without any foreign operations, making this approach unsuitable for an FDI setting. The most recent version of the Paying Taxes study is PwC and World Bank Group (2019).

complexity of this country as proxied by the TCI. However, when we split the TCI into its two subindices, we find a positive association for tax code complexity and a negative association for tax framework complexity. A deeper analysis of these associations indicates that the positive tax code association is mainly driven by the complexity of transfer pricing and loss offset regulations, while the negative tax framework association is mainly driven by the complexity of tax guidance, tax audits, and tax filing & payments. In additional analyses, we interact tax complexity with selected characteristics such as country- and firm-specific characteristics and find that the relationship between tax complexity and location probability is sensitive to some of these, such as the effective average tax rate of the host country or the size and industry of the foreign subsidiary. Our results are robust to several robustness checks.

We make three key contributions to the existing literature. First, the application of the tax complexity measures of Hoppe et al. (2019) enables us to move away from a purely cost-oriented view of tax complexity and to analyze the association between tax complexity and FDI in more detail. Second, our results provide first empirical evidence for potentially positive implications of tax complexity. Third, we carry out our analysis on the firm level while prior studies, except for Müller and Voget (2014), have focused on the country-level. This allows us to examine whether the association between tax complexity and FDI is affected by certain firm-specific characteristics. Based on our results, we encourage future research to select the appropriate tax complexity measure more carefully as different facets of tax complexity may have different implications.

While study (C) employs the aggregated tax complexity measures in a large-scale cross-country setting, studies (D) and (E) take a different approach and exploit the richness of the underlying data by conducting detailed country-specific analyses. **In study (D) by Hoppe, Rechbauer and Sturm (2019)** we compare the complexity of the Austrian and German corporate income tax systems. We further make use of the worldwide average values of tax complexity as an additional reference point, allowing us to put the Austrian and German results into broader perspective. Austria and Germany are very suitable for comparison as both countries are highly developed, have the same language, and partly share the same history. Furthermore, their tax systems have the same origin and their economic, political, and social structures are relatively similar. Therefore, the comparison between Austria and Germany can be considered a most similar case design, which is why this country pair has also been used in several other settings.⁵ Before study (D), there was no comparison with regard to tax complexity although this topic is intensively debated in both countries.⁶ Conducting this comparison represents the main contribution of this study.

We find that the overall level of tax complexity is relatively similar in Austria and Germany. When considered in more detail, interesting insights can be gained. Both countries have a relatively high tax code complexity, with regulations on transfer pricing and corporate reorganization being the two most complex ones. Significant differences are observed for regulations on

⁵ Comparisons have, e.g., focused on the principle of congruence (Bertl, Eberhartinger and Hirschler 2009, Sopp, Richter and Meyering 2017) or the group taxation regime (Niemann and Treisch 2006, Bauer et al. 2009, Kessler and Jepp 2009)

⁶ For Germany see Wagner (2005), Wagner (2006), Lang (2011), Spengel et al. (2012), Deloitte (2015), Hoppe et al. (2017b) or Bundesrat (2018). For Austria see Ruppe (1998), Deloitte (2017) or Kammer der Steuerberater und Wirtschaftsprüfer (2018).

controlled foreign corporations and for additional local and industry-specific taxes, where Germany shows more complexity, and investment incentives, which are more complex in Austria. By contrast, the tax frameworks in both countries have a relatively low degree of complexity, with Austria being considerably less complex than Germany. This is mainly due to the high complexity of Germany's tax law enactment and filing & payment processes. Study (D) allows us to derive important policy implications. For example, Austria's local business tax (additional local and industry-specific taxes) was reformed and simplified in 1993. As these regulations are now considered significantly less complex, the German legislator could use the Austrian concept as a basis for reforming Germany's local business tax if simplification is the intended aim.

Study (E) by Hoppe (2020) is the last study in this dissertation. It takes a slightly different approach from study (D) and comprehensively reviews corporate income tax complexity in Australia instead of comparing two specific countries. To allow for a relative evaluation of Australia, the average of the remaining OECD countries is referred to as a benchmark. OECD countries have a comparable tax and economic environment and are all affected by OECD initiatives such as the project on base erosion and profit shifting, which makes them a suitable peer group. As research on tax complexity has a long history in Australia and recent literature such as Tran-Nam (2016) indicates that tax complexity continues to grow, this study is particularly interesting for the local research community. I contribute to the existing literature in two ways. First, I provide a comprehensive review of the corporate income tax system from an MNC's perspective in Australia, which to the best of my knowledge is the first of its kind. Second, I evaluate the Australian tax system in a broader context. Due to the lack of uniform and thus comparable data, so far Australia has often only been compared to selected individual countries such as New Zealand or the United States (e.g., McKerchar, Ingraham and Karlinsky 2005; Freudenberg et al. 2012; Budak and James 2016).

I find that the complexity of the Australian tax code is considerably higher than the OECD average. To a large extent, this difference is caused by anti-avoidance legislation such as regulations on transfer pricing, general anti-avoidance, or controlled foreign corporations. Excessive details and ambiguity & interpretation represent the main complexity drivers. The tax framework complexity in Australia is close to the OECD average. The same is true for the tax framework dimensions tax audits, tax guidance and tax filing & payments. By contrast, tax law enactment is considered significantly more complex in Australia, while the complexity of tax appeals is significantly lower. An analysis of the underlying complexity drivers reveals higher complexity levels in Australia several times. For example, the length of time between the announcement of a tax law change and its enactment is considered a serious issue in Australia. However, for many other complexity drivers, Australia is on a similar level as its OECD peers. Although this does not necessarily mean that Australia is not complex in absolute terms, it does indicate that Australia is often at least not excessively complex in comparison to its OECD peers.

Taken together, the studies in this dissertation provide valuable insights for a wide audience from academia, politics, and business. For academia, studies (A), (B), (C) in particular yield interesting results. The two-pillar concept of tax complexity developed in study (A) may guide

future research towards a better and common understanding of tax complexity. Study (B) provides innovative tax complexity measures, especially the TCI and its subindices, that can be applied in future studies, e.g., to analyze the impact of tax complexity on firm behavior such as profit shifting. Furthermore, if carried out on a regular basis, the survey used to collect data in study (B) could be a useful tool for sourcing tax complexity panel data. Study (C) encourages future research to select the appropriate tax complexity measure more carefully, as different facets of tax complexity may yield different implications and results. Studies (D) and (E) may be useful for the respective local research communities. They also provide policymakers with detailed insights into the tax system(s) under investigation. Based on the results, policymakers can, e.g., identify overly complex areas in preparation for reform, if simplification is the intended aim. While studies (D) and (E) only cover a limited number of countries (Australia, Austria and Germany) in detail, study (B) does allow at least for an overall evaluation of the remaining 97 countries of the sample. Study (C) further indicates that tax complexity does not have to be negative per se, by providing evidence of the potential negative as well as positive implications of tax complexity. Similar to the implications for academia, policymakers should note that different reform measures may have different effects. Finally, the studies in this dissertation are interesting for tax practitioners. The tax complexity measures developed in study (B) may be used for decision making purposes. For example, they could help to select a location for a new subsidiary if tax complexity is considered relevant to the decision. The same is true for studies (D) and (E) which provide more granular information on selected countries. As the studies in this dissertation provide a scientifically founded and thus neutral view on tax complexity, they could also be useful for any stakeholders involved in the further development of tax systems worldwide.

2 STUDIES OF THE DISSERTATION

STUDY (A)
WHAT ARE THE DRIVERS OF TAX COMPLEXITY FOR MNCs? GLOBAL EVIDENCE

Thomas Hoppe
Paderborn University
thomas.hoppe@upb.de

Deborah Schanz
LMU Munich
schanz@lmu.de

Susann Sturm
LMU Munich
sturm@bwl.lmu.de

Caren Sureth-Sloane
Paderborn University
caren.sureth@upb.de

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, 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.

Keywords: Complexity Drivers, International Comparison, Survey, Tax Complexity, Tax Consultants

Acknowledgements: We thank two big international tax consultancy firms for their kind support in distributing the questionnaire to the member firms of their networks. However, this article neither represents the views nor the official policy of any of the supporting firms. The results and interpretations of the results are the authors'. We are grateful for valuable comments from Vanessa Hilleringmann, Lillian Mills, Andreas Oestreicher, Benjamin Osswald, Dirk Schindler, two anonymous referees as well as the participants of the 2016 Faculty Research Workshop at the University of Paderborn, the 2016 Doctoral Research Seminar at Vienna University of Economics and Business and the 2015 arqus conference at the Leibniz University Hannover. All potential errors and mistakes are the authors' own. Financial support by the foundation Stiftung Prof. Dr. oec. Westerfelhaus (Bielefeld, Germany) is gratefully acknowledged.

STUDY (B)
MEASURING TAX COMPLEXITY ACROSS COUNTRIES: A SURVEY STUDY ON MNCs

Thomas Hoppe
Paderborn University
thomas.hoppe@upb.de

Deborah Schanz
LMU Munich
schanz@lmu.de

Susann Sturm
LMU Munich
sturm@bwl.lmu.de

Caren Sureth-Sloane
Paderborn University
caren.sureth@upb.de

Abstract: This paper introduces an index that captures the complexity of countries' corporate income tax systems faced by multinational corporations. It is based on surveys of highly experienced tax consultants of the largest international tax services networks. The index, called the Tax Complexity Index (TCI), is composed of a tax code subindex covering tax regulations and a tax framework subindex covering tax processes and features. For a sample of 100 countries for the year 2016, we find that the level of tax complexity varies considerably across countries, while tax code and framework complexity also vary within countries. From a global perspective, tax complexity is strongly driven by the complexity of both transfer pricing regulations in the tax code and tax audits in the tax framework. When analyzing the associations with other country characteristics, we identify different correlation patterns. For example, tax framework complexity is negatively associated with countries' governance, suggesting that strongly governed countries tend to have less complex tax frameworks, while tax code complexity is positively associated with the statutory tax rate, indicating that high tax countries tend to have more complex tax codes. However, none of the observed associations are very strong. We conclude that tax complexity represents a distinct country characteristic and propose the use of our TCI and its subindices in future research.

Keywords: Tax Complexity, Tax Index, Tax System, Multinational Corporations, Tax Consultants

Acknowledgements: We thank all networks (Baker Tilly Roelfs, BDO, Crowe Kleeberg, Deloitte, DFK, Ecovis, HLB Stückmann, KPMG, Kreston, Moore Stephens, Nexia, PKF, PwC, RSM, Rödl & Partner, Taxand, UHY, Warth & Klein Grant Thornton and WTS) for their support and all survey respondents for their participation.

We are grateful for the valuable comments from Eva Eberhartinger (discussant), Alexander Edwards, Sebastian Eichfelder, Martin Fochmann, Daniel Jacob Hemel (discussant), Martin Jacob, Stacie Laplante, Petro Lisowsky, Lillian Mills, Benjamin Osswald, Judyth Swingen, Carina Witte (discussant), Brian Wenzel (discussant), and Franco Wong as well as the participants in the 2019 CPA Ontario University of Toronto Accounting Research Workshop, the 2018 DIBT Meeting at WU Vienna, the 2018 EAA Annual Congress, the 2018 VHB Annual Meeting, the 2018 Annual Meeting of the foundation Stiftung Prof. Dr. oec. Westerfelhaus, the 2018 ATA Midyear Meeting, the 2017 Conference on Empirical Legal Studies, the 2017 Faculty Research Workshop at Paderborn University, the 2017 arqus Annual Meeting, the 2017 Doctoral Seminar at the University of Bayreuth and the meetings of the Taxation and Transfer Pricing working groups of the Schmalenbach-Gesellschaft. Moreover, we deeply appreciate the contributions of our colleagues at the TAF Department at Paderborn University and the Institute for Taxation and Accounting at LMU Munich. Funding by the foundations Stiftung Prof. Dr. oec. Westerfelhaus (Bielefeld, Germany), LMU Management Alumni (Munich, Germany) and the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project-ID 403041268 – TRR 266 Accounting for Transparency is gratefully acknowledged.

STUDY (C)
THE RELATION BETWEEN TAX COMPLEXITY AND FOREIGN DIRECT INVESTMENTS:
EVIDENCE ACROSS COUNTRIES

Thomas Hoppe
Paderborn University
thomas.hoppe@upb.de

Deborah Schanz
LMU Munich
schanz@lmu.de

Susann Sturm
LMU Munich
sturm@bwl.lmu.de

Caren Sureth-Sloane
Paderborn University
caren.sureth@upb.de

Johannes Voget
University of Mannheim
voget@uni-mannheim.de

Abstract: This paper analyzes the association between tax complexity and foreign direct investments (FDI) based on the newly developed Tax Complexity Index (TCI) and its components. For a sample of 15,607 new foreign subsidiaries, we find no association between total tax complexity, as proxied by the TCI, and the location probability. When we decompose the TCI into tax code complexity and tax framework complexity, we find opposing associations. Tax code complexity is positively related to the location probability, while tax framework complexity is negatively related to it. These associations are, for example, driven by the complexity of transfer pricing and loss offset regulations in the tax code and the dimensions guidance, audits, as well as filing and payments, in the tax framework. In additional analyses, we find that the associations are sensitive to certain characteristics, such as country-specific and firm-specific characteristics. For example, the positive tax code association diminishes when tax rates are high. Overall, we are the first to provide empirical evidence on potential cost-benefit tradeoffs of tax complexity for FDI and thereby enhance prior literature, which has primarily focused on the costs of tax complexity.

Keywords: Corporate Taxation, Tax Complexity, Foreign Direct Investments, Location Choice, Multinational Corporations

Acknowledgements: We are grateful for valuable comments from Tobias Bornemann (discussant), Alexander Edwards, Sebastian Eichfelder, Ralf Elsas, Martin Fochmann (discussant), Vanessa Gawehn (discussant), Michelle Hanlon, Christian Hofmann, Benjamin Oßwald, Reinald Koch, Laurence van Lent, Leslie Robinson, André Uhde, and Arndt Weinrich, as well as the participants of the 2019 Finance & Banking Brown Bag Seminar at LMU Munich, the 2019 TRR 266 Annual Conference, the 2019 VHB Annual Meeting, the 2018 Vienna Doctoral Consortium in Taxation at WU Vienna, the 2018 Faculty Research Workshop at Paderborn University, the 2018 Doctoral Workshop on Accounting and Tax Research at LMU Munich, the 2018 Annual MaTax Conference at ZEW Mannheim, and the 2018 Annual arqus Meeting at Paderborn University. Moreover, we appreciate the contributions of our colleagues at LMU Munich and Paderborn University. Financial support by the foundation Stiftung Prof. Dr. oec. Westerfelhaus (Bielefeld, Germany) and the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project-ID 403041268 – TRR 266 Accounting for Transparency is gratefully acknowledged.

STUDY (D)
STEUERKOMPLEXITÄT IM VERGLEICH ZWISCHEN DEUTSCHLAND UND ÖSTERREICH –
EINE ANALYSE DES STATUS QUO

Thomas Hoppe
Universität Paderborn
thomas.hoppe@upb.de

Martina Rechbauer
Karl-Franzens-Universität Graz
martina.rechbauer@uni-graz.at

Susann Sturm
Ludwig-Maximilians-Universität München
sturm@bwl.lmu.de

Abstract Deutsch: Die Komplexität von Steuersystemen gewinnt in der Debatte um den internationalen Steuerwettbewerb zunehmend an Bedeutung. Im vorliegenden Beitrag erfolgt, basierend auf den Befragungsdaten, die dem Tax Complexity Index von Hoppe et al. (2019) zugrunde liegen, eine umfassende Gegenüberstellung der Komplexität der Steuersysteme von Deutschland und Österreich unter Berücksichtigung der Mittelwerte aller vom Index abgedeckten Länder. Die Steuergesetze weisen sowohl in Deutschland als auch in Österreich einen verhältnismäßig hohen Grad an Komplexität auf. Bei den steuerlichen Rahmenbedingungen fällt der Grad an Komplexität in beiden Ländern dagegen niedrig aus, wobei Österreich im Durchschnitt weniger komplex ist als Deutschland.

Abstract English: The complexity of tax systems of becoming increasingly important in the debate on international tax competition. Based on the underlying survey data of the Tax Complexity Index of Hoppe et al. (2019), this article provides a comprehensive comparison of the complexity of Germany's and Austria's tax systems while also taking the mean values of all countries covered by the index into account. In both Germany and Austria, the tax code is characterized by a relatively high degree of complexity. In contrast, the tax framework has a low level of complexity in both countries, with Austria being on average less complex than Germany.

Stichworte: Steuerkomplexität, Steuergesetz, Steuerliche Rahmenbedingungen, Steuervereinfachung, Steuerwettbewerb, Steuersystem, Befragung, Ländervergleich (Deutschland, Österreich)

Danksagung: Wir bedanken uns bei Fabian Failenschmid, Vanessa Gawehn, Carola Gruber, Rainer Niemann, Silke Rünger, Deborah Schanz und Caren Sureth-Sloane für wertvolle Kommentare und Anregungen. Unser Dank gilt außerdem allen Ansprechpartnern und Befragungsteilnehmern von Baker Tilly Roelfs, BDO, Crowe Kleeberg, Deloitte, DFK International, Ecovis, HLB Stückmann, KPMG, Kreston, Moore Stephens, Nexia, PKF, PwC, RSM, Rödl & Partner, Taxand, UHY, Warth & Klein Grant Thornton und WTS, ohne die der vorliegende Vergleich nicht möglich gewesen wäre. Die Interpretation der Daten liegt im Verantwortungsbe-
reich der Autoren und spiegelt nicht zwangsläufig die Meinungen der einzelnen Gesellschaften und Netzwerke wider. Abschließend bedanken wir uns für die Förderung durch die Stiftung Prof. Dr. oec. Westerfelhaus (Bielefeld, Deutschland), das Netzwerk LMU Management Alumni und die Deutsche Forschungsgemeinschaft (DFG) – Projektnummer 403041268 – TRR 266.

STUDY (E)
TAX COMPLEXITY IN AUSTRALIA –
A SURVEY-BASED COMPARISON TO THE OECD AVERAGE

Thomas Hoppe
Paderborn University
thomas.hoppe@upb.de

Abstract: This article comprehensively reviews Australia’s corporate income tax complexity as faced by multinational corporations (MNCs) and compares it to the average of the remaining OECD countries. Building on unique survey data, I find that the Australian tax code is considerably more complex than the OECD average, which is mainly due to overly complex anti-avoidance legislation, such as regulations on transfer pricing, general anti-avoidance or controlled foreign corporations (CFC). In contrast, Australia’s tax framework, which covers processes and features such as tax law enactment or tax audits, is close to the OECD average. A more granular analysis yields further interesting insights. For example, excessive details in the tax code and the time between the announcement of a tax law change and its enactment turn out to be serious issues in Australia relative to the remaining OECD countries.

Keywords: Tax Complexity, Corporate Income Tax System, Survey, Australia, OECD Countries

Acknowledgements: I am grateful for the valuable comments from Regina Ortmann, Martina Rechbauer, Susann Sturm and Arndt Weinrich. I further thank Hanna Müller for her research assistance. Funding by the foundations Stiftung Prof. Dr. oec. Westerfelhaus (Bielefeld, Germany) and the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project-ID 403041268 – TRR 266 Accounting for Transparency is gratefully acknowledged.

3 REFERENCES INTRODUCTION AND SYNOPSIS

- Barton, B. H. (2011): Judges, Lawyers, and a Predictive Theory of Legal Complexity, available at: https://trace.tennessee.edu/cgi/viewcontent.cgi?article=1039&context=utk_lawpubl.
- Bauer, A./Niemann, R./Schanz, D./Schanz, S. (2009): Auswirkungen der deutschen Unternehmenssteuerreform 2008 und der österreichischen Gruppenbesteuerung auf den grenzüberschreitenden Unternehmenserwerb, *Zeitschrift für Betriebswirtschaft*, Vol. 79, No. 12, 1387–1411.
- Bertl, R./Eberhartinger, E./Hirschler, K. (2009): Maßgeblichkeit in Deutschland und Österreich: Historische Entwicklung – Aktuelle Entwicklung – Zukünftige Entwicklung, in Brähler/Lösel (eds.): *Deutsches und internationales Steuerrecht: Gegenwart und Zukunft*, Gabler: Wiesbaden, 739–764.
- Blesse, S./Buhlmann, F./Doerrenberg, P. (2019): Do People Really Want a Simple Tax System? Evidence on Preferences Towards Income Tax Simplification, available at: https://www.bwl.uni-mannheim.de/media/Lehrstuehle/bwl/Doerrenberg/tax_complexity_20190628.pdf.
- Borrego, A. C./Lopes, C. M. M./Ferreira, C. M. S. (2016): Tax Complexity Indices and Their Relation With Tax Noncompliance: Empirical Evidence From the Portuguese Tax Professionals, *Tékhné*, Vol. 14, No. 1, 20–30.
- Budak, T./James, S. (2016): The Applicability of the OTS Complexity Index to Comparative Analysis Between Countries: Australia, New Zealand, Turkey and the UK, *eJournal of Tax Research*, Vol. 14, No. 2, 426–454.
- Budak, T./James, S. (2018): The Level of Tax Complexity: A Comparative Analysis Between the U.K. and Turkey Based on the OTS Index, *International Tax Journal*, Vol. 44, No. 1, 23–36.
- Bundesrat (2018): Gesetzesantrag der Länder Hessen, Bremen: Entwurf eines Gesetzes zur weiteren Vereinfachung des Steuerrechts 2013, available at: www.bundesrat.de/Shared-Docs/drucksachen/2018/0001-0100/68-18.pdf?__blob=publicationFile&v=1.
- Collier, R./Kari, S./Ropponen, O./Simmler, M./Todtenhaupt, M. (2018): Dissecting the EU's Recent Anti-Tax Avoidance Measures: Merits and Problems, available at: https://www.ifo.de/DocDL/EconPol_Policy_Report_08_2018.pdf.
- Carnes, G. A./Cuccia, A. D. (1996): An Analysis of the Effect of Tax Complexity and Its Perceived Justification on Equity Judgments, *Journal of the American Taxation Association*, Vol. 18, No. 2, 40–56.
- Cooper, G. S. (1993): Themes and Issues in Tax Simplification, *Australian Tax Forum*, Vol. 10, No. 4, 417–460.
- Cuccia, A. D./Carnes, G. A. (2001): A Closer Look at the Relation Between Tax Complexity and Tax Equity Perceptions, *Journal of Economic Psychology*, Vol. 22, No. 2, 113–140.
- De Mooij, R. A./Ederveen, S. (2003): Taxation and Foreign Direct Investment: A Synthesis of Empirical Research, *International Tax and Public Finance*, Vol. 10, No. 6, 673–693.
- Deloitte (2015): European Tax Survey 2015: Steuerstrategie in einem herausfordernden Umfeld – Deutsche Ergebnisse im Überblick, available at: www2.deloitte.com/content/dam/Deloitte/de/Documents/tax/EU_Tax_Survey_2015_Deutsch.pdf.

- Deloitte (2017): Deloitte Austrian Tax Survey 2017: Auszug, available at: www2.deloitte.com/content/dam/Deloitte/at/Documents/Tax/deloitte-austrian-tax-survey.pdf.
- Devereux, M. (2016): Measuring Corporation Tax Uncertainty Across Countries: Evidence From a Cross-Country Survey, available at: <http://eureka.sbs.ox.ac.uk/6292/1/WP1613.pdf>.
- Devereux, M./Maffini, G. (2007): The Impact of Taxation on the Location of Capital, Firms and Profit: A Survey of Empirical Evidence, available at: <http://eureka.sbs.ox.ac.uk/3395/1/WP0702.pdf>.
- Diamantopoulos, A./Winklhofer, H. M. (2001): Index Construction With Formative Indicators: An Alternative to Scale Development, *Journal of Marketing Research*, Vol 38, No. 2, 269–277.
- Diller, M./Grottko, M./Schneider, G. (2013): Komplexität steuerrechtlicher Normen – Ein spieltheoretischer Erklärungsansatz, *Zeitschrift für betriebswirtschaftliche Forschung*, Vol. 65, No. 3, 110–135.
- Djankov, S./Ganser, T./McLiesh, C./Ramalho, R./Shleifer, A. (2010): The Effect of Corporate Taxes on Investment and Entrepreneurship, *American Economic Journal: Macroeconomics*, Vol. 2, No. 3, 31–64.
- Edmiston, K./Mudd, S./Valev, N. (2003): Tax Structures and FDI: The Deterrent Effects of Complexity and Uncertainty, *Fiscal Studies*, Vol. 24, No. 3, 341–359.
- Evans, C./Hasseldine, J./Lymer, A./Ricketts, R./Sandford, C. (2017): *Comparative Taxation: Why Tax Systems Differ*, Fiscal Publications: Birmingham.
- Evans, C./Tran-Nam, B. (2010): Controlling Tax Complexity: Rhetoric or Reality?, in Evans/Krever/Mellor (eds.): *Australia's Future Tax System: The Prospects After Henry*, Thomsen Reuters: Pyrmont, N.S.W., 439–463.
- Freudenberg, B./Tran-Nam, B./Karlinsky, S./Gupta, R. (2012): A Comparative Analysis of Tax Advisers' Perception of Small Business Tax Law Complexity: United States, Australia and New Zealand, *Australian Tax Forum*, Vol. 27, No. 4, 677–718.
- Galli, E./Profeta, P. (2009): Tax Complexity With Heterogeneous Voters, *Public Finance and Management*, Vol. 9, No. 2, 1–35.
- Helbig, R. (2018): *Steuerkomplexität, Ein systemtheoretischer Ansatz*, Springer Gabler: Wiesbaden.
- Hines, J. R. Jr. (1999): Lessons from Behavioral Responses to International Taxation, *National Tax Journal*, Vol. 52, No. 2, 305–322.
- Hoppe, T. (2020): Tax Complexity in Australia – A Survey-Based Comparison to the OECD Average, available at: http://www.arqus.info/mobile/paper/arqus_251.pdf.
- Hoppe, T./Rechbauer, M./Sturm, S. (2019): Steuerkomplexität im Vergleich zwischen Deutschland und Österreich – Eine Analyse des Status quo, *Steuer und Wirtschaft*, Vol. 96, No. 4, 397–412.
- Hoppe, T./Schanz, D./Sturm, S./Sureth-Sloane, C. (2017a): 2016 Global MNC Tax Complexity Survey, Executive Summary, available at: <http://www.taxcomplexity.org>.
- Hoppe, T./Schanz, D./Sturm, S./Sureth-Sloane, C. (2017b): Warum ist unser Steuersystem so komplex? Eine befragungsbasierte Analyse, *Die Wirtschaftsprüfung*, Vol. 70, No. 17, 1026–1033.

- Hoppe, T./Schanz, D./Sturm, S./Sureth-Sloane, C. (2018): What are the Drivers of Tax Complexity for MNCs? *Global Evidence*, Intertax, Vol. 46, No. 8/9, 654–675.
- Hoppe, T./Schanz, D./Sturm, S./Sureth-Sloane, C. (2019): Measuring Tax Complexity Across Countries: A Survey Study on MNCs, available at <http://ssrn.com/abstract=3469663>.
- Hoppe, T./Schanz, D./Sturm, S./Sureth-Sloane, C. (2020): The Relation between Tax Complexity and Foreign Direct Investments: Evidence Across Countries, available at: http://www.arqus.info/mobile/paper/arqus_250.pdf.
- IMF/OECD (2017): Tax Certainty, available at: <http://www.oecd.org/tax/tax-policy/tax-certainty-report-oecd-imf-report-g20-finance-ministers-march-2017.pdf>.
- Ingraham, L. R./Karlinsky, S. (2005): Tax Professionals' Perception of Small-Business Tax Law Complexity, *Tax Notes*, Vol. 107, No. 1, 79–89.
- Kammer der Steuerberater und Wirtschaftsprüfer (2018): Vereinfachung der österreichischen Steuergesetzgebung: Empfehlungen und konkrete Vorschläge, available at: www.ksw.or.at/PortalData/1/Resources/pressepositionkwt/Vers._KSW_Positionspapier_Steuervereinfachung_2017_final.pdf.
- Kessler, W./Jepp, S. (2009): Tu felix Austria? – Lehren aus der österreichischen Gruppenbesteuerung, *Der Betrieb*, Vol. 62, No. 51/52, 2737–2741.
- Krause, K. (2000): Tax Complexity: Problem or Opportunity?, *Public Finance Review*, Vol. 28 No. 5, 395–414.
- Lang, J. (2011): Unternehmensbesteuerung im internationalen Wettbewerb, *Steuer und Wirtschaft*, Vol. 88, No. 2, 144–158.
- Laplante, S. K./Skaife, H. A./Swenson, L. A./Wangerin, D. D. (2019): Limits of Tax Regulation: Evidence From Strategic R&D Classification and the R&D Tax Credit, *Journal of Accounting and Public Policy*, Vol. 38, No. 2, 89–105.
- Lawless, M. (2013): Do Complicated Tax Systems Prevent Foreign Direct Investment?, *Economica*, Vol. 80, No. 317, 1–22.
- Lee, N./Swenson, C. (2012): Are Multinational Corporate Tax Rules as Important as Tax Rates?, *International Journal of Accounting*, Vol. 47 No. 2, 155–167.
- Long, S. B./Swingen, J. A. (1987): An Approach to the Measurement of Tax Law Complexity, *Journal of the American Taxation Association*, Vol. 8, No. 2, 22–36.
- McCaffery, E. J. (1990): The Holy Grail of Tax Simplification. *Wisconsin Law Review*, Vol. 5, 1267–1322.
- McKerchar, M. (2005): The Impact of Income Tax Complexity on Practitioners in Australia, *Australian Tax Forum*, Vol. 20, No. 4, 529–554.
- McKerchar, M./Ingraham, L. R./Karlinsky, S. (2005): Tax Complexity and Small Business: A Comparison of the Perceptions of Tax Agents in the United States and Australia, *Journal of Australian Taxation*, Vol. 8, No. 2, 289–327.
- Müller, C./Voget, J. (2014): Tax Complexity and Foreign Direct Investment, in Müller (ed.): *Essays in Taxation: Capacity, Compliance and Complexity*, Dissertation, 91–120.
- Niemann, R./Treisch, C. (2006): Investitionswirkungen der Gruppenbesteuerung – Die österreichische Steuerreform als Vorbild für die deutsche Organschaft?, *Zeitschrift für betriebswirtschaftliche Forschung*, Vol. 58, No. 8, 1014–1033.

- OTS (2017): The OTS Complexity Index, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/603479/OTS__complexity_index_paper_2017.pdf.
- PwC/Worldbank Group (2019): Paying Taxes 2020, available at: <https://www.pwc.com/gx/en/paying-taxes/pdf/pwc-paying-taxes-2020.pdf>.
- Ruppe, H. G. (1989): Steuervereinfachung – Erste Ergebnisse der Fragebogenaktion der Steuerreformkommission, Österreichische Steuerzeitung, Vol. 51, No. 7, 138–142.
- Slemrod, J. (1989): Complexity, Compliance Costs, and Tax Evasion, in Roth/Scholz (eds.): Taxpayer Compliance, University of Pennsylvania Press: Philadelphia, 156–181.
- Sopp, K./Richter, L./Meyering, S. (2017): Felix Austria und seine Maßgeblichkeit – Was Deutschland hinsichtlich der Zukunft der Maßgeblichkeit von Österreich lernen kann, Steuer und Wirtschaft, Vol. 94, No. 3, 234–247.
- Tax Foundation (2019): Corporate Tax Rates around the World 2019, available at: <https://files.taxfoundation.org/20191209111406/Corporate-Tax-Rates-around-the-World-2019.pdf>.
- Tran-Nam, B. (2016): Tax Reform and Tax Simplification: Conceptual and Measurement Issues and Australian Experiences, in James/Sawyer/Budak (eds.): The Complexity of Tax Simplification, Palgrave Macmillan: Basingstoke, 11–44.
- Tran-Nam, B./Evans, C. (2014): Towards the Development of a Tax System Complexity Index, Fiscal Studies, Vol. 35, No. 3, 341–370.
- Tran-Nam, B./Karlinsky, S. (2008): Small Business Tax Law Complexity in Australia, in Walpole/Evans (eds.): Tax Administration: Safe Harbours and New Horizons, Fiscal Publications: Birmingham, 321–348.
- Spengel, C./Evers, L./Halter, M./Zinn, B. (2012): Unternehmensbesteuerung in Deutschland, Stiftung Familienunternehmen: München.
- Voget, J. (2015): The Effect of Taxes on Foreign Direct Investment: A Survey of the Empirical Evidence, available at: <http://www.etpf.org/papers/PP003FDI.pdf>.
- Wagner, F. W. (2005): Kann die Besteuerung vereinfacht werden, wenn die Rechnungslegung komplexer wird?, Betriebswirtschaftliche Forschung und Praxis, Vol. 57, No. 6, 528–545.
- Wagner, F. W. (2006): Was bedeutet Steuervereinfachung wirklich?, Perspektiven der Wirtschaftspolitik, Vol. 7, No. 1, 19–33.
- Whiting, J./Sherwood, J./Jones, G. (2014): The OTS and Its Complexity Index, in Evans/Krever/Mellor (eds.): Tax Simplification, Kluwer Law International: Alphen aan den Rijn, 241–258.